

This safety data sheet was created pursuant to the requirements of:  
UK REACH Regulations (SI 2019/758 as amended)

**Supersedes date** 24-Oct-2022

**Revision date** 07-Aug-2025

**Revision Number** 9

## SECTION 1: Identification of the substance/mixture and of the company/undertaking

### 1.1. Product identifier

|                                 |                          |
|---------------------------------|--------------------------|
| <b>Product Code(s)</b>          | 11314                    |
| <b>Safety data sheet number</b> | 11314                    |
| <b>Product Name</b>             | XIAMETER OFS 6020 SILANE |
| <b>EC Number</b>                | 217-164-6                |
| <b>CAS No</b>                   | 1760-24-3                |
| <b>Pure substance/mixture</b>   | Substance                |

Contains N-(3-TRIMETHOXYSILYL)PROPYL)ETHYLENEDIAMINE; OLIGOMERS OF (ETHYLENEDIAMINEPROPYL)TRIMETHOXYSILANE; N,N',BIS(3-(TRIMETHYLSILOXY)PROPYL)-1,2-ETHANDIAMINE; ETHYLENEDIAMINE; N,N,BIS-(3,TRIMETHYLSILOXY)PROPYL)-1,2-ETHANEDIAMINE; N-[3-(DIMETHOXYMETHYLSILYL)-2-METHYLPROPYL]ETHYLENEDIAMINE

### 1.2. Relevant identified uses of the substance or mixture and uses advised against

|                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Recommended use</b> | <p>Formulation or re-packing: Formulation &amp; (re)packing of substances and mixtures.</p> <p>Adhesives</p> <p>Sealant</p> <p>Coatings</p> <p>paint</p> <p>Paint thinner</p> <p>Paint remover</p> <p>Non-metal-surface treatment products</p> <p>Formulation into solid matrix.</p> <p>Formulation &amp; (re)packing of substances and mixtures, (non-aqueous),</p> <p>Polymer preparations and compounds.</p> <p>road and construction products.</p> <p>Intermediate</p> <p>Downstream user site</p> <p>Use in coatings, Non-metal surface treatment products, in situ treatment.</p> <p>Use in coatings, Non-metal surface treatment products, Direct pre-treatment.</p> <p>Use in laboratories</p> <p>Use in polymer processing.</p> <p>Polymer production</p> <p>Industrial use</p> <p>Professional use</p> <p>Consumer use</p> <p>For further information, see attached Exposure Scenario</p> |
|------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

### 1.3. Details of the supplier of the safety data sheet

**Supplier**

Univar Solutions UK Ltd  
 Aquarius House  
 6 Mid Point Business Park  
 Bradford  
 GBR

For further information, please contact

**E-mail address** SDS.EMEA@univarsolutions.com

Non-Emergency Telephone Number +44 1274 267300 / +44 1274 267306

**1.4. Emergency telephone number**

Emergency Telephone SGS - +32 (0)3 575 55 55 (24h)

**SECTION 2: Hazards identification****2.1. Classification of the substance or mixture**

|                                                           |                     |
|-----------------------------------------------------------|---------------------|
| <b>Acute toxicity - Inhalation (Dusts/Mists)</b>          | Category 4 - (H332) |
| <b>Serious eye damage/eye irritation</b>                  | Category 1 - (H318) |
| <b>Respiratory sensitisation</b>                          | Category 1 - (H334) |
| <b>Skin sensitisation</b>                                 | Category 1 - (H317) |
| <b>Specific target organ toxicity — repeated exposure</b> | Category 2 - (H373) |

**2.2. Label elements**

Contains N-(3-TRIMETHOXYSILYL)PROPYL)ETHYLENEDIAMINE; OLIGOMERS OF (ETHYLENEDIAMINEPROPYL)TRIMETHOXYSILANE; N,N',BIS(3-(TRIMETHYLSILOXY)PROPYL)-1,2-ETHANDIAMINE; ETHYLENEDIAMINE; N,N,BIS-(3,TRIEMTHYLSILOXY)PROPYL)-1,2-ETHANEDIAMINE; N-[3-(DIMETHOXYMETHYLSILYL)-2-METHYLPROPYL]ETHYLENEDIAMINE

**Signal word**

Danger

**Hazard statements**

H317 - May cause an allergic skin reaction

H318 - Causes serious eye damage

H332 - Harmful if inhaled

H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled

H373 - May cause damage to organs through prolonged or repeated exposure

**Precautionary statements**

P260 - Do not breathe mist/vapours/spray

P280 - Wear protective gloves/protective clothing/eye protection/face protection

P284 - In case of inadequate ventilation wear respiratory protection

P304 + P340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing

P312 - Call a POISON CENTER or doctor/physician if you feel unwell

P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

P310 - Immediately call a POISON CENTER or doctor/physician

#### Additional information

This product requires tactile warnings if supplied to the general public.

#### 2.3. Other hazards

No information available.

### SECTION 3: Composition/information on ingredients

#### 3.1 Substances

| Chemical name                                                       | Weight-%               | EC No (EU Index No)         | UK REACH registration number | Classification according to GB CLP (SI 2020/1567 as amended)                                                                                                                                                     | Specific concentration limit (SCL)                  | M-Factor | M-Factor (long-term) |
|---------------------------------------------------------------------|------------------------|-----------------------------|------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------|----------|----------------------|
| N-(3-TRIMETHOXY SILYL)PROPYL)ETHYLENEDIAMINE<br>1760-24-3           | >= 80.0 -<br><= 90.0 % | 217-164-6                   | -                            | Acute Tox. 4 (H332)<br>STOT RE 2 (H373)<br>Skin Sens. 1B (H317)<br>Eye Dam. 1 (H318)                                                                                                                             | -                                                   | -        | -                    |
| OLIGOMERS OF (ETHYLENEDIAMINE)PROPYL)TRIMETHOXYSILANE<br>-          | <= 4.0 %               | -                           | -                            | Acute Tox. 4 (H332)<br>STOT RE 2 (H373)<br>Skin Sens. 1B (H317)<br>Eye Dam. 1 (H318)                                                                                                                             | -                                                   | -        | -                    |
| N,N',BIS(3-(TRIMETHYLSILOXY)PROPYL)-1,2-ETHANEDIAMINE<br>68845-16-9 | >= 3.0 -<br><= 10.0 %  | 272-453-4                   | -                            | Skin Sens. 1 (H317)<br>Skin Irrit. 2 (H315)<br>STOT SE 3 (H335)<br>Eye Dam. 1 (H318)                                                                                                                             | -                                                   | -        | -                    |
| ETHYLENEDIAMINE<br>107-15-3                                         | <= 1.25 %              | 203-468-6<br>(612-006-00-6) | -                            | Aquatic Chronic 3 (H412)<br>Skin Corr. 1B (H314)<br>Flam. Liq. 3 (H226)<br>Acute Tox. 4 (H332)<br>Skin Sens. 1 (H317)<br>Resp. Sens. 1 (H334)<br>Acute Tox. 3 (H311)<br>Acute Tox. 4 (H302)<br>Eye Dam. 1 (H318) | -                                                   | -        | -                    |
| METHANOL<br>67-56-1                                                 | <= 2.0 %               | 200-659-6<br>(603-001-00-X) | -                            | Flam. Liq. 2 (H225)<br>Acute Tox. 3 (H301)<br>Acute Tox. 3 (H311)<br>Acute Tox. 3 (H331)<br>STOT SE 1 (H370)                                                                                                     | STOT SE 1 ::<br>C>=10%<br>STOT SE 2 ::<br>3%<=C<10% | -        | -                    |
| N,N',BIS-(3,TRIMETHYLSILOXY)PROPYL)-1,2-ETHANEDIAMINE<br>74956-86-8 | >= 0.6 -<br><= 2.5 %   | 695-749-9                   | -                            | Skin Sens. 1 (H317)<br>Skin Irrit. 2 (H315)<br>STOT SE 3 (H335)<br>Eye Dam. 1 (H318)                                                                                                                             | -                                                   | -        | -                    |

|                                                                          |          |           |   |                                                                 |   |   |   |
|--------------------------------------------------------------------------|----------|-----------|---|-----------------------------------------------------------------|---|---|---|
| N-[3-(DIMETHOXYMETHYLSILYL)-2-METHYLPROPYL]ETHYLENEDIAMINE<br>23410-40-4 | <= 0.4 % | 245-642-4 | - | Skin Sens. 1 (H317)<br>Acute Tox. 4 (H302)<br>Eye Dam. 1 (H318) | - | - | - |
|--------------------------------------------------------------------------|----------|-----------|---|-----------------------------------------------------------------|---|---|---|

Full text of H- and EUH-phrases: see section 16

| Chemical name   | CAS No   | SVHC candidates |
|-----------------|----------|-----------------|
| ETHYLENEDIAMINE | 107-15-3 | X               |

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

|                       |                                                                                                                                                                                                                                                                                                            |
|-----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>General advice</b> | First aid personnel should wear appropriate protective equipment during any rescue. Use personal protection recommended in Section 8.                                                                                                                                                                      |
| <b>Inhalation</b>     | IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing. Rinse mouth thoroughly with water. Get medical attention if symptoms occur.                                                                                                                                      |
| <b>Eye contact</b>    | Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if symptoms occur.                                                                                                      |
| <b>Skin contact</b>   | IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. Discard items which cannot be decontaminated, including leather articles such as shoes, belts and watchbands. Wash contaminated clothing before reuse. Get medical attention if symptoms occur. |
| <b>Ingestion</b>      | Rinse mouth thoroughly with water. Do not induce vomiting without medical advice. Get medical attention if symptoms occur.                                                                                                                                                                                 |

### 4.2. Most important symptoms and effects, both acute and delayed

#### Symptoms

|                   |                                                                                                                                                                              |
|-------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Inhalation</b> | Harmful if inhaled. May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause damage to organs through prolonged or repeated exposure if inhaled. |
| <b>Eyes</b>       | Causes serious eye damage. May cause permanent damage if eye is not immediately irrigated. Causes eye burns.                                                                 |
| <b>Dermal</b>     | May cause an allergic skin reaction.                                                                                                                                         |

### 4.3. Indication of any immediate medical attention and special treatment needed

|                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Note to doctors</b> | Maintain adequate ventilation and oxygenation of the patient. May cause respiratory sensitization or asthma-like symptoms. Bronchodilators, expectorants and antitussives may be of help. Treat bronchospasm with inhaled beta2 agonist and oral or parenteral corticosteroids. Chemical eye burns may require extended irrigation. Chemical burns must be treated promptly by a physician. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient. Excessive exposure may aggravate pre-existing asthma and other respiratory disorders (e.g. emphysema, bronchitis, reactive airways dysfunction syndrome). Skin contact may aggravate preexisting dermatitis. |
|------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

|                                       |                                                                    |
|---------------------------------------|--------------------------------------------------------------------|
| <b>Suitable Extinguishing Media</b>   | Alcohol resistant foam. Dry sand.                                  |
| <b>Large Fire</b>                     | CAUTION: Use of water spray when fighting fire may be inefficient. |
| <b>Unsuitable extinguishing media</b> | Do not scatter spilled material with high pressure water streams.  |

### 5.2. Special hazards arising from the substance or mixture

|                                                   |                                                                                                                                                                                                                                                                                                           |
|---------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Specific hazards arising from the chemical</b> | When heated and in case of fire, toxic vapours/gases may be formed. Flash back possible over considerable distance. Exposure to combustion products may be a hazard to health. Containers can burst violently when heated, due to excess pressure build-up. Vapours may form explosive mixtures with air. |
| <b>Hazardous combustion products</b>              | Carbon oxides. Nitrogen oxides (NOx). Silicon oxides. Formaldehyde. Methanol. Ammonia. Amine.                                                                                                                                                                                                             |

### 5.3. Advice for firefighters

|                                                                       |                                                                                                                                    |
|-----------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------|
| <b>Special protective equipment and precautions for fire-fighters</b> | Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment. |
|-----------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------|

## SECTION 6: Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

|                                 |                                                                                                                                                                                                                                                   |
|---------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Personal precautions</b>     | Ensure adequate ventilation. Use personal protection recommended in Section 8. Avoid contact with skin, eyes and inhalation of vapours. Remove all sources of ignition. Follow precautions for safe handling described in this safety data sheet. |
| <b>Other information</b>        | Refer to protective measures listed in Sections 7 and 8.                                                                                                                                                                                          |
| <b>For emergency responders</b> | Use personal protection recommended in Section 8.                                                                                                                                                                                                 |

### 6.2. Environmental precautions

|                                  |                                                       |
|----------------------------------|-------------------------------------------------------|
| <b>Environmental precautions</b> | Prevent further leakage or spillage if safe to do so. |
|----------------------------------|-------------------------------------------------------|

### 6.3. Methods and material for containment and cleaning up

|                                        |                                                                                                                                                                                                                                                          |
|----------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Methods for containment</b>         | Prevent further leakage or spillage if safe to do so.                                                                                                                                                                                                    |
| <b>Methods for cleaning up</b>         | Use non-sparking tools. Suppress (knock down) gases/vapours/mists with a water spray jet. Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Pick up and transfer to properly labelled containers. |
| <b>Prevention of secondary hazards</b> | Clean contaminated objects and areas thoroughly observing environmental regulations.                                                                                                                                                                     |

### 6.4. Reference to other sections

|                                    |                                                                          |
|------------------------------------|--------------------------------------------------------------------------|
| <b>Reference to other sections</b> | See section 8 for more information. See section 13 for more information. |
|------------------------------------|--------------------------------------------------------------------------|

## SECTION 7: Handling and storage

**7.1. Precautions for safe handling****Advice on safe handling**

Ensure adequate ventilation. Use personal protection recommended in Section 8. Avoid contact with skin, eyes and inhalation of vapours. Do not swallow. Keep container closed when not in use. Keep away from open flames, hot surfaces and sources of ignition. Take precautionary measures against static discharge. Avoid spilling. Avoid release to the environment. Handle in accordance with good industrial hygiene and safety practice. Empty containers retain product residue and can be hazardous.

**General hygiene considerations**

Wash hands before breaks and immediately after handling the product.

**7.2. Conditions for safe storage, including any incompatibilities****Storage Conditions**

Keep container tightly closed in a dry and well-ventilated place. Keep in properly labelled containers. Keep away from open flames, hot surfaces and sources of ignition. Store away from the following materials. Strong oxidising agents. Explosives. Gases.

**7.3. Specific end use(s)****Specific use(s)**

See section 1 for more information.

**Risk Management Methods (RMM)**

The information required is contained in this Safety Data Sheet.

**SECTION 8: Exposure controls/personal protection****8.1. Control parameters****Exposure Limits**

| Chemical name       | United Kingdom                                                                                    |
|---------------------|---------------------------------------------------------------------------------------------------|
| METHANOL<br>67-56-1 | TWA: 200 ppm<br>TWA: 266 mg/m <sup>3</sup><br>STEL: 250 ppm<br>STEL: 333 mg/m <sup>3</sup><br>Sk* |

**Biological occupational exposure limits**

This product, as supplied, does not contain any hazardous materials with biological limits established by the region specific regulatory bodies.

**Derived No Effect Level (DNEL) - Workers**

| Chemical name                                              | Oral | Dermal                                             | Inhalation                                                                                                                        |
|------------------------------------------------------------|------|----------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|
| N-(3-TRIMETHOXYSILYL)PROPYL)ETHYLENEDIAMINE<br>1760-24-3   |      |                                                    | 260 mg/m <sup>3</sup> [4] [6]<br>260 mg/m <sup>3</sup> [4] [7]<br>0.6 mg/m <sup>3</sup> [5] [6]<br>5.36 mg/m <sup>3</sup> [5] [7] |
| ETHYLENEDIAMINE<br>107-15-3                                |      | 3.6 mg/kg bw/day [4] [6]                           | 25 mg/m <sup>3</sup> [4] [6]                                                                                                      |
| METHANOL<br>67-56-1                                        |      | 20 mg/kg bw/day [4] [6]<br>20 mg/kg bw/day [4] [7] | 130 mg/m <sup>3</sup> [4] [6]<br>130 mg/m <sup>3</sup> [4] [7]<br>130 mg/m <sup>3</sup> [5] [6]<br>130 mg/m <sup>3</sup> [5] [7]  |
| N-[3-(DIMETHOXYMETHYLSILYL)-2-METHYLPROPYL]ETHYLENEDIAMINE |      | 2.31 mg/kg bw/day [4] [6]                          | 16.29 mg/m <sup>3</sup> [4] [6]                                                                                                   |

| Chemical name   | Oral | Dermal | Inhalation |
|-----------------|------|--------|------------|
| E<br>23410-40-4 |      |        |            |

|     |                          |
|-----|--------------------------|
| [4] | Systemic health effects. |
| [5] | Local health effects.    |
| [6] | Long term.               |
| [7] | Short term.              |

**Derived No Effect Level (DNEL) - General Public**

| Chemical name                                                                 | Oral                                             | Dermal                                           | Inhalation                                                                                                                   |
|-------------------------------------------------------------------------------|--------------------------------------------------|--------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------|
| N-(3-TRIMETHOXYMETHYLSILYL)ETHYLENEDIAMINE<br>1760-24-3                       | 8 mg/kg bw/day [4] [6]                           |                                                  | 50 mg/m <sup>3</sup> [4] [6]<br>50 mg/m <sup>3</sup> [4] [7]<br>0.1 mg/m <sup>3</sup> [5] [6]<br>4 mg/m <sup>3</sup> [5] [7] |
| ETHYLENEDIAMINE<br>107-15-3                                                   | 0.11 mg/kg bw/day [4] [6]                        |                                                  | 6.25 mg/m <sup>3</sup> [4] [6]                                                                                               |
| METHANOL<br>67-56-1                                                           | 4 mg/kg bw/day [4] [6]<br>4 mg/kg bw/day [4] [7] | 4 mg/kg bw/day [4] [6]<br>4 mg/kg bw/day [4] [7] | 26 mg/m <sup>3</sup> [4] [6]<br>26 mg/m <sup>3</sup> [4] [7]<br>26 mg/m <sup>3</sup> [5] [6]<br>26 mg/m <sup>3</sup> [5] [7] |
| N-[3-(DIMETHOXYMETHYLSILYL)-2-METHYLPROPYL]ETHYLENEDIAMINE<br>E<br>23410-40-4 | 0.825 mg/kg bw/day [4] [6]                       | 0.825 mg/kg bw/day [4] [6]                       | 2.87 mg/m <sup>3</sup> [4] [6]                                                                                               |

|     |                          |
|-----|--------------------------|
| [4] | Systemic health effects. |
| [5] | Local health effects.    |
| [6] | Long term.               |
| [7] | Short term.              |

**Predicted No Effect Concentration (PNEC)**

| Chemical name                                                                 | Freshwater | Freshwater<br>(intermittent release) | Marine water | Marine water<br>(intermittent release) | Air |
|-------------------------------------------------------------------------------|------------|--------------------------------------|--------------|----------------------------------------|-----|
| N-(3-TRIMETHOXYMETHYLSILYL)ETHYLENEDIAMINE<br>1760-24-3                       | 0.062 mg/L | 0.62 mg/L                            | 0.0062 mg/L  |                                        |     |
| ETHYLENEDIAMINE<br>107-15-3                                                   | 0.016 mg/L | 0.167 mg/L                           | 0.002 mg/L   |                                        |     |
| METHANOL<br>67-56-1                                                           | 20.8 mg/L  | 1540 mg/L                            | 2.08 mg/L    |                                        |     |
| N-[3-(DIMETHOXYMETHYLSILYL)-2-METHYLPROPYL]ETHYLENEDIAMINE<br>E<br>23410-40-4 | 0.062 mg/L | 0.088 mg/L                           | 0.0062 mg/L  |                                        |     |

| Chemical name                                                 | Freshwater<br>sediment    | Marine sediment            | Sewage treatment | Soil                    | Food chain |
|---------------------------------------------------------------|---------------------------|----------------------------|------------------|-------------------------|------------|
| N-(3-TRIMETHOXYMETHYLSILYL)ETHYLENEDIAMINE<br>E<br>23410-40-4 | 0.22 mg/kg<br>sediment dw | 0.022 mg/kg<br>sediment dw | 25 mg/L          | 0.0085 mg/kg soil<br>dw |            |

| Chemical name                                                            | Freshwater sediment       | Marine sediment            | Sewage treatment | Soil               | Food chain     |
|--------------------------------------------------------------------------|---------------------------|----------------------------|------------------|--------------------|----------------|
| MINE<br>1760-24-3                                                        |                           |                            |                  |                    |                |
| ETHYLENEDIAMINE<br>107-15-3                                              | 7.68 mg/kg<br>sediment dw | 0.768 mg/kg<br>sediment dw | 0.32 mg/l        | 4.36 mg/kg soil dw | 4.9 mg/kg food |
| METHANOL<br>67-56-1                                                      | 77 mg/kg sediment<br>dw   | 7.7 mg/kg sediment<br>dw   | 100 mg/L         | 100 mg/kg soil dw  |                |
| N-[3-(DIMETHOXYMETHYLSILYL)-2-METHYLPROPYL]ETHYLENEDIAMINE<br>23410-40-4 | 0.05 mg/kg                | 0.005 mg/kg                | 25 mg/L          | 0.0088 mg/kg       |                |

## 8.2. Exposure controls

**Engineering controls** No information available.

### Personal protective equipment

**Eye/face protection** Wear safety glasses with side shields (or goggles). Use eye protection according to EN 166.

**Hand protection** Wear suitable gloves. Gloves must conform to standard EN 374.

| Gloves              |                                                |                 |                    |
|---------------------|------------------------------------------------|-----------------|--------------------|
| Duration of contact | PPE - Glove material                           | Glove thickness | Break through time |
|                     | Wear protective butyl rubber gloves            | > 0.35 mm       | > 240 minutes      |
|                     | Wear protective Neoprene™ gloves               | > 0.35 mm       | > 240 minutes      |
|                     | Nitrile/butadiene rubber ("nitrile" or "NBR"). | > 0.35 mm       | > 240 minutes      |
|                     | Ethyl vinyl alcohol laminate ("EVAL")          | > 0.35 mm       | > 240 minutes      |
|                     | Polyvinyl chloride (PVC)                       | > 0.35 mm       | > 240 minutes      |
|                     | Rubber (natural, latex)                        | > 0.35 mm       | > 240 minutes      |

**Skin and body protection** Wear appropriate clothing to prevent reasonably probable skin contact.

**Respiratory protection** Use appropriate respiratory protection.  
**Recommended filter type:** Wear self-contained breathing apparatus.

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

**Physical state** Liquid  
**Appearance** Liquid  
**Colour** Colourless To Light (or pale) yellow  
**Odour** Amine-like.  
**Odour threshold** No information available

| Property                                | Values       | Remarks • Method          |
|-----------------------------------------|--------------|---------------------------|
| Melting point / freezing point          |              | No information available. |
| Initial boiling point and boiling range | >= 128.33 °C | @ 760 mmHg.               |

|                                        |                                                            |                           |
|----------------------------------------|------------------------------------------------------------|---------------------------|
| Flammability                           |                                                            | No information available. |
| Flammability Limit in Air              |                                                            | No information available. |
| Upper flammability or explosive limits |                                                            |                           |
| Lower flammability or explosive limits |                                                            |                           |
| Flash point                            | 85 °C                                                      | Setaflash closed cup.     |
| Autoignition temperature               | 310 °C                                                     |                           |
| Decomposition temperature              |                                                            | No information available. |
| pH                                     |                                                            | No information available. |
| pH (as aqueous solution)               |                                                            | No information available. |
| Kinematic viscosity                    | 5 cSt                                                      | @ 25 °C.                  |
| Dynamic viscosity                      |                                                            | No information available. |
| Water solubility                       |                                                            | Not determined.           |
| Solubility(ies)                        |                                                            | No information available. |
| Partition coefficient                  |                                                            | Not determined.           |
| Vapour pressure                        |                                                            | No information available. |
| Relative density                       | 1.03                                                       |                           |
| Bulk density                           |                                                            | No information available  |
| Liquid Density                         | No information available                                   | No information available  |
| Relative vapour density                |                                                            | No information available. |
| Particle characteristics               |                                                            | Not applicable.           |
| Particle Size                          | No information available                                   |                           |
| Particle Size Distribution             | No information available                                   |                           |
| Explosive properties                   | Not considered to be explosive.                            |                           |
| Oxidising properties                   | Does not meet the criteria for classification as oxidising |                           |

## 9.2. Other information

# SECTION 10: Stability and reactivity

## 10.1. Reactivity

Reactivity No known effects under normal use conditions.

## 10.2. Chemical stability

Stability Stable under normal conditions.

## Explosion data

Sensitivity to mechanical impact None.

Sensitivity to static discharge None.

## 10.3. Possibility of hazardous reactions

Possibility of hazardous reactions The following materials may react with the product: Strong oxidising agents. When heated, vapours/gases hazardous to health may be formed. Temperatures above 150 °C / 300 °F. Formaldehyde. Vapours may form explosive mixtures with air.

## 10.4. Conditions to avoid

Conditions to avoid Excessive heat. Heat, flames and sparks.

## 10.5. Incompatible materials

Incompatible materials Strong oxidising agents.

## 10.6. Hazardous decomposition products

Hazardous decomposition products Carbon oxides. Nitrogen oxides (NOx). Silicon oxides. Formaldehyde. Methanol. Ammonia.

Amines.

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

#### Information on likely routes of exposure

##### Product Information

|                     |                                                                                                                                                                              |
|---------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Inhalation</b>   | Harmful if inhaled. May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause damage to organs through prolonged or repeated exposure if inhaled. |
| <b>Eye contact</b>  | Causes serious eye damage. May cause permanent damage if eye is not immediately irrigated. Causes eye burns.                                                                 |
| <b>Skin contact</b> | Brief contact may cause slight skin irritation with local redness. Dryness and/or cracking. Effects may be slow to heal. May cause an allergic skin reaction.                |
| <b>Ingestion</b>    | May cause discomfort if swallowed.                                                                                                                                           |

#### Symptoms related to the physical, chemical and toxicological characteristics

##### Symptoms

##### Acute toxicity

##### Numerical measures of toxicity

##### Component Information

| Chemical name                                              | Oral LD50            | Dermal LD50             | Inhalation LC50              |
|------------------------------------------------------------|----------------------|-------------------------|------------------------------|
| N-(3-TRIMETHOXSILYL)PROPYL)ETHYLENEDIAMINE                 | = 2295 mg/kg ( Rat ) | > 2000 mg/kg ( Rabbit ) | 1.49 - 2.44 mg/L ( Rat ) 4 h |
| OLIGOMERS OF (ETHYLENEDIAMINEPROPYL)TRIMETHOXSILANE        | = 2295 mg/kg ( Rat ) | > 2000 mg/kg ( Rabbit ) | 1.49 - 2.44 mg/L ( Rat ) 4 h |
| ETHYLENEDIAMINE                                            | = 866 mg/kg ( Rat )  | = 560 mg/kg ( Rabbit )  | = 14.7 mg/L ( Rat ) 4 h      |
| METHANOL                                                   | 300 mg/kg            | 300 mg/kg               | 3 mg/L                       |
| N-[3-(DIMETHOXYMETHYLSILYL)-2-METHYLPROPYL]ETHYLENEDIAMINE | = 653 mg/kg ( Rat )  | > 2000 mg/kg ( Rabbit ) | = 0.6 mg/l ( Rat ) 4 h       |

#### Delayed and immediate effects as well as chronic effects from short and long-term exposure

|                                  |                                                                                                                          |
|----------------------------------|--------------------------------------------------------------------------------------------------------------------------|
| <b>Skin corrosion/irritation</b> | Brief contact may cause slight skin irritation with local redness. Dryness and/or cracking. Effects may be slow to heal. |
|----------------------------------|--------------------------------------------------------------------------------------------------------------------------|

##### N-(3-TRIMETHOXSILYL)PROPYL)ETHYLENEDIAMINE (1760-24-3)

| Method | Species | Exposure route | Effective dose | Exposure time | Results                                                              |
|--------|---------|----------------|----------------|---------------|----------------------------------------------------------------------|
|        |         |                |                |               | Brief contact may cause moderate skin irritation with local redness. |

##### OLIGOMERS OF (ETHYLENEDIAMINEPROPYL)TRIMETHOXSILANE (-)

| Method | Species | Exposure route | Effective dose | Exposure time | Results                                                              |
|--------|---------|----------------|----------------|---------------|----------------------------------------------------------------------|
|        |         |                |                |               | Brief contact may cause moderate skin irritation with local redness. |

## N,N',BIS(3-(TRIMETHYLSILOXY)PROPYL)-1,2-ETHANDIAMINE (68845-16-9)

| Method | Species | Exposure route | Effective dose | Exposure time | Results                                                                            |
|--------|---------|----------------|----------------|---------------|------------------------------------------------------------------------------------|
|        |         |                |                |               | Causes skin irritation Brief contact may cause skin irritation with local redness. |

## ETHYLENEDIAMINE (107-15-3)

| Method | Species | Exposure route | Effective dose | Exposure time | Results                                                                                |
|--------|---------|----------------|----------------|---------------|----------------------------------------------------------------------------------------|
|        |         |                |                |               | Causes severe burns Symptoms may include pain, severe local redness and tissue damage. |

## N,N,BIS-(3,TRIEMTHYLSILOXY)PROPYL)-1,2-ETHANEDIAMINE (74956-86-8)

| Method | Species | Exposure route | Effective dose | Exposure time | Results                                                                            |
|--------|---------|----------------|----------------|---------------|------------------------------------------------------------------------------------|
|        |         |                |                |               | Causes skin irritation Brief contact may cause skin irritation with local redness. |

## N-[3-(DIMETHOXYMETHYLSILYL)-2-METHYLPROPYL]ETHYLENEDIAMINE (23410-40-4)

| Method | Species | Exposure route | Effective dose | Exposure time | Results                                                                                        |
|--------|---------|----------------|----------------|---------------|------------------------------------------------------------------------------------------------|
|        |         |                |                |               | May cause slight irritation Brief contact may cause slight skin irritation with local redness. |

**Serious eye damage/eye irritation** Causes serious eye damage. May cause permanent damage if eye is not immediately irrigated. Causes eye burns.

## N-(3-TRIMETHOXYSYLYL)PROPYL)ETHYLENEDIAMINE (1760-24-3)

| Method | Species | Exposure route | Effective dose | Exposure time | Results                                                                                                    |
|--------|---------|----------------|----------------|---------------|------------------------------------------------------------------------------------------------------------|
|        |         |                |                |               | Causes serious eye damage May cause permanent damage if eye is not immediately irrigated. Causes eye burns |

## OLIGOMERS OF (ETHYLENEDIAMINEPROPYL)TRIMETHOXYSILANE (-)

| Method | Species | Exposure route | Effective dose | Exposure time | Results                                                                        |
|--------|---------|----------------|----------------|---------------|--------------------------------------------------------------------------------|
|        |         |                |                |               | Causes serious eye damage May cause permanent damage if eye is not immediately |

|  |  |  |  |  |                             |
|--|--|--|--|--|-----------------------------|
|  |  |  |  |  | irrigated. Causes eye burns |
|--|--|--|--|--|-----------------------------|

## N,N',BIS(3-(TRIMETHYLSILOXY)PROPYL)-1,2-ETHANDIAMINE (68845-16-9)

| Method | Species | Exposure route | Effective dose | Exposure time | Results                                                                                                    |
|--------|---------|----------------|----------------|---------------|------------------------------------------------------------------------------------------------------------|
|        |         |                |                |               | Causes serious eye damage May cause permanent damage if eye is not immediately irrigated. Causes eye burns |

## ETHYLENEDIAMINE (107-15-3)

| Method | Species | Exposure route | Effective dose | Exposure time | Results                                                                                                       |
|--------|---------|----------------|----------------|---------------|---------------------------------------------------------------------------------------------------------------|
|        |         |                |                |               | Causes serious eye damage May cause permanent damage if eye is not immediately irrigated. Causes severe burns |

## N,N,BIS-(3,TRIEMTHYLSILOXY)PROPYL)-1,2-ETHANEDIAMINE (74956-86-8)

| Method | Species | Exposure route | Effective dose | Exposure time | Results                                                                                                    |
|--------|---------|----------------|----------------|---------------|------------------------------------------------------------------------------------------------------------|
|        |         |                |                |               | Causes serious eye damage May cause permanent damage if eye is not immediately irrigated. Causes eye burns |

## N-[3-(DIMETHOXYMETHYLSILYL)-2-METHYLPROPYL]ETHYLENEDIAMINE (23410-40-4)

| Method | Species | Exposure route | Effective dose | Exposure time | Results                                                                                                    |
|--------|---------|----------------|----------------|---------------|------------------------------------------------------------------------------------------------------------|
|        |         |                |                |               | Causes serious eye damage May cause permanent damage if eye is not immediately irrigated. Causes eye burns |

**Respiratory or skin sensitisation** May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause an allergic skin reaction.

## N-(3-TRIMETHOXSILYL)PROPYL)ETHYLENEDIAMINE (1760-24-3)

| Method | Species    | Exposure route | Results                             |
|--------|------------|----------------|-------------------------------------|
|        | Guinea pig | Dermal         | May cause an allergic skin reaction |

## OLIGOMERS OF (ETHYLENEDIAMINEPROPYL)TRIMETHOXSILANE (-)

| Method | Species    | Exposure route | Results                             |
|--------|------------|----------------|-------------------------------------|
|        | Guinea pig | Dermal         | May cause an allergic skin reaction |

## N,N',BIS(3-(TRIMETHYLSILOXY)PROPYL)-1,2-ETHANDIAMINE (68845-16-9)

| Method | Species | Exposure route | Results |
|--------|---------|----------------|---------|
|--------|---------|----------------|---------|

|  |  |  |                                     |
|--|--|--|-------------------------------------|
|  |  |  | May cause an allergic skin reaction |
|--|--|--|-------------------------------------|

## ETHYLENEDIAMINE (107-15-3)

| Method | Species        | Exposure route | Results                                                                   |
|--------|----------------|----------------|---------------------------------------------------------------------------|
|        | Human evidence |                | May cause an allergic skin reaction                                       |
|        |                |                | May cause allergy or asthma symptoms or breathing difficulties if inhaled |

## N,N,BIS-(3,TRIMETHYLSILOXY)PROPYL)-1,2-ETHANEDIAMINE (74956-86-8)

| Method | Species | Exposure route | Results                             |
|--------|---------|----------------|-------------------------------------|
|        |         |                | May cause an allergic skin reaction |

## N-[3-(DIMETHOXYMETHYLSILYL)-2-METHYLPROPYL]ETHYLENEDIAMINE (23410-40-4)

| Method | Species    | Exposure route | Results                             |
|--------|------------|----------------|-------------------------------------|
|        | Guinea pig | Dermal         | May cause an allergic skin reaction |

**Germ cell mutagenicity** No information available.

| Product Information |          |  |                                                                                         |
|---------------------|----------|--|-----------------------------------------------------------------------------------------|
| Method              | Species  |  | Results                                                                                 |
|                     | in vitro |  | Predominantly negative                                                                  |
|                     |          |  | Animal genetic toxicity studies were negative in some cases and positive in other cases |

## Component Information

## N-(3-TRIMETHOXYMETHYLSILYL)PROPYL)ETHYLENEDIAMINE (1760-24-3)

| Method | Species  | Results                                                       |
|--------|----------|---------------------------------------------------------------|
|        | in vitro | Negative                                                      |
|        |          | Negative Did not show mutagenic effects in animal experiments |

## OLIGOMERS OF (ETHYLENEDIAMINE)PROPYL)TRIMETHOXYMETHYLSILANE (-)

| Method | Species  | Results                                              |
|--------|----------|------------------------------------------------------|
|        | in vitro | Negative                                             |
|        |          | Did not show mutagenic effects in animal experiments |

## ETHYLENEDIAMINE (107-15-3)

| Method | Species | Results                                                       |
|--------|---------|---------------------------------------------------------------|
|        |         | Negative Did not show mutagenic effects in animal experiments |

## N-[3-(DIMETHOXYMETHYLSILYL)-2-METHYLPROPYL]ETHYLENEDIAMINE (23410-40-4)

| Method | Species  | Results  |
|--------|----------|----------|
|        | in vitro | Negative |

**Carcinogenicity** No information available.

## Component Information

## ETHYLENEDIAMINE (107-15-3)

| Method | Species | Results                                     |
|--------|---------|---------------------------------------------|
|        |         | Did not cause cancer in laboratory animals. |

**Reproductive toxicity** No information available.

**N-(3-TRIMETHOXSILYL)PROPYL)ETHYLENEDIAMINE (1760-24-3)**

| Method | Species | Results                                                |
|--------|---------|--------------------------------------------------------|
|        |         | In animal studies, did not interfere with reproduction |

**OLIGOMERS OF (ETHYLENEDIAMINEPROPYL)TRIMETHOXSILANE (-)**

| Method | Species | Results                                                                         |
|--------|---------|---------------------------------------------------------------------------------|
|        |         | For similar material(s): In animal studies, did not interfere with reproduction |

**N,N',BIS(3-(TRIMETHYLSILOXY)PROPYL)-1,2-ETHANDIAMINE (68845-16-9)**

| Method | Species | Results                                                                   |
|--------|---------|---------------------------------------------------------------------------|
|        |         | This product does not contain any known or suspected reproductive hazards |

**ETHYLENEDIAMINE (107-15-3)**

| Method | Species | Results                                                |
|--------|---------|--------------------------------------------------------|
|        |         | In animal studies, did not interfere with reproduction |

**N,N,BIS-(3,TRIEMTHYLSILOXY)PROPYL)-1,2-ETHANEDIAMINE (74956-86-8)**

| Method | Species | Results                                                                   |
|--------|---------|---------------------------------------------------------------------------|
|        |         | This product does not contain any known or suspected reproductive hazards |

**N-[3-(DIMETHOXYMETHYLSILYL)-2-METHYLPROPYL]ETHYLENEDIAMINE (23410-40-4)**

| Method | Species | Results                                                                   |
|--------|---------|---------------------------------------------------------------------------|
|        |         | This product does not contain any known or suspected reproductive hazards |

**STOT - single exposure** No information available.

**N,N',BIS(3-(TRIMETHYLSILOXY)PROPYL)-1,2-ETHANDIAMINE (68845-16-9)**

| Method | Species | Exposure route | Effective dose | Exposure time | Results                          |
|--------|---------|----------------|----------------|---------------|----------------------------------|
|        |         | Inhalation     |                |               | May cause respiratory irritation |

**ETHYLENEDIAMINE (107-15-3)**

| Method | Species | Exposure route | Effective dose | Exposure time | Results                                                                                                                           |
|--------|---------|----------------|----------------|---------------|-----------------------------------------------------------------------------------------------------------------------------------|
|        |         |                |                |               | Corrosive Material is not classified as a respiratory irritant; however, Upper respiratory tract irritation or corrosivity may be |

|  |  |  |  |  |           |
|--|--|--|--|--|-----------|
|  |  |  |  |  | expected. |
|--|--|--|--|--|-----------|

## N,N,BIS-(3,TRIMETHYLSILOXY)PROPYL)-1,2-ETHANEDIAMINE (74956-86-8)

| Method | Species | Exposure route | Effective dose | Exposure time | Results                          |
|--------|---------|----------------|----------------|---------------|----------------------------------|
|        |         | Inhalation     |                |               | May cause respiratory irritation |

**STOT - repeated exposure**

May cause damage to organs through prolonged or repeated exposure if inhaled.  
respiratory tract.

## Component Information

## N-(3-TRIMETHOXSILYL)PROPYL)ETHYLENEDIAMINE (1760-24-3)

| Method | Species | Exposure route | Effective dose | Exposure time | Results                                                                                                                                                        |
|--------|---------|----------------|----------------|---------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|
|        |         |                |                |               | May cause damage to organs through prolonged or repeated exposure if inhaled In animals, effects have been reported on the following organs: respiratory tract |

## OLIGOMERS OF (ETHYLENEDIAMINEPROPYL)TRIMETHOXSILANE (-)

| Method | Species | Exposure route | Effective dose | Exposure time | Results                                                                                                                                             |
|--------|---------|----------------|----------------|---------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|
|        |         |                |                |               | May cause damage to organs through prolonged or repeated exposure In animals, effects have been reported on the following organs: respiratory tract |

## ETHYLENEDIAMINE (107-15-3)

| Method | Species | Exposure route | Effective dose | Exposure time | Results                                                                      |
|--------|---------|----------------|----------------|---------------|------------------------------------------------------------------------------|
|        |         |                |                |               | In animals, effects have been reported on the following organs: Kidney Liver |

## N-[3-(DIMETHOXYMETHYLSILYL)-2-METHYLPROPYL]ETHYLENEDIAMINE (23410-40-4)

| Method | Species | Exposure route | Effective dose | Exposure time | Results                                                                                              |
|--------|---------|----------------|----------------|---------------|------------------------------------------------------------------------------------------------------|
|        |         |                |                |               | Based on available data, repeated exposures are not anticipated to cause significant adverse effects |

**Aspiration hazard**

Not determined.

**Other adverse effects**

No information available.

**SECTION 12: Ecological information**

**12.1. Toxicity****Ecotoxicity**

The environmental impact of this product has not been fully investigated.

**N-(3-TRIMETHOXSILYL)PROPYL)ETHYLENEDIAMINE (1760-24-3)**

| Method           | Species                         | Endpoint type | Effective dose | Exposure time | Results |
|------------------|---------------------------------|---------------|----------------|---------------|---------|
| Acute toxicity   | Brachydanio rerio               | LC50          | 597 mg/L       | 96 hours      |         |
| Acute toxicity   | Daphnia magna                   | EC50          | 81 mg/L        | 48 hours      |         |
| Acute toxicity   | Pseudokirchneriella subcapitata | ErC50         | 8.8 mg/L       | 72 hours      |         |
| Acute toxicity   | Pseudokirchneriella subcapitata | NOEC          | 3.1 mg/L       | 72 hours      |         |
|                  | Pseudomonas putida              | EC50          | 67 mg/L        | 16 hours      |         |
| Chronic toxicity | Daphnia magna                   | NOEC          | > 1 mg/L       | 21 days       |         |
|                  | Eisenia fetida                  | NOEC          | >= 1000 mg/kg  | 14 days       |         |

**OLIGOMERS OF (ETHYLENEDIAMINEPROPYL)TRIMETHOXSILANE (-)**

| Method                              | Species                         | Endpoint type | Effective dose | Exposure time | Results |
|-------------------------------------|---------------------------------|---------------|----------------|---------------|---------|
| Directive 67/548/EEC, Annex V, C.1. | Brachydanio rerio               | LC50          | 597 mg/L       | 96 hours      |         |
| Acute toxicity                      | Daphnia sp.                     | EC50          | 81 mg/L        | 48 hours      |         |
| Acute toxicity                      | Pseudokirchneriella subcapitata | ErC50         | 8.8 mg/L       | 72 hours      |         |
| Acute toxicity                      | Pseudokirchneriella subcapitata | NOEC          | 3.1 mg/L       | 72 hours      |         |
|                                     | Pseudomonas putida              | EC50          | 67 mg/L        | 16 hours      |         |
| Chronic toxicity                    | Daphnia magna                   | NOEC          | > 1 mg/L       | 21 days       |         |
|                                     | Eisenia fetida                  | NOEC          | >= 1 000 mg/kg | 14 days       |         |

**ETHYLENEDIAMINE (107-15-3)**

| Method           | Species                         | Endpoint type | Effective dose | Exposure time | Results |
|------------------|---------------------------------|---------------|----------------|---------------|---------|
| Acute toxicity   | Poecilia reticulata             | LC50          | 640 mg/L       | 96 hours      |         |
| Acute toxicity   | Daphnia magna                   | EC50          | 16.7 mg/L      | 48 hours      |         |
| Acute toxicity   | Pseudokirchneriella subcapitata | EC50          | 645 mg/L       | 72 hours      |         |
| Acute toxicity   | Pseudokirchneriella subcapitata | EbC50         | 71 mg/L        | 72 hours      |         |
| Chronic toxicity | Fish                            | NOEC          | > 10 mg/L      | 28 days       |         |
| Chronic toxicity | Daphnia magna                   | NOEC          | 0.16 mg/L      | 21 days       |         |

**METHANOL (67-56-1)**

| Method | Species             | Endpoint type | Effective dose | Exposure time | Results |
|--------|---------------------|---------------|----------------|---------------|---------|
|        | Pimephales promelas | LC50          | 28100 mg/L     | 96 hours      |         |

**N-[3-(DIMETHOXYMETHYLSILYL)-2-METHYLPROPYL]ETHYLENEDIAMINE (23410-40-4)**

| Method                                                                        | Species                   | Endpoint type | Effective dose | Exposure time | Results |
|-------------------------------------------------------------------------------|---------------------------|---------------|----------------|---------------|---------|
| EPA-660/3-75-009                                                              | Lepomis macrochirus       | LC50          | 200 mg/L       | 96 hours      |         |
| Directive 67/548/EEC, Annex V, C.2                                            | Daphnia magna             | EC50          | 81 mg/L        | 48 hours      |         |
| OECD Test No. 201: Freshwater Algae and Cyanobacteria, Growth Inhibition Test | Selenastrum capricornutum | ErC50         | 1.71 mg/L      | 72 days       |         |

|                                                                               |                           |      |            |          |  |
|-------------------------------------------------------------------------------|---------------------------|------|------------|----------|--|
| OECD Test No. 201: Freshwater Algae and Cyanobacteria, Growth Inhibition Test | Selenastrum capricornutum | NOEC | 0.365 mg/L | 72 days  |  |
| DIN 38 412 Part 8                                                             | Pseudomonas putida        | IC50 | 67 mg/L    | 16 hours |  |
| Chronic toxicity                                                              | Daphnia magna             | NOEC | > 1 mg/L   | 21 days  |  |

## 12.2. Persistence and degradability

### Persistence and degradability

Based on stringent OECD test guidelines, this material cannot be considered as readily biodegradable; however, these results do not necessarily mean that the material is not biodegradable under environmental conditions.

#### N-(3-TRIMETHOXSILYL)PROPYL)ETHYLENEDIAMINE (1760-24-3)

| Method                                                                                  | Exposure time | Value              | Results                   |
|-----------------------------------------------------------------------------------------|---------------|--------------------|---------------------------|
| OECD Test No. 301A: Ready Biodegradability: DOC Die-Away Test (TG 301 A) or Equivalent. | 28 days       | Biodegradation 39% | Not readily biodegradable |

#### OLIGOMERS OF (ETHYLENEDIAMINEPROPYL)TRIMETHOXSILANE (-)

| Method                                                                                  | Exposure time | Value              | Results                   |
|-----------------------------------------------------------------------------------------|---------------|--------------------|---------------------------|
| OECD Test No. 301A: Ready Biodegradability: DOC Die-Away Test (TG 301 A) or Equivalent. | 28 days       | Biodegradation 39% | Not readily biodegradable |

#### ETHYLENEDIAMINE (107-15-3)

| Method                                                                                       | Exposure time | Value              | Results               |
|----------------------------------------------------------------------------------------------|---------------|--------------------|-----------------------|
| OECD Test No. 301C: Ready Biodegradability: Modified MITI Test (I) (TG 301 C) or Equivalent. | 28 days       | Biodegradation 95% | Readily biodegradable |

#### N-[3-(DIMETHOXYMETHYLSILYL)-2-METHYLPROPYL]ETHYLENEDIAMINE (23410-40-4)

| Method                                                                    | Exposure time | Value                | Results                                                                                                                                                                                                                     |
|---------------------------------------------------------------------------|---------------|----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OECD Test No. 301D: Ready Biodegradability: Closed Bottle Test (TG 301 D) | 28 days       | Biodegradation 11.1% | Based on stringent OECD test guidelines, this material cannot be considered as readily biodegradable; however, these results do not necessarily mean that the material is not biodegradable under environmental conditions. |

## 12.3. Bioaccumulative potential

### Bioaccumulation

There is no data for this product.

### Component Information

| Chemical name                                              | Partition coefficient |
|------------------------------------------------------------|-----------------------|
| N-(3-TRIMETHOXSILYL)PROPYL)ETHYLENEDIAMINE                 | -3.3                  |
| OLIGOMERS OF (ETHYLENEDIAMINEPROPYL)TRIMETHOXSILANE        | < 3                   |
| ETHYLENEDIAMINE                                            | -1.6                  |
| METHANOL                                                   | -0.77                 |
| N-[3-(DIMETHOXYMETHYLSILYL)-2-METHYLPROPYL]ETHYLENEDIAMINE | -0.31                 |

**12.4. Mobility in soil**

Mobility in soil No information available.

**12.5. Results of PBT and vPvB assessment**

PBT and vPvB assessment The product does not contain any substance(s) classified as PBT or vPvB.

| Chemical name                                              | PBT and vPvB assessment         |
|------------------------------------------------------------|---------------------------------|
| N-(3-TRIMETHOXYSILYL)PROPYL)ETHYLENEDIAMINE                | The substance is not PBT / vPvB |
| ETHYLENEDIAMINE                                            | The substance is not PBT / vPvB |
| METHANOL                                                   | The substance is not PBT / vPvB |
| N-[3-(DIMETHOXYMETHYLSILYL)-2-METHYLPROPYL]ETHYLENEDIAMINE | The substance is not PBT / vPvB |

**12.6. Other adverse effects**

No information available.

**SECTION 13: Disposal considerations****13.1. Waste treatment methods**

Waste from residues/unused products Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

Contaminated packaging Do not reuse empty containers.

**SECTION 14: Transport information****IATA**

14.1 UN number or ID number Not regulated  
 14.2 UN proper shipping name Not regulated  
 14.3 Transport hazard class(es) Not regulated  
 14.4 Packing group Not regulated  
 14.5 Environmental hazards No  
 14.6 Special precautions for user  
 Special Provisions None

**IMDG**

14.1 UN number or ID number Not regulated  
 14.2 UN proper shipping name Not regulated  
 14.3 Transport hazard class(es) Not regulated  
 14.4 Packing group Not regulated  
 14.5 Environmental hazards No  
 14.6 Special precautions for user  
 Special Provisions None  
 14.7 Maritime transport in bulk according to IMO instruments No information available

**RID**

14.1 UN number or ID number Not regulated  
 14.2 UN proper shipping name Not regulated  
 14.3 Transport hazard class(es) Not regulated  
 14.4 Packing group Not regulated  
 14.5 Environmental hazards No  
 14.6 Special precautions for user

**Special Provisions**

None

**ADR**

|                                          |               |
|------------------------------------------|---------------|
| <b>14.1 UN number or ID number</b>       | Not regulated |
| <b>14.2 UN proper shipping name</b>      | Not regulated |
| <b>14.3 Transport hazard class(es)</b>   | Not regulated |
| <b>14.4 Packing group</b>                | Not regulated |
| <b>14.5 Environmental hazards</b>        | No            |
| <b>14.6 Special precautions for user</b> |               |
| <b>Special Provisions</b>                | None          |

**SECTION 15: Regulatory information****15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture****National regulations****Authorisations and/or restrictions on use:**

This product contains one or more substances subject to restriction (UK REACH - Annex XVII).

This product does not contain substances subject to authorisation (UK REACH - Annex XIV).

**Product restricted per REACH Annex XVII:** 3. 75

| Chemical name      | Restricted substance per REACH Annex XVII | Substance subject to authorisation per REACH Annex XIV |
|--------------------|-------------------------------------------|--------------------------------------------------------|
| METHANOL - 67-56-1 | 69, 75.                                   | -                                                      |

**Persistent Organic Pollutants**

Not applicable

**Export Notification requirements**

Not applicable

**Named dangerous substances per COMAH Regulations 2015 (as amended)**

| Chemical name      | Lower-tier requirements (tons) | Upper-tier requirements (tons) |
|--------------------|--------------------------------|--------------------------------|
| METHANOL - 67-56-1 | 500                            | 5000                           |

**The Ozone-Depleting Substances Regulations 2015**

Not applicable

**The Biocidal Products Regulations 2001 (as amended)**

Not applicable

**The Water Environment (Water Framework Directive) (England and Wales) Regulations 2017 (as amended)**

Not applicable

**Poisons Act 1972 (Explosive Precursors) Regulations (as Amended)**

Not applicable

**International Inventories**

|                      |                                                  |
|----------------------|--------------------------------------------------|
| <b>TSCA</b>          | Contact supplier for inventory compliance status |
| <b>DSL/NDL</b>       | Contact supplier for inventory compliance status |
| <b>EINECS/ELINCS</b> | Contact supplier for inventory compliance status |
| <b>ENCS</b>          | Contact supplier for inventory compliance status |
| <b>IECSC</b>         | Contact supplier for inventory compliance status |
| <b>KECI</b>          | Contact supplier for inventory compliance status |
| <b>PICCS</b>         | Contact supplier for inventory compliance status |
| <b>AIIC</b>          | Contact supplier for inventory compliance status |
| <b>NZIoC</b>         | Contact supplier for inventory compliance status |

**Legend:**

**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory  
**DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List  
**EINECS/ELINCS** - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances  
**ENCS** - Japan Existing and New Chemical Substances  
**IECSC** - China Inventory of Existing Chemical Substances  
**KECL** - Korean Existing and Evaluated Chemical Substances  
**PICCS** - Philippines Inventory of Chemicals and Chemical Substances  
**AIIC** - Australian Inventory of Industrial Chemicals  
**NZIoC** - New Zealand Inventory of Chemicals

**15.2. Chemical safety assessment****Chemical Safety Report**

A Chemical Safety Assessment has been carried out for this substance

**SECTION 16: Other information****Key or legend to abbreviations and acronyms used in the safety data sheet****Full text of H-Statements referred to under section 3**

H225 - Highly flammable liquid and vapour  
H226 - Flammable liquid and vapour  
H301 - Toxic if swallowed  
H302 - Harmful if swallowed  
H311 - Toxic in contact with skin  
H314 - Causes severe skin burns and eye damage  
H315 - Causes skin irritation  
H317 - May cause an allergic skin reaction  
H318 - Causes serious eye damage  
H331 - Toxic if inhaled  
H332 - Harmful if inhaled  
H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled  
H335 - May cause respiratory irritation  
H370 - Causes damage to organs  
H373 - May cause damage to organs through prolonged or repeated exposure  
H412 - Harmful to aquatic life with long lasting effects

**Legend**

SVHC: Substances of Very High Concern for Authorisation:

**Legend Section 8: Exposure controls/personal protection**

|         |                             |      |                                  |
|---------|-----------------------------|------|----------------------------------|
| TWA     | TWA (time-weighted average) | STEL | STEL (Short Term Exposure Limit) |
| Ceiling | Maximum limit value         | *    | Skin designation                 |
| +       | Sensitisers                 |      |                                  |

Revision Note **SDS sections updated 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16****Classification procedure**

|                                                                 |                    |
|-----------------------------------------------------------------|--------------------|
| Classification according to Regulation (EC) No. 1272/2008 [CLP] | Method Used        |
| Acute oral toxicity                                             | Calculation method |
| Acute dermal toxicity                                           | Calculation method |
| Acute inhalation toxicity - gas                                 | Calculation method |
| Acute inhalation toxicity - vapour                              | Calculation method |
| Acute inhalation toxicity - dust/mist                           | Calculation method |
| Skin corrosion/irritation                                       | Calculation method |
| Serious eye damage/eye irritation                               | Calculation method |
| Respiratory sensitisation                                       | Calculation method |
| Skin sensitisation                                              | Calculation method |
| Mutagenicity                                                    | Calculation method |

|                          |                    |
|--------------------------|--------------------|
| Carcinogenicity          | Calculation method |
| Reproductive toxicity    | Calculation method |
| STOT - single exposure   | Calculation method |
| STOT - repeated exposure | Calculation method |
| Acute aquatic toxicity   | Calculation method |
| Chronic aquatic toxicity | Calculation method |
| Aspiration hazard        | Calculation method |
| Ozone                    | Calculation method |

**Key literature references and sources for data used to compile the SDS**

Agency for Toxic Substances and Disease Registry (ATSDR)  
U.S. Environmental Protection Agency ChemView Database  
European Food Safety Authority (EFSA)  
European Chemicals Agency (ECHA) Committee for Risk Assessment (ECHA\_RAC)  
European Chemicals Agency (ECHA) (ECHA\_API)  
Environmental Protection Agency  
Acute Exposure Guideline Level(s) (AEGl(s))  
U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act  
U.S. Environmental Protection Agency High Production Volume Chemicals  
Food Research Journal  
Hazardous Substance Database  
International Uniform Chemical Information Database (IUCLID)  
National Institute of Technology and Evaluation (NITE)  
Australian National Industrial Chemicals Notification and Assessment Scheme (NICNAS)  
NIOSH (National Institute for Occupational Safety and Health)  
National Library of Medicine's ChemID Plus (NLM CIP)  
National Library of Medicine's PubMed database (NLM PUBMED)  
U.S. National Toxicology Program (NTP)  
New Zealand's Chemical Classification and Information Database (CCID)  
Organisation for Economic Co-operation and Development Environment, Health, and Safety Publications  
Organisation for Economic Co-operation and Development High Production Volume Chemicals Programme  
Organisation for Economic Co-operation and Development Screening Information Data Set  
World Health Organization

**Prepared By** Lisa Bland

**Supersedes date** 24-Oct-2022

**Revision date** 07-Aug-2025

**This material safety data sheet complies with the requirements of UK REACH Regulations (SI 2019/758 as amended)  
Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work**

**Disclaimer**

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

**End of Safety Data Sheet**

## Annex to the Safety Data Sheet according to Regulation (EC) No 1907/2006 [REACH]

**Product Name** XIAMETER OFS-6020 SILANE  
**Chemical name** N-(3-(TRIMETHOXYSILYL) PROPYL)-1,2-ETHANEDIAMINE  
**Pure substance/mixture** Substance  
**REACH registration number** 01-2119970215-39-XXXX  
**CAS No** 1760-24-3  
**EC No (EU Index No)** 217-164-6  
**Supplier** Univar Solutions UK Ltd  
 Aquarius House  
 6 Mid Point Business Park  
 Bradford  
 GBR  
  
**Non-Emergency Telephone Number** +44 1274 267300 / +44 1274 267306  
  
**E-mail address** SDS.EMEA@univarsolutions.com

### Section 1 - Title

**Title** Formulation & (re)packing of substances and mixtures  
**Type** Worker  
**Main user group** Industrial uses: Uses of substances as such or in preparations at industrial sites  
**Environmental release category(ies)** ERC2 - Formulation of preparations (mixtures)  
**Process category(ies)** PROC1 - Use in closed process, no likelihood of exposure  
 PROC2 - Use in closed, continuous process with occasional controlled exposure  
 PROC3 - Use in closed batch process (synthesis or formulation)  
 PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities  
 PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities  
 PROC9 - Transfer of substance or preparation into small containers (dedicated filling line, including weighing)  
 PROC28 - Manual maintenance (cleaning and repair) of machinery  
  
**Product Name** XIAMETER OFS-6020 SILANE  
**Sector(s) of use** SU3 - Industrial uses: Uses of substances as such or in preparations at industrial sites

### Section 2 - Operational conditions and risk management measures

#### Section 2.1 - Control of environmental exposure

**Environmental release category(ies)** - ERC2 - Formulation of preparations (mixtures)

##### Amounts used

|       |                        |
|-------|------------------------|
| Type  | Annual amount per site |
| Value | <= 99.9                |
| Units | t(ons)/year            |

|       |                       |
|-------|-----------------------|
| Type  | Daily amount per site |
| Value | <= 1000               |
| Units | kg/d                  |

##### Other operational conditions of use affecting environmental exposure

|               |     |
|---------------|-----|
| Emission days | 100 |
|---------------|-----|

##### Conditions and measures related to municipal sewage treatment plant

|                            |            |
|----------------------------|------------|
| Type                       | Onsite STP |
| Removal efficiency (total) | >= 0.003%  |

|                                              |               |
|----------------------------------------------|---------------|
| Type                                         | Municipal STP |
| Assumed domestic sewage treatment plant flow | 1300 m3/d     |

**Environmental factors not influenced by risk management**

|                                    |      |
|------------------------------------|------|
| Local freshwater dilution factor   | 900  |
| Local marine water dilution factor | 1000 |

**Risk management measures**

|                                                                                       |                                                                                                                                                                                                                                                          |
|---------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Technical onsite conditions and measures to reduce or limit discharges, air emissions | Upgrade of the system in place or additional air treatment measures, such as wet scrubber and/or air filtration and/or thermal oxidation and/or vapour recovery systems, in order to achieve a reduction of the air emissions Efficiency of at least 90% |
|---------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

**Control measures to prevent releases**

|       |                                              |
|-------|----------------------------------------------|
| Water | Assumed domestic sewage treatment plant flow |
|-------|----------------------------------------------|

**Conditions and measures related to external recovery of waste**

|        |                                                                                                          |
|--------|----------------------------------------------------------------------------------------------------------|
| Method | External recovery and recycling of waste should comply with applicable local and/or national regulations |
|--------|----------------------------------------------------------------------------------------------------------|

**Conditions and measures related to external treatment of waste for disposal**

|          |                                                                     |
|----------|---------------------------------------------------------------------|
| Disposal | Dispose of waste cans and containers according to local regulations |
|----------|---------------------------------------------------------------------|

|                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|----------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Control of worker exposure</b>                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Process category(ies)                                                                  | PROC1 - Use in closed process, no likelihood of exposure                                                                                                                                                                                                                                                                                                                                                                                     |
| Covers concentrations up to                                                            | 5%                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Use frequency                                                                          | Covers daily exposures up to 8 hours (unless stated differently).                                                                                                                                                                                                                                                                                                                                                                            |
| Technical conditions and measures to control dispersion from source towards the worker | Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour)                                                                                                                                                                                                                                                                                                                                                   |
| Conditions and measures related to personal protection, hygiene and health evaluation  | Use suitable eye protection<br>Wear chemically resistant gloves (tested to EN 374) in combination with specific activity training Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying Efficiency of at least 95%<br>See Section 8 for information on appropriate personal protective equipment |
| Organisational measures to prevent /limit releases, dispersion and exposure            | Supervision in place to check that the RMMs in place are being used correctly and OCs followed                                                                                                                                                                                                                                                                                                                                               |
| Additional good practice advice beyond the REACH Chemical Safety Report                | Clean equipment and the work area every day<br>Ensure operatives are trained to minimise exposures                                                                                                                                                                                                                                                                                                                                           |
| Indoor/Outdoor use                                                                     | Indoor                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Assumes process temperature up to                                                      | 40 C                                                                                                                                                                                                                                                                                                                                                                                                                                         |

|                                                                                        |                                                                                                                                                                                                                                                                                                                                                                |
|----------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Process category(ies)                                                                  | PROC2 - Use in closed, continuous process with occasional controlled exposure                                                                                                                                                                                                                                                                                  |
| Covers concentrations up to                                                            | 5%                                                                                                                                                                                                                                                                                                                                                             |
| Use frequency                                                                          | Covers daily exposures up to 8 hours (unless stated differently).                                                                                                                                                                                                                                                                                              |
| Technical conditions and measures to control dispersion from source towards the worker | Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour)<br>Provide extract ventilation to points where emissions occur Efficiency of at least 90%                                                                                                                                                                           |
| Conditions and measures related to personal protection, hygiene and health evaluation  | Use suitable eye protection<br>Wear chemically resistant gloves (tested to EN 374) in combination with specific activity training Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying Efficiency of at least 95% |

|                                                                             |                                                                                                    |
|-----------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|
|                                                                             | See Section 8 for information on appropriate personal protective equipment                         |
| Organisational measures to prevent /limit releases, dispersion and exposure | Supervision in place to check that the RMMs in place are being used correctly and OCs followed     |
| Additional good practice advice beyond the REACH Chemical Safety Report     | Clean equipment and the work area every day<br>Ensure operatives are trained to minimise exposures |
| Indoor/Outdoor use                                                          | Indoor                                                                                             |
| Assumes process temperature up to                                           | 40 C                                                                                               |

|                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|----------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Process category(ies)                                                                  | PROC3 - Use in closed batch process (synthesis or formulation)                                                                                                                                                                                                                                                                                                                                                                               |
| Covers concentrations up to                                                            | 5%                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Use frequency                                                                          | Covers daily exposures up to 8 hours (unless stated differently).                                                                                                                                                                                                                                                                                                                                                                            |
| Technical conditions and measures to control dispersion from source towards the worker | Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour)<br>Provide extract ventilation to points where emissions occur Efficiency of at least 90%                                                                                                                                                                                                                                                         |
| Conditions and measures related to personal protection, hygiene and health evaluation  | Use suitable eye protection<br>Wear chemically resistant gloves (tested to EN 374) in combination with specific activity training Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying Efficiency of at least 95%<br>See Section 8 for information on appropriate personal protective equipment |
| Organisational measures to prevent /limit releases, dispersion and exposure            | Supervision in place to check that the RMMs in place are being used correctly and OCs followed                                                                                                                                                                                                                                                                                                                                               |
| Additional good practice advice beyond the REACH Chemical Safety Report                | Clean equipment and the work area every day<br>Ensure operatives are trained to minimise exposures                                                                                                                                                                                                                                                                                                                                           |
| Indoor/Outdoor use                                                                     | Indoor                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Assumes process temperature up to                                                      | 40 C                                                                                                                                                                                                                                                                                                                                                                                                                                         |

|                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|----------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Process category(ies)                                                                  | PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities PROC28 - Manual maintenance (cleaning and repair) of machinery                                                                                                                                                                                                                                                                                                                                               |
| Title                                                                                  | Equipment cleaning and maintenance                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Covers concentrations up to                                                            | 100%                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Physical form of product                                                               | Solid, medium dustiness                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Level of dustiness                                                                     | Low                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Exposure duration                                                                      | Avoid carrying out activities involving exposure for more than 4 hours                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Use frequency                                                                          | Covers daily exposures up to 8 hours (unless stated differently).                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Technical conditions and measures to control dispersion from source towards the worker | Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour)<br>Provide extract ventilation to points where emissions occur Efficiency of at least 90%                                                                                                                                                                                                                                                                                                                                                           |
| Conditions and measures related to personal protection, hygiene and health evaluation  | Use suitable eye protection<br>Wear chemically resistant gloves (tested to EN 374) in combination with specific activity training Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying Efficiency of at least 95%<br>Wear a respirator conforming to EN 140 with Type A filter or better Efficiency of at least 90%<br>See Section 8 for information on appropriate personal protective equipment |
| Organisational measures to prevent /limit releases, dispersion and exposure            | Supervision in place to check that the RMMs in place are being used correctly and OCs followed                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Additional good practice advice beyond the REACH Chemical Safety Report                | Clean equipment and the work area every day<br>Ensure operatives are trained to minimise exposures                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Indoor/Outdoor use                                                                     | Indoor                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Assumes process temperature up to                                                      | 40 C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |

|                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|----------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Process category(ies)                                                                  | PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities                                                                                                                                                                                                                                                                                                                |
| Covers concentrations up to                                                            | 100%                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Use frequency                                                                          | Covers daily exposures up to 8 hours (unless stated differently).                                                                                                                                                                                                                                                                                                                                                                            |
| Technical conditions and measures to control dispersion from source towards the worker | Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour)<br>Handle in a fume cupboard or under extract ventilation Efficiency of at least 95%                                                                                                                                                                                                                                                              |
| Conditions and measures related to personal protection, hygiene and health evaluation  | Use suitable eye protection<br>Wear chemically resistant gloves (tested to EN 374) in combination with specific activity training Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying Efficiency of at least 95%<br>See Section 8 for information on appropriate personal protective equipment |
| Organisational measures to prevent /limit releases, dispersion and exposure            | Supervision in place to check that the RMMs in place are being used correctly and OCs followed                                                                                                                                                                                                                                                                                                                                               |
| Additional good practice advice beyond the REACH Chemical Safety Report                | Clean equipment and the work area every day<br>Ensure operatives are trained to minimise exposures                                                                                                                                                                                                                                                                                                                                           |
| Indoor/Outdoor use                                                                     | Indoor                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Assumes process temperature up to                                                      | 40 C                                                                                                                                                                                                                                                                                                                                                                                                                                         |

  

|                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|----------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Process category(ies)                                                                  | PROC9 - Transfer of substance or preparation into small containers (dedicated filling line, including weighing)                                                                                                                                                                                                                                                                                                                              |
| Covers concentrations up to                                                            | 5%                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Physical form of product                                                               | Solid, medium dustiness                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Level of dustiness                                                                     | Low                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Use frequency                                                                          | Covers daily exposures up to 8 hours (unless stated differently).                                                                                                                                                                                                                                                                                                                                                                            |
| Technical conditions and measures to control dispersion from source towards the worker | Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour)<br>Provide extract ventilation to points where emissions occur Efficiency of at least 90%                                                                                                                                                                                                                                                         |
| Conditions and measures related to personal protection, hygiene and health evaluation  | Use suitable eye protection<br>Wear chemically resistant gloves (tested to EN 374) in combination with specific activity training Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying Efficiency of at least 95%<br>See Section 8 for information on appropriate personal protective equipment |
| Organisational measures to prevent /limit releases, dispersion and exposure            | Supervision in place to check that the RMMs in place are being used correctly and OCs followed                                                                                                                                                                                                                                                                                                                                               |
| Additional good practice advice beyond the REACH Chemical Safety Report                | Clean equipment and the work area every day<br>Ensure operatives are trained to minimise exposures                                                                                                                                                                                                                                                                                                                                           |
| Indoor/Outdoor use                                                                     | Indoor                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Assumes process temperature up to                                                      | 40 C                                                                                                                                                                                                                                                                                                                                                                                                                                         |

### Section 3 - Exposure estimation

#### Environmental release category(ies) - ERC2 - Formulation of preparations (mixtures)

##### **Predicted No Effect Concentration (PNEC)**

|                            |                  |
|----------------------------|------------------|
| <b>Freshwater</b>          | 0.05 mg/l        |
| <b>Freshwater sediment</b> | 0.181 mg/kg d.w. |

|                            |                    |
|----------------------------|--------------------|
| Marine water               | 0.005 mg/l         |
| Marine sediment            | 0.018 mg/kg d.w.   |
| Soil                       | 0.00687 mg/kg d.w. |
| Impact on Sewage Treatment | 20 mg/l            |
| Intermittent release       | 0.072 mg/l         |

Calculation method Used EUSES model

**Derived No Effect Level (DNEL):**

|                                         |                        |
|-----------------------------------------|------------------------|
| Worker - inhalative, long-term - local  | 0.6 mg/m <sup>3</sup>  |
| Worker - inhalative, short-term - local | 5.36 mg/m <sup>3</sup> |

Calculation method The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated

#### Section 4 - Guidance to check compliance with the exposure scenario

Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.

If scaling reveals a condition of unsafe use (i.e., RCRs > 1), additional RMMs or a site-specific chemical safety assessment is required.

## Annex to the Safety Data Sheet according to Regulation (EC) No 1907/2006 [REACH]

**Product Name** XIAMETER OFS-6020 SILANE  
**Chemical name** N-(3-(TRIMETHOXYSILYL) PROPYL)-1,2-ETHANEDIAMINE  
**Pure substance/mixture** Substance  
**REACH registration number** 01-2119970215-39-XXXX  
**CAS No** 1760-24-3  
**EC No (EU Index No)** 217-164-6  
**Supplier** Univar Solutions UK Ltd  
 Aquarius House  
 6 Mid Point Business Park  
 Bradford  
 GBR  
  
**Non-Emergency Telephone Number** +44 1274 267300 / +44 1274 267306  
  
**E-mail address** SDS.EMEA@univarsolutions.com

### Section 1 - Title

**Title** Formulation & (re)packing of substances and mixtures Adhesives, sealants  
**Type** Worker  
**Main user group** Industrial uses: Uses of substances as such or in preparations at industrial sites  
**Environmental release category(ies)** ERC2 - Formulation of preparations (mixtures)  
**Process category(ies)** PROC1 - Use in closed process, no likelihood of exposure  
 PROC2 - Use in closed, continuous process with occasional controlled exposure  
 PROC3 - Use in closed batch process (synthesis or formulation)  
 PROC4 - Use in batch and other process (synthesis) where opportunity for exposure arises  
 PROC5 - Mixing or blending in batch processes for formulation of preparations and articles (multi-stage and/or significant contact)  
 PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities  
 PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities  
 PROC9 - Transfer of substance or preparation into small containers (dedicated filling line, including weighing)  
  
**Product category(ies)** PC1 - Adhesives, sealants  
**Product Name** XIAMETER OFS-6020 SILANE  
**Sector(s) of use** SU3 - Industrial uses: Uses of substances as such or in preparations at industrial sites

### Section 2 - Operational conditions and risk management measures

#### Section 2.1 - Control of environmental exposure

**Environmental release category(ies)** - ERC2 - Formulation of preparations (mixtures)

##### Amounts used

|       |                        |
|-------|------------------------|
| Type  | Annual amount per site |
| Value | <= 40                  |
| Units | t(ons)/year            |

|       |                       |
|-------|-----------------------|
| Type  | Daily amount per site |
| Value | <= 200                |
| Units | kg/d                  |

##### Other operational conditions of use affecting environmental exposure

|               |     |
|---------------|-----|
| Emission days | 200 |
|---------------|-----|

Conditions and measures related to municipal sewage treatment plant

|                                              |               |
|----------------------------------------------|---------------|
| Type                                         | Municipal STP |
| Assumed domestic sewage treatment plant flow | 2000 m3/d     |
| Removal efficiency (total)                   | >= 0.003%     |

**Further information**

|                        |            |
|------------------------|------------|
| Operational conditions | Indoor use |
|------------------------|------------|

**Risk management measures**

|                                                                                       |                                                                           |
|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------|
| Technical onsite conditions and measures to reduce or limit discharges, air emissions | Negligible wastewater emissions as process operates without water contact |
|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------|

**Control measures to prevent releases**

|       |                                              |
|-------|----------------------------------------------|
| Water | Assumed domestic sewage treatment plant flow |
|-------|----------------------------------------------|

**Conditions and measures related to external treatment of waste for disposal**

|          |                                                                            |
|----------|----------------------------------------------------------------------------|
| Disposal | Dispose of waste product or used containers according to local regulations |
|----------|----------------------------------------------------------------------------|

**Control of worker exposure**

|                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|----------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Process category(ies)                                                                  | PROC1 - Use in closed process, no likelihood of exposure                                                                                                                                                                                                                                                                                                                                                                                    |
| Covers concentrations up to                                                            | 5%                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Use frequency                                                                          | Covers daily exposures up to 8 hours (unless stated differently).                                                                                                                                                                                                                                                                                                                                                                           |
| Technical conditions and measures to control dispersion from source towards the worker | Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour)                                                                                                                                                                                                                                                                                                                                                  |
| Conditions and measures related to personal protection, hygiene and health evaluation  | Use suitable eye protection<br>Wear chemically resistant gloves (tested to EN 374) in combination with 'basic' employee training Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying Efficiency of at least 90%<br>See Section 8 for information on appropriate personal protective equipment |
| Organisational measures to prevent /limit releases, dispersion and exposure            | Supervision in place to check that the RMMs in place are being used correctly and OCs followed                                                                                                                                                                                                                                                                                                                                              |
| Additional good practice advice beyond the REACH Chemical Safety Report                | Clean equipment and the work area every day<br>Ensure operatives are trained to minimise exposures                                                                                                                                                                                                                                                                                                                                          |
| Indoor/Outdoor use                                                                     | Indoor                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Assumes process temperature up to                                                      | 40 C                                                                                                                                                                                                                                                                                                                                                                                                                                        |

|                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|----------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Process category(ies)                                                                  | PROC2 - Use in closed, continuous process with occasional controlled exposure                                                                                                                                                                                                                                                                                                                                                               |
| Covers concentrations up to                                                            | 5%                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Use frequency                                                                          | Covers daily exposures up to 8 hours (unless stated differently).                                                                                                                                                                                                                                                                                                                                                                           |
| Technical conditions and measures to control dispersion from source towards the worker | Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour)                                                                                                                                                                                                                                                                                                                                                  |
| Conditions and measures related to personal protection, hygiene and health evaluation  | Use suitable eye protection<br>Wear chemically resistant gloves (tested to EN 374) in combination with 'basic' employee training Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying Efficiency of at least 90%<br>See Section 8 for information on appropriate personal protective equipment |
| Organisational measures to prevent /limit releases, dispersion and                     | Supervision in place to check that the RMMs in place are being used correctly and OCs followed                                                                                                                                                                                                                                                                                                                                              |

|                                                                         |                                                                                                    |
|-------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|
| exposure                                                                |                                                                                                    |
| Additional good practice advice beyond the REACH Chemical Safety Report | Clean equipment and the work area every day<br>Ensure operatives are trained to minimise exposures |
| Indoor/Outdoor use                                                      | Indoor                                                                                             |
| Assumes process temperature up to                                       | 40 C                                                                                               |

|                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|----------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Process category(ies)                                                                  | PROC3 - Use in closed batch process (synthesis or formulation)                                                                                                                                                                                                                                                                                                                                                                              |
| Covers concentrations up to                                                            | 5%                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Use frequency                                                                          | Covers daily exposures up to 8 hours (unless stated differently).                                                                                                                                                                                                                                                                                                                                                                           |
| Technical conditions and measures to control dispersion from source towards the worker | Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour)                                                                                                                                                                                                                                                                                                                                                  |
| Conditions and measures related to personal protection, hygiene and health evaluation  | Use suitable eye protection<br>Wear chemically resistant gloves (tested to EN 374) in combination with 'basic' employee training Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying Efficiency of at least 90%<br>See Section 8 for information on appropriate personal protective equipment |
| Organisational measures to prevent /limit releases, dispersion and exposure            | Supervision in place to check that the RMMs in place are being used correctly and OCs followed                                                                                                                                                                                                                                                                                                                                              |
| Additional good practice advice beyond the REACH Chemical Safety Report                | Clean equipment and the work area every day<br>Ensure operatives are trained to minimise exposures                                                                                                                                                                                                                                                                                                                                          |
| Indoor/Outdoor use                                                                     | Indoor                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Assumes process temperature up to                                                      | 40 C                                                                                                                                                                                                                                                                                                                                                                                                                                        |

|                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|----------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Process category(ies)                                                                  | PROC4 - Use in batch and other process (synthesis) where opportunity for exposure arises                                                                                                                                                                                                                                                                                                                                                    |
| Covers concentrations up to                                                            | 5%                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Use frequency                                                                          | Covers daily exposures up to 8 hours (unless stated differently).                                                                                                                                                                                                                                                                                                                                                                           |
| Technical conditions and measures to control dispersion from source towards the worker | Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour)<br>Provide extract ventilation to points where emissions occur Efficiency of at least 90%                                                                                                                                                                                                                                                        |
| Conditions and measures related to personal protection, hygiene and health evaluation  | Use suitable eye protection<br>Wear chemically resistant gloves (tested to EN 374) in combination with 'basic' employee training Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying Efficiency of at least 90%<br>See Section 8 for information on appropriate personal protective equipment |
| Organisational measures to prevent /limit releases, dispersion and exposure            | Supervision in place to check that the RMMs in place are being used correctly and OCs followed                                                                                                                                                                                                                                                                                                                                              |
| Additional good practice advice beyond the REACH Chemical Safety Report                | Clean equipment and the work area every day<br>Ensure operatives are trained to minimise exposures                                                                                                                                                                                                                                                                                                                                          |
| Indoor/Outdoor use                                                                     | Indoor                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Assumes process temperature up to                                                      | 40 C                                                                                                                                                                                                                                                                                                                                                                                                                                        |

|                                      |                                                                                                                                     |
|--------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------|
| Process category(ies)                | PROC5 - Mixing or blending in batch processes for formulation of preparations and articles (multi-stage and/or significant contact) |
| Covers concentrations up to          | 5%                                                                                                                                  |
| Physical form of product             | Solid, medium dustiness                                                                                                             |
| Level of dustiness                   | Low                                                                                                                                 |
| Exposure duration                    | Avoid carrying out activities involving exposure for more than 4 hours                                                              |
| Use frequency                        | Covers daily exposures up to 8 hours (unless stated differently).                                                                   |
| Technical conditions and measures to | Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour)                                          |

|                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                             |
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| control dispersion from source towards the worker                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Conditions and measures related to personal protection, hygiene and health evaluation | Use suitable eye protection<br>Wear chemically resistant gloves (tested to EN 374) in combination with 'basic' employee training Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying Efficiency of at least 90%<br>See Section 8 for information on appropriate personal protective equipment |
| Organisational measures to prevent /limit releases, dispersion and exposure           | Supervision in place to check that the RMMs in place are being used correctly and OCs followed                                                                                                                                                                                                                                                                                                                                              |
| Additional good practice advice beyond the REACH Chemical Safety Report               | Clean equipment and the work area every day<br>Ensure operatives are trained to minimise exposures                                                                                                                                                                                                                                                                                                                                          |
| Indoor/Outdoor use                                                                    | Indoor                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Assumes process temperature up to                                                     | 40 C                                                                                                                                                                                                                                                                                                                                                                                                                                        |

|                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|----------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Process category(ies)                                                                  | PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities                                                                                                                                                                                                                                                                                                                                                                                                             |
| Covers concentrations up to                                                            | 100%                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Physical form of product                                                               | Solid, medium dustiness                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Level of dustiness                                                                     | Low                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Exposure duration                                                                      | Avoid carrying out activities involving exposure for more than 4 hours                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Use frequency                                                                          | Covers daily exposures up to 8 hours (unless stated differently).                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Technical conditions and measures to control dispersion from source towards the worker | Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour)                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Conditions and measures related to personal protection, hygiene and health evaluation  | Use suitable eye protection<br>Wear chemically resistant gloves (tested to EN 374) in combination with 'basic' employee training Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying Efficiency of at least 90%<br>Wear a respirator conforming to EN 140 with Type A filter or better Efficiency of at least 90%<br>See Section 8 for information on appropriate personal protective equipment |
| Organisational measures to prevent /limit releases, dispersion and exposure            | Supervision in place to check that the RMMs in place are being used correctly and OCs followed                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Additional good practice advice beyond the REACH Chemical Safety Report                | Clean equipment and the work area every day<br>Ensure operatives are trained to minimise exposures                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Indoor/Outdoor use                                                                     | Indoor                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Assumes process temperature up to                                                      | 40 C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |

|                                                                                        |                                                                                                                                                                                                                                                                                                                                                               |
|----------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Process category(ies)                                                                  | PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities                                                                                                                                                                                                                                 |
| Covers concentrations up to                                                            | 100%                                                                                                                                                                                                                                                                                                                                                          |
| Exposure duration                                                                      | Avoid carrying out activities involving exposure for more than 4 hours                                                                                                                                                                                                                                                                                        |
| Use frequency                                                                          | Covers daily exposures up to 8 hours (unless stated differently).                                                                                                                                                                                                                                                                                             |
| Technical conditions and measures to control dispersion from source towards the worker | Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour)                                                                                                                                                                                                                                                                    |
| Conditions and measures related to personal protection, hygiene and health evaluation  | Use suitable eye protection<br>Wear chemically resistant gloves (tested to EN 374) in combination with 'basic' employee training Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying Efficiency of at least 90% |

|                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                             |
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|                                                                                        | See Section 8 for information on appropriate personal protective equipment                                                                                                                                                                                                                                                                                                                                                                  |
| Organisational measures to prevent /limit releases, dispersion and exposure            | Supervision in place to check that the RMMs in place are being used correctly and OCs followed                                                                                                                                                                                                                                                                                                                                              |
| Additional good practice advice beyond the REACH Chemical Safety Report                | Clean equipment and the work area every day<br>Ensure operatives are trained to minimise exposures                                                                                                                                                                                                                                                                                                                                          |
| Indoor/Outdoor use                                                                     | Indoor                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Assumes process temperature up to                                                      | 40 C                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Process category(ies)                                                                  | PROC9 - Transfer of substance or preparation into small containers (dedicated filling line, including weighing)                                                                                                                                                                                                                                                                                                                             |
| Covers concentrations up to                                                            | 5%                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Physical form of product                                                               | Solid, medium dustiness                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Level of dustiness                                                                     | Low                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Use frequency                                                                          | Covers daily exposures up to 8 hours (unless stated differently).                                                                                                                                                                                                                                                                                                                                                                           |
| Technical conditions and measures to control dispersion from source towards the worker | Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour)<br>Provide extract ventilation to points where emissions occur Efficiency of at least 90%                                                                                                                                                                                                                                                        |
| Conditions and measures related to personal protection, hygiene and health evaluation  | Use suitable eye protection<br>Wear chemically resistant gloves (tested to EN 374) in combination with 'basic' employee training Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying Efficiency of at least 90%<br>See Section 8 for information on appropriate personal protective equipment |
| Organisational measures to prevent /limit releases, dispersion and exposure            | Supervision in place to check that the RMMs in place are being used correctly and OCs followed                                                                                                                                                                                                                                                                                                                                              |
| Additional good practice advice beyond the REACH Chemical Safety Report                | Clean equipment and the work area every day<br>Ensure operatives are trained to minimise exposures                                                                                                                                                                                                                                                                                                                                          |
| Indoor/Outdoor use                                                                     | Indoor                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Assumes process temperature up to                                                      | 40 C                                                                                                                                                                                                                                                                                                                                                                                                                                        |

### Section 3 - Exposure estimation

#### Environmental release category(ies) - ERC2 - Formulation of preparations (mixtures)

##### **Predicted No Effect Concentration (PNEC)**

|                                   |                    |
|-----------------------------------|--------------------|
| <b>Freshwater</b>                 | 0.05 mg/l          |
| <b>Freshwater sediment</b>        | 0.181 mg/kg d.w.   |
| <b>Marine water</b>               | 0.005 mg/l         |
| <b>Marine sediment</b>            | 0.018 mg/kg d.w.   |
| <b>Soil</b>                       | 0.00687 mg/kg d.w. |
| <b>Impact on Sewage Treatment</b> | 20 mg/l            |
| <b>Intermittent release</b>       | 0.072 mg/l         |

**Calculation method** Used EUSES model

##### **Derived No Effect Level (DNEL):**

|                                                |                        |
|------------------------------------------------|------------------------|
| <b>Worker - inhalative, long-term - local</b>  | 0.6 mg/m <sup>3</sup>  |
| <b>Worker - inhalative, short-term - local</b> | 5.36 mg/m <sup>3</sup> |

**Calculation method**

The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated

## **Section 4 - Guidance to check compliance with the exposure scenario**

Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.

If scaling reveals a condition of unsafe use (i.e., RCRs > 1), additional RMMs or a site-specific chemical safety assessment is required.

## Annex to the Safety Data Sheet according to Regulation (EC) No 1907/2006 [REACH]

**Product Name** XIAMETER OFS-6020 SILANE  
**Chemical name** N-(3-(TRIMETHOXYSYLYL) PROPYL)-1,2-ETHANEDIAMINE  
**Pure substance/mixture** Substance  
**REACH registration number** 01-2119970215-39-XXXX  
**CAS No** 1760-24-3  
**EC No (EU Index No)** 217-164-6  
**Supplier** Univar Solutions UK Ltd  
 Aquarius House  
 6 Mid Point Business Park  
 Bradford  
 GBR  
  
**Non-Emergency Telephone Number** +44 1274 267300 / +44 1274 267306  
  
**E-mail address** SDS.EMEA@univarsolutions.com

### Section 1 - Title

**Title** Formulation & (re)packing of substances and mixtures Coatings and paints, thinners, paint removers  
**Type** Worker  
**Main user group** Industrial uses: Uses of substances as such or in preparations at industrial sites  
**Environmental release category(ies)** ERC2 - Formulation of preparations (mixtures)  
**Process category(ies)** PROC1 - Use in closed process, no likelihood of exposure  
 PROC2 - Use in closed, continuous process with occasional controlled exposure  
 PROC3 - Use in closed batch process (synthesis or formulation)  
 PROC5 - Mixing or blending in batch processes for formulation of preparations and articles (multi-stage and/or significant contact)  
 PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities  
 PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities  
 PROC9 - Transfer of substance or preparation into small containers (dedicated filling line, including weighing)  
 PROC28 - Manual maintenance (cleaning and repair) of machinery  
**Product Name** XIAMETER OFS-6020 SILANE  
**Sector(s) of use** SU3 - Industrial uses: Uses of substances as such or in preparations at industrial sites

### Section 2 - Operational conditions and risk management measures

#### Section 2.1 - Control of environmental exposure

**Environmental release category(ies)** - ERC2 - Formulation of preparations (mixtures)

##### Amounts used

|       |                        |
|-------|------------------------|
| Type  | Annual amount per site |
| Value | <= 50                  |
| Units | t(ons)/year            |

|       |                       |
|-------|-----------------------|
| Type  | Daily amount per site |
| Value | <= 250                |
| Units | kg/d                  |

##### Other operational conditions of use affecting environmental exposure

|               |     |
|---------------|-----|
| Emission days | 200 |
|---------------|-----|

Conditions and measures related to municipal sewage treatment plant

|                                              |               |
|----------------------------------------------|---------------|
| Type                                         | Municipal STP |
| Assumed domestic sewage treatment plant flow | 2000 m3/d     |
| Removal efficiency (total)                   | >= 0.003%     |

**Environmental factors not influenced by risk management**

|                                    |     |
|------------------------------------|-----|
| Local freshwater dilution factor   | 10  |
| Local marine water dilution factor | 100 |

**Control measures to prevent releases**

|       |                                              |
|-------|----------------------------------------------|
| Water | Assumed domestic sewage treatment plant flow |
|-------|----------------------------------------------|

**Conditions and measures related to external treatment of waste for disposal**

|          |                                                                            |
|----------|----------------------------------------------------------------------------|
| Disposal | Dispose of waste product or used containers according to local regulations |
|----------|----------------------------------------------------------------------------|

|                                                                                        |                                                                                                    |
|----------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|
| <b>Control of worker exposure</b>                                                      |                                                                                                    |
| Process category(ies)                                                                  | PROC1 - Use in closed process, no likelihood of exposure                                           |
| Covers concentrations up to                                                            | 5%                                                                                                 |
| Use frequency                                                                          | Covers daily exposures up to 8 hours (unless stated differently).                                  |
| Technical conditions and measures to control dispersion from source towards the worker | Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour)         |
| Conditions and measures related to personal protection, hygiene and health evaluation  | Use suitable eye protection                                                                        |
| Organisational measures to prevent /limit releases, dispersion and exposure            | Supervision in place to check that the RMMs in place are being used correctly and OCs followed     |
| Additional good practice advice beyond the REACH Chemical Safety Report                | Clean equipment and the work area every day<br>Ensure operatives are trained to minimise exposures |
| Indoor/Outdoor use                                                                     | Indoor                                                                                             |
| Assumes process temperature up to                                                      | 40 C                                                                                               |

|                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|----------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Process category(ies)                                                                  | PROC2 - Use in closed, continuous process with occasional controlled exposure                                                                                                                                                                                                                                                                                                                                                               |
| Covers concentrations up to                                                            | 5%                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Use frequency                                                                          | Covers daily exposures up to 8 hours (unless stated differently).                                                                                                                                                                                                                                                                                                                                                                           |
| Technical conditions and measures to control dispersion from source towards the worker | Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour)<br>Provide extract ventilation to points where emissions occur Efficiency of at least 90%                                                                                                                                                                                                                                                        |
| Conditions and measures related to personal protection, hygiene and health evaluation  | Use suitable eye protection<br>Wear chemically resistant gloves (tested to EN 374) in combination with 'basic' employee training Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying Efficiency of at least 90%<br>See Section 8 for information on appropriate personal protective equipment |
| Organisational measures to prevent /limit releases, dispersion and exposure            | Supervision in place to check that the RMMs in place are being used correctly and OCs followed                                                                                                                                                                                                                                                                                                                                              |
| Additional good practice advice beyond the REACH Chemical Safety Report                | Clean equipment and the work area every day<br>Ensure operatives are trained to minimise exposures                                                                                                                                                                                                                                                                                                                                          |
| Indoor/Outdoor use                                                                     | Indoor                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Assumes process temperature up to                                                      | 40 C                                                                                                                                                                                                                                                                                                                                                                                                                                        |

|                       |                                                                |
|-----------------------|----------------------------------------------------------------|
| Process category(ies) | PROC3 - Use in closed batch process (synthesis or formulation) |
|-----------------------|----------------------------------------------------------------|

|                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|----------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Covers concentrations up to                                                            | 5%                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Use frequency                                                                          | Covers daily exposures up to 8 hours (unless stated differently).                                                                                                                                                                                                                                                                                                                                                                           |
| Technical conditions and measures to control dispersion from source towards the worker | Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour)<br>Provide extract ventilation to points where emissions occur Efficiency of at least 90%                                                                                                                                                                                                                                                        |
| Conditions and measures related to personal protection, hygiene and health evaluation  | Use suitable eye protection<br>Wear chemically resistant gloves (tested to EN 374) in combination with 'basic' employee training Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying Efficiency of at least 90%<br>See Section 8 for information on appropriate personal protective equipment |
| Organisational measures to prevent /limit releases, dispersion and exposure            | Supervision in place to check that the RMMs in place are being used correctly and OCs followed                                                                                                                                                                                                                                                                                                                                              |
| Additional good practice advice beyond the REACH Chemical Safety Report                | Clean equipment and the work area every day<br>Ensure operatives are trained to minimise exposures                                                                                                                                                                                                                                                                                                                                          |
| Indoor/Outdoor use                                                                     | Indoor                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Assumes process temperature up to                                                      | 40 C                                                                                                                                                                                                                                                                                                                                                                                                                                        |

|                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|----------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Process category(ies)                                                                  | PROC5 - Mixing or blending in batch processes for formulation of preparations and articles (multi-stage and/or significant contact)                                                                                                                                                                                                                                                                                                         |
| Covers concentrations up to                                                            | 5%                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Physical form of product                                                               | Solid, medium dustiness                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Level of dustiness                                                                     | Low                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Use frequency                                                                          | Covers daily exposures up to 8 hours (unless stated differently).                                                                                                                                                                                                                                                                                                                                                                           |
| Technical conditions and measures to control dispersion from source towards the worker | Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour)<br>Provide extract ventilation to points where emissions occur Efficiency of at least 90%                                                                                                                                                                                                                                                        |
| Conditions and measures related to personal protection, hygiene and health evaluation  | Use suitable eye protection<br>Wear chemically resistant gloves (tested to EN 374) in combination with 'basic' employee training Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying Efficiency of at least 90%<br>See Section 8 for information on appropriate personal protective equipment |
| Organisational measures to prevent /limit releases, dispersion and exposure            | Supervision in place to check that the RMMs in place are being used correctly and OCs followed                                                                                                                                                                                                                                                                                                                                              |
| Additional good practice advice beyond the REACH Chemical Safety Report                | Clean equipment and the work area every day<br>Ensure operatives are trained to minimise exposures                                                                                                                                                                                                                                                                                                                                          |
| Indoor/Outdoor use                                                                     | Indoor                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Assumes process temperature up to                                                      | 40 C                                                                                                                                                                                                                                                                                                                                                                                                                                        |

|                                                                                        |                                                                                                                                                                                                                                                                                                             |
|----------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Process category(ies)                                                                  | PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities                                                                                                                                                                           |
| Covers concentrations up to                                                            | 100%                                                                                                                                                                                                                                                                                                        |
| Physical form of product                                                               | Solid, medium dustiness                                                                                                                                                                                                                                                                                     |
| Level of dustiness                                                                     | Low                                                                                                                                                                                                                                                                                                         |
| Use frequency                                                                          | Covers daily exposures up to 8 hours (unless stated differently).                                                                                                                                                                                                                                           |
| Technical conditions and measures to control dispersion from source towards the worker | Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour)<br>Provide extract ventilation to points where emissions occur 90%                                                                                                                                               |
| Conditions and measures related to personal protection, hygiene and health evaluation  | Use suitable eye protection<br>Wear chemically resistant gloves (tested to EN 374) in combination with 'basic' employee training Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol |

|                                                                             |                                                                                                                                 |
|-----------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------|
|                                                                             | release, e.g. spraying Efficiency of at least 90%<br>See Section 8 for information on appropriate personal protective equipment |
| Organisational measures to prevent /limit releases, dispersion and exposure | Supervision in place to check that the RMMs in place are being used correctly and OCs followed                                  |
| Additional good practice advice beyond the REACH Chemical Safety Report     | Clean equipment and the work area every day<br>Ensure operatives are trained to minimise exposures                              |
| Indoor/Outdoor use                                                          | Indoor                                                                                                                          |
| Assumes process temperature up to                                           | 40 C                                                                                                                            |

|                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|----------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Process category(ies)                                                                  | PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities                                                                                                                                                                                                                                                                                                               |
| Title                                                                                  | Indoor use                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Covers concentrations up to                                                            | 100%                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Use frequency                                                                          | Covers daily exposures up to 8 hours (unless stated differently).                                                                                                                                                                                                                                                                                                                                                                           |
| Technical conditions and measures to control dispersion from source towards the worker | Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour)<br>Handle in a fume cupboard or under extract ventilation Efficiency of at least 95%                                                                                                                                                                                                                                                             |
| Conditions and measures related to personal protection, hygiene and health evaluation  | Use suitable eye protection<br>Wear chemically resistant gloves (tested to EN 374) in combination with 'basic' employee training Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying Efficiency of at least 90%<br>See Section 8 for information on appropriate personal protective equipment |
| Organisational measures to prevent /limit releases, dispersion and exposure            | Supervision in place to check that the RMMs in place are being used correctly and OCs followed                                                                                                                                                                                                                                                                                                                                              |
| Additional good practice advice beyond the REACH Chemical Safety Report                | Clean equipment and the work area every day<br>Ensure operatives are trained to minimise exposures                                                                                                                                                                                                                                                                                                                                          |
| Indoor/Outdoor use                                                                     | Indoor                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Assumes process temperature up to                                                      | 40 C                                                                                                                                                                                                                                                                                                                                                                                                                                        |

|                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Process category(ies)                                                                 | PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities                                                                                                                                                                                                                                                                                                               |
| Title                                                                                 | Outdoor use                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Covers concentrations up to                                                           | 100%                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Use frequency                                                                         | Covers daily exposures up to 8 hours (unless stated differently).                                                                                                                                                                                                                                                                                                                                                                           |
| Conditions and measures related to personal protection, hygiene and health evaluation | Use suitable eye protection<br>Wear chemically resistant gloves (tested to EN 374) in combination with 'basic' employee training Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying Efficiency of at least 90%<br>See Section 8 for information on appropriate personal protective equipment |
| Organisational measures to prevent /limit releases, dispersion and exposure           | Supervision in place to check that the RMMs in place are being used correctly and OCs followed                                                                                                                                                                                                                                                                                                                                              |
| Additional good practice advice beyond the REACH Chemical Safety Report               | Clean equipment and the work area every day<br>Ensure operatives are trained to minimise exposures                                                                                                                                                                                                                                                                                                                                          |
| Indoor/Outdoor use                                                                    | Outdoor                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Assumes process temperature up to                                                     | 40 C                                                                                                                                                                                                                                                                                                                                                                                                                                        |

|                       |                                                                                                                                                                                              |
|-----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Process category(ies) | PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities PROC28 - Manual maintenance (cleaning and repair) of machinery |
| Title                 | Equipment cleaning and maintenance                                                                                                                                                           |

|                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|----------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Covers concentrations up to                                                            | 100%                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Physical form of product                                                               | Solid, medium dustiness                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Level of dustiness                                                                     | Low                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Exposure duration                                                                      | Avoid carrying out activities involving exposure for more than 4 hours                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Use frequency                                                                          | Covers daily exposures up to 8 hours (unless stated differently).                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Technical conditions and measures to control dispersion from source towards the worker | Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour)                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Conditions and measures related to personal protection, hygiene and health evaluation  | Use suitable eye protection<br>Wear chemically resistant gloves (tested to EN 374) in combination with 'basic' employee training Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying Efficiency of at least 90%<br>Wear a respirator conforming to EN 140 with Type A filter or better Efficiency of at least 90%<br>See Section 8 for information on appropriate personal protective equipment |
| Organisational measures to prevent /limit releases, dispersion and exposure            | Supervision in place to check that the RMMs in place are being used correctly and OCs followed                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Additional good practice advice beyond the REACH Chemical Safety Report                | Clean equipment and the work area every day<br>Ensure operatives are trained to minimise exposures                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Indoor/Outdoor use                                                                     | Indoor                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Assumes process temperature up to                                                      | 40 C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |

|                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|----------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Process category(ies)                                                                  | PROC9 - Transfer of substance or preparation into small containers (dedicated filling line, including weighing)                                                                                                                                                                                                                                                                                                                             |
| Covers concentrations up to                                                            | 5%                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Physical form of product                                                               | Solid, medium dustiness                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Level of dustiness                                                                     | Low                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Use frequency                                                                          | Covers daily exposures up to 8 hours (unless stated differently).                                                                                                                                                                                                                                                                                                                                                                           |
| Technical conditions and measures to control dispersion from source towards the worker | Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour)<br>Provide extract ventilation to points where emissions occur Efficiency of at least 90%                                                                                                                                                                                                                                                        |
| Conditions and measures related to personal protection, hygiene and health evaluation  | Use suitable eye protection<br>Wear chemically resistant gloves (tested to EN 374) in combination with 'basic' employee training Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying Efficiency of at least 90%<br>See Section 8 for information on appropriate personal protective equipment |
| Organisational measures to prevent /limit releases, dispersion and exposure            | Supervision in place to check that the RMMs in place are being used correctly and OCs followed                                                                                                                                                                                                                                                                                                                                              |
| Additional good practice advice beyond the REACH Chemical Safety Report                | Clean equipment and the work area every day<br>Ensure operatives are trained to minimise exposures                                                                                                                                                                                                                                                                                                                                          |
| Indoor/Outdoor use                                                                     | Indoor                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Assumes process temperature up to                                                      | 40 C                                                                                                                                                                                                                                                                                                                                                                                                                                        |

|                                                                                        |                                                                                            |
|----------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------|
| Process category(ies)                                                                  | PROC1 - Use in closed process, no likelihood of exposure                                   |
| Title                                                                                  | Storage                                                                                    |
| Covers concentrations up to                                                            | 5%                                                                                         |
| Use frequency                                                                          | Covers daily exposures up to 8 hours (unless stated differently).                          |
| Technical conditions and measures to control dispersion from source towards the worker | Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour) |
| Conditions and measures related to                                                     | Use suitable eye protection                                                                |

|                                                                             |                                                                                                    |
|-----------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|
| personal protection, hygiene and health evaluation                          |                                                                                                    |
| Organisational measures to prevent /limit releases, dispersion and exposure | Supervision in place to check that the RMMs in place are being used correctly and OCs followed     |
| Additional good practice advice beyond the REACH Chemical Safety Report     | Clean equipment and the work area every day<br>Ensure operatives are trained to minimise exposures |
| Indoor/Outdoor use                                                          | Indoor                                                                                             |
| Assumes process temperature up to                                           | 40 C                                                                                               |

### Section 3 - Exposure estimation

#### Environmental release category(ies) - ERC2 - Formulation of preparations (mixtures)

##### **Predicted No Effect Concentration (PNEC)**

|                            |                    |
|----------------------------|--------------------|
| Freshwater                 | 0.05 mg/l          |
| Freshwater sediment        | 0.181 mg/kg d.w.   |
| Marine water               | 0.005 mg/l         |
| Marine sediment            | 0.018 mg/kg d.w.   |
| Soil                       | 0.00687 mg/kg d.w. |
| Impact on Sewage Treatment | 20 mg/l            |
| Intermittent release       | 0.072 mg/l         |

**Calculation method** Used EUSES model

##### **Derived No Effect Level (DNEL):**

|                                         |                        |
|-----------------------------------------|------------------------|
| Worker - inhalative, long-term - local  | 0.6 mg/m <sup>3</sup>  |
| Worker - inhalative, short-term - local | 5.36 mg/m <sup>3</sup> |

**Calculation method** The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated

### Section 4 - Guidance to check compliance with the exposure scenario

Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.

If scaling reveals a condition of unsafe use (i.e., RCRs > 1), additional RMMs or a site-specific chemical safety assessment is required.

## Annex to the Safety Data Sheet according to Regulation (EC) No 1907/2006 [REACH]

**Product Name** XIAMETER OFS-6020 SILANE  
**Chemical name** N-(3-(TRIMETHOXYSYLYL) PROPYL)-1,2-ETHANEDIAMINE  
**Pure substance/mixture** Substance  
**REACH registration number** 01-2119970215-39-XXXX  
**CAS No** 1760-24-3  
**EC No (EU Index No)** 217-164-6  
**Supplier** Univar Solutions UK Ltd  
 Aquarius House  
 6 Mid Point Business Park  
 Bradford  
 GBR  
  
**Non-Emergency Telephone Number** +44 1274 267300 / +44 1274 267306  
  
**E-mail address** SDS.EMEA@univarsolutions.com

### Section 1 - Title

**Title** Formulation & (re)packing of substances and mixtures Non-metal-surface treatment products  
**Type** Worker  
**Main user group** Industrial uses: Uses of substances as such or in preparations at industrial sites  
**Environmental release category(ies)** ERC2 - Formulation of preparations (mixtures)  
**Process category(ies)** PROC2 - Use in closed, continuous process with occasional controlled exposure  
 PROC3 - Use in closed batch process (synthesis or formulation)  
 PROC4 - Use in batch and other process (synthesis) where opportunity for exposure arises  
 PROC5 - Mixing or blending in batch processes for formulation of preparations and articles (multi-stage and/or significant contact)  
 PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities  
 PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities  
  
**Product category(ies)** PC15 - Non-metal-surface treatment products  
**Product Name** XIAMETER OFS-6020 SILANE  
**Sector(s) of use** SU3 - Industrial uses: Uses of substances as such or in preparations at industrial sites

### Section 2 - Operational conditions and risk management measures

#### Section 2.1 - Control of environmental exposure

**Environmental release category(ies)** - ERC2 - Formulation of preparations (mixtures)

##### Amounts used

|       |                        |
|-------|------------------------|
| Type  | Annual amount per site |
| Value | <= 5.5                 |
| Units | t(ons)/year            |

|       |                       |
|-------|-----------------------|
| Type  | Daily amount per site |
| Value | <= 27.5               |
| Units | kg/d                  |

##### Other operational conditions of use affecting environmental exposure

|               |     |
|---------------|-----|
| Emission days | 200 |
|---------------|-----|

##### Conditions and measures related to municipal sewage treatment plant

|                                   |               |
|-----------------------------------|---------------|
| Type                              | Municipal STP |
| Assumed domestic sewage treatment | 2000 m3/d     |

|                            |           |
|----------------------------|-----------|
| plant flow                 |           |
| Removal efficiency (total) | >= 0.003% |

**Control measures to prevent releases**

|       |                                              |
|-------|----------------------------------------------|
| Water | Assumed domestic sewage treatment plant flow |
|-------|----------------------------------------------|

**Conditions and measures related to external treatment of waste for disposal**

|          |                                                                            |
|----------|----------------------------------------------------------------------------|
| Disposal | Dispose of waste product or used containers according to local regulations |
|----------|----------------------------------------------------------------------------|

**Control of worker exposure**

|                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|----------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Process category(ies)                                                                  | PROC2 - Use in closed, continuous process with occasional controlled exposure                                                                                                                                                                                                                                                                                                                                                               |
| Covers concentrations up to                                                            | 100%                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Use frequency                                                                          | Covers daily exposures up to 8 hours (unless stated differently).                                                                                                                                                                                                                                                                                                                                                                           |
| Technical conditions and measures to control dispersion from source towards the worker | Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour)<br>Provide extract ventilation to points where emissions occur Efficiency of at least 90%                                                                                                                                                                                                                                                        |
| Conditions and measures related to personal protection, hygiene and health evaluation  | Use suitable eye protection<br>Wear chemically resistant gloves (tested to EN 374) in combination with 'basic' employee training Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying Efficiency of at least 90%<br>See Section 8 for information on appropriate personal protective equipment |
| Organisational measures to prevent /limit releases, dispersion and exposure            | Supervision in place to check that the RMMs in place are being used correctly and OCs followed                                                                                                                                                                                                                                                                                                                                              |
| Additional good practice advice beyond the REACH Chemical Safety Report                | Clean equipment and the work area every day<br>Ensure operatives are trained to minimise exposures                                                                                                                                                                                                                                                                                                                                          |
| Indoor/Outdoor use                                                                     | Indoor                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Assumes process temperature up to                                                      | 40 C                                                                                                                                                                                                                                                                                                                                                                                                                                        |

|                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|----------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Process category(ies)                                                                  | PROC3 - Use in closed batch process (synthesis or formulation)                                                                                                                                                                                                                                                                                                                                                                              |
| Covers concentrations up to                                                            | 100%                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Use frequency                                                                          | Covers daily exposures up to 8 hours (unless stated differently).                                                                                                                                                                                                                                                                                                                                                                           |
| Technical conditions and measures to control dispersion from source towards the worker | Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour)<br>Provide extract ventilation to points where emissions occur Efficiency of at least 90%                                                                                                                                                                                                                                                        |
| Conditions and measures related to personal protection, hygiene and health evaluation  | Use suitable eye protection<br>Wear chemically resistant gloves (tested to EN 374) in combination with 'basic' employee training Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying Efficiency of at least 90%<br>See Section 8 for information on appropriate personal protective equipment |
| Organisational measures to prevent /limit releases, dispersion and exposure            | Supervision in place to check that the RMMs in place are being used correctly and OCs followed                                                                                                                                                                                                                                                                                                                                              |
| Additional good practice advice beyond the REACH Chemical Safety Report                | Clean equipment and the work area every day<br>Ensure operatives are trained to minimise exposures                                                                                                                                                                                                                                                                                                                                          |
| Indoor/Outdoor use                                                                     | Indoor                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Assumes process temperature up to                                                      | 40 C                                                                                                                                                                                                                                                                                                                                                                                                                                        |

|                                      |                                                                                            |
|--------------------------------------|--------------------------------------------------------------------------------------------|
| Process category(ies)                | PROC4 - Use in batch and other process (synthesis) where opportunity for exposure arises   |
| Covers concentrations up to          | 100%                                                                                       |
| Use frequency                        | Covers daily exposures up to 8 hours (unless stated differently).                          |
| Technical conditions and measures to | Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour) |

|                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| control dispersion from source towards the worker                                     | Provide extract ventilation to points where emissions occur Efficiency of at least 90%                                                                                                                                                                                                                                                                                                                                                      |
| Conditions and measures related to personal protection, hygiene and health evaluation | Use suitable eye protection<br>Wear chemically resistant gloves (tested to EN 374) in combination with 'basic' employee training Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying Efficiency of at least 90%<br>See Section 8 for information on appropriate personal protective equipment |
| Organisational measures to prevent /limit releases, dispersion and exposure           | Supervision in place to check that the RMMs in place are being used correctly and OCs followed                                                                                                                                                                                                                                                                                                                                              |
| Additional good practice advice beyond the REACH Chemical Safety Report               | Clean equipment and the work area every day<br>Ensure operatives are trained to minimise exposures                                                                                                                                                                                                                                                                                                                                          |
| Indoor/Outdoor use                                                                    | Indoor                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Assumes process temperature up to                                                     | 40 C                                                                                                                                                                                                                                                                                                                                                                                                                                        |

|                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|----------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Process category(ies)                                                                  | PROC5 - Mixing or blending in batch processes for formulation of preparations and articles (multi-stage and/or significant contact)                                                                                                                                                                                                                                                                                                         |
| Covers concentrations up to                                                            | 100%                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Physical form of product                                                               | Solid, medium dustiness                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Level of dustiness                                                                     | Low                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Use frequency                                                                          | Covers daily exposures up to 8 hours (unless stated differently).                                                                                                                                                                                                                                                                                                                                                                           |
| Technical conditions and measures to control dispersion from source towards the worker | Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour)<br>Provide extract ventilation to points where emissions occur Efficiency of at least 90%                                                                                                                                                                                                                                                        |
| Conditions and measures related to personal protection, hygiene and health evaluation  | Use suitable eye protection<br>Wear chemically resistant gloves (tested to EN 374) in combination with 'basic' employee training Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying Efficiency of at least 90%<br>See Section 8 for information on appropriate personal protective equipment |
| Organisational measures to prevent /limit releases, dispersion and exposure            | Supervision in place to check that the RMMs in place are being used correctly and OCs followed                                                                                                                                                                                                                                                                                                                                              |
| Additional good practice advice beyond the REACH Chemical Safety Report                | Clean equipment and the work area every day<br>Ensure operatives are trained to minimise exposures                                                                                                                                                                                                                                                                                                                                          |
| Indoor/Outdoor use                                                                     | Indoor                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Assumes process temperature up to                                                      | 40 C                                                                                                                                                                                                                                                                                                                                                                                                                                        |

|                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|----------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Process category(ies)                                                                  | PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities                                                                                                                                                                                                                                                                                                                           |
| Covers concentrations up to                                                            | 100%                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Physical form of product                                                               | Solid, medium dustiness                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Level of dustiness                                                                     | Low                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Exposure duration                                                                      | Avoid carrying out activities involving exposure for more than 4 hours                                                                                                                                                                                                                                                                                                                                                                                      |
| Use frequency                                                                          | Covers daily exposures up to 8 hours (unless stated differently).                                                                                                                                                                                                                                                                                                                                                                                           |
| Technical conditions and measures to control dispersion from source towards the worker | Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour)<br>Provide extract ventilation to points where emissions occur 90%                                                                                                                                                                                                                                                                                               |
| Conditions and measures related to personal protection, hygiene and health evaluation  | Use suitable eye protection<br>Wear chemically resistant gloves (tested to EN 374) in combination with 'basic' employee training Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying Efficiency of at least 90%<br>Wear a respirator conforming to EN 140 with Type A filter or better Efficiency of at least |

|                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|----------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                        | 90%<br>See Section 8 for information on appropriate personal protective equipment                                                                                                                                                                                                                                                                                                                                                           |
| Organisational measures to prevent /limit releases, dispersion and exposure            | Supervision in place to check that the RMMs in place are being used correctly and OCs followed                                                                                                                                                                                                                                                                                                                                              |
| Additional good practice advice beyond the REACH Chemical Safety Report                | Clean equipment and the work area every day<br>Ensure operatives are trained to minimise exposures                                                                                                                                                                                                                                                                                                                                          |
| Indoor/Outdoor use                                                                     | Indoor                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Assumes process temperature up to                                                      | 40 C                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Process category(ies)                                                                  | PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities                                                                                                                                                                                                                                                                                                               |
| Covers concentrations up to                                                            | 100%                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Exposure duration                                                                      | Avoid carrying out activities involving exposure for more than 4 hours                                                                                                                                                                                                                                                                                                                                                                      |
| Use frequency                                                                          | Covers daily exposures up to 8 hours (unless stated differently).                                                                                                                                                                                                                                                                                                                                                                           |
| Technical conditions and measures to control dispersion from source towards the worker | Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour)<br>Handle in a fume cupboard or under extract ventilation Efficiency of at least 95%                                                                                                                                                                                                                                                             |
| Conditions and measures related to personal protection, hygiene and health evaluation  | Use suitable eye protection<br>Wear chemically resistant gloves (tested to EN 374) in combination with 'basic' employee training Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying Efficiency of at least 90%<br>See Section 8 for information on appropriate personal protective equipment |
| Organisational measures to prevent /limit releases, dispersion and exposure            | Supervision in place to check that the RMMs in place are being used correctly and OCs followed                                                                                                                                                                                                                                                                                                                                              |
| Additional good practice advice beyond the REACH Chemical Safety Report                | Clean equipment and the work area every day<br>Ensure operatives are trained to minimise exposures                                                                                                                                                                                                                                                                                                                                          |
| Indoor/Outdoor use                                                                     | Indoor                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Assumes process temperature up to                                                      | 40 C                                                                                                                                                                                                                                                                                                                                                                                                                                        |

### Section 3 - Exposure estimation

#### Environmental release category(ies) - ERC2 - Formulation of preparations (mixtures)

##### **Predicted No Effect Concentration (PNEC)**

|                                   |                    |
|-----------------------------------|--------------------|
| <b>Freshwater</b>                 | 0.05 mg/l          |
| <b>Freshwater sediment</b>        | 0.181 mg/kg d.w.   |
| <b>Marine water</b>               | 0.005 mg/l         |
| <b>Marine sediment</b>            | 0.018 mg/kg d.w.   |
| <b>Soil</b>                       | 0.00687 mg/kg d.w. |
| <b>Impact on Sewage Treatment</b> | 20 mg/l            |
| <b>Intermittent release</b>       | 0.072 mg/l         |

**Calculation method** Used EUSES model

##### **Derived No Effect Level (DNEL):**

|                                                |                        |
|------------------------------------------------|------------------------|
| <b>Worker - inhalative, long-term - local</b>  | 0.6 mg/m <sup>3</sup>  |
| <b>Worker - inhalative, short-term - local</b> | 5.36 mg/m <sup>3</sup> |

**Calculation method**

The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated

## **Section 4 - Guidance to check compliance with the exposure scenario**

Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.

If scaling reveals a condition of unsafe use (i.e., RCRs > 1), additional RMMs or a site-specific chemical safety assessment is required.

## Annex to the Safety Data Sheet according to Regulation (EC) No 1907/2006 [REACH]

**Product Name** XIAMETER OFS-6020 SILANE  
**Chemical name** N-(3-(TRIMETHOXYSILYL) PROPYL)-1,2-ETHANEDIAMINE  
**Pure substance/mixture** Substance  
**REACH registration number** 01-2119970215-39-XXXX  
**CAS No** 1760-24-3  
**EC No (EU Index No)** 217-164-6  
**Supplier** Univar Solutions UK Ltd  
 Aquarius House  
 6 Mid Point Business Park  
 Bradford  
 GBR  
  
**Non-Emergency Telephone Number** +44 1274 267300 / +44 1274 267306  
  
**E-mail address** SDS.EMEA@univarsolutions.com

### Section 1 - Title

**Title** Formulation & (re)packing of substances and mixtures Non-metal-surface treatment products Formulation into solid matrix.  
**Type** Worker  
**Main user group** Industrial uses: Uses of substances as such or in preparations at industrial sites  
**Environmental release category(ies)** ERC3 - Formulation in materials  
**Process category(ies)** PROC2 - Use in closed, continuous process with occasional controlled exposure  
 PROC3 - Use in closed batch process (synthesis or formulation)  
 PROC4 - Use in batch and other process (synthesis) where opportunity for exposure arises  
 PROC5 - Mixing or blending in batch processes for formulation of preparations and articles (multi-stage and/or significant contact)  
 PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities  
 PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities  
  
**Product category(ies)** PC15 - Non-metal-surface treatment products  
**Product Name** XIAMETER OFS-6020 SILANE  
**Sector(s) of use** SU3 - Industrial uses: Uses of substances as such or in preparations at industrial sites

### Section 2 - Operational conditions and risk management measures

#### Section 2.1 - Control of environmental exposure

**Environmental release category(ies)** - ERC3 - Formulation in materials

##### Amounts used

|       |                        |
|-------|------------------------|
| Type  | Annual amount per site |
| Value | <= 100                 |
| Units | t(ons)/year            |

|       |                       |
|-------|-----------------------|
| Type  | Daily amount per site |
| Value | <= 1000               |
| Units | kg/d                  |

##### Other operational conditions of use affecting environmental exposure

|               |     |
|---------------|-----|
| Emission days | 100 |
|---------------|-----|

##### Conditions and measures related to municipal sewage treatment plant

|                                   |               |
|-----------------------------------|---------------|
| Type                              | Municipal STP |
| Assumed domestic sewage treatment | 2000 m3/d     |

|                            |           |
|----------------------------|-----------|
| plant flow                 |           |
| Removal efficiency (total) | >= 0.003% |

**Control measures to prevent releases**

|       |                                              |
|-------|----------------------------------------------|
| Water | Assumed domestic sewage treatment plant flow |
|-------|----------------------------------------------|

**Conditions and measures related to external treatment of waste for disposal**

|          |                                                                            |
|----------|----------------------------------------------------------------------------|
| Disposal | Dispose of waste product or used containers according to local regulations |
|----------|----------------------------------------------------------------------------|

**Control of worker exposure**

|                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|----------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Process category(ies)                                                                  | PROC2 - Use in closed, continuous process with occasional controlled exposure                                                                                                                                                                                                                                                                                                                                                               |
| Covers concentrations up to                                                            | 100%                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Use frequency                                                                          | Covers daily exposures up to 8 hours (unless stated differently).                                                                                                                                                                                                                                                                                                                                                                           |
| Technical conditions and measures to control dispersion from source towards the worker | Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour)<br>Provide extract ventilation to points where emissions occur Efficiency of at least 90%                                                                                                                                                                                                                                                        |
| Conditions and measures related to personal protection, hygiene and health evaluation  | Use suitable eye protection<br>Wear chemically resistant gloves (tested to EN 374) in combination with 'basic' employee training Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying Efficiency of at least 90%<br>See Section 8 for information on appropriate personal protective equipment |
| Organisational measures to prevent /limit releases, dispersion and exposure            | Supervision in place to check that the RMMs in place are being used correctly and OCs followed                                                                                                                                                                                                                                                                                                                                              |
| Additional good practice advice beyond the REACH Chemical Safety Report                | Clean equipment and the work area every day<br>Ensure operatives are trained to minimise exposures                                                                                                                                                                                                                                                                                                                                          |
| Indoor/Outdoor use                                                                     | Indoor                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Assumes process temperature up to                                                      | 40 C                                                                                                                                                                                                                                                                                                                                                                                                                                        |

|                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                              |
|----------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Process category(ies)                                                                  | PROC3 - Use in closed batch process (synthesis or formulation)                                                                                                                                                                                                                                                                                                                                               |
| Covers concentrations up to                                                            | 100%                                                                                                                                                                                                                                                                                                                                                                                                         |
| Use frequency                                                                          | Covers daily exposures up to 8 hours (unless stated differently).                                                                                                                                                                                                                                                                                                                                            |
| Technical conditions and measures to control dispersion from source towards the worker | Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour)<br>Provide extract ventilation to points where emissions occur Efficiency of at least 90%                                                                                                                                                                                                                         |
| Conditions and measures related to personal protection, hygiene and health evaluation  | Wear chemically resistant gloves (tested to EN 374) in combination with 'basic' employee training Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying Efficiency of at least 90%<br>See Section 8 for information on appropriate personal protective equipment |
| Organisational measures to prevent /limit releases, dispersion and exposure            | Supervision in place to check that the RMMs in place are being used correctly and OCs followed                                                                                                                                                                                                                                                                                                               |
| Additional good practice advice beyond the REACH Chemical Safety Report                | Clean equipment and the work area every day<br>Ensure operatives are trained to minimise exposures                                                                                                                                                                                                                                                                                                           |
| Indoor/Outdoor use                                                                     | Indoor                                                                                                                                                                                                                                                                                                                                                                                                       |
| Assumes process temperature up to                                                      | 40 C                                                                                                                                                                                                                                                                                                                                                                                                         |

|                                      |                                                                                            |
|--------------------------------------|--------------------------------------------------------------------------------------------|
| Process category(ies)                | PROC4 - Use in batch and other process (synthesis) where opportunity for exposure arises   |
| Covers concentrations up to          | 100%                                                                                       |
| Use frequency                        | Covers daily exposures up to 8 hours (unless stated differently).                          |
| Technical conditions and measures to | Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour) |

|                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| control dispersion from source towards the worker                                     | Provide extract ventilation to points where emissions occur Efficiency of at least 90%                                                                                                                                                                                                                                                                                                                                                      |
| Conditions and measures related to personal protection, hygiene and health evaluation | Use suitable eye protection<br>Wear chemically resistant gloves (tested to EN 374) in combination with 'basic' employee training Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying Efficiency of at least 90%<br>See Section 8 for information on appropriate personal protective equipment |
| Organisational measures to prevent /limit releases, dispersion and exposure           | Supervision in place to check that the RMMs in place are being used correctly and OCs followed                                                                                                                                                                                                                                                                                                                                              |
| Additional good practice advice beyond the REACH Chemical Safety Report               | Clean equipment and the work area every day<br>Ensure operatives are trained to minimise exposures                                                                                                                                                                                                                                                                                                                                          |
| Indoor/Outdoor use                                                                    | Indoor                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Assumes process temperature up to                                                     | 40 C                                                                                                                                                                                                                                                                                                                                                                                                                                        |

|                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|----------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Process category(ies)                                                                  | PROC5 - Mixing or blending in batch processes for formulation of preparations and articles (multi-stage and/or significant contact)                                                                                                                                                                                                                                                                                                         |
| Covers concentrations up to                                                            | 100%                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Physical form of product                                                               | Solid, medium dustiness                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Level of dustiness                                                                     | Low                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Use frequency                                                                          | Covers daily exposures up to 8 hours (unless stated differently).                                                                                                                                                                                                                                                                                                                                                                           |
| Technical conditions and measures to control dispersion from source towards the worker | Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour)<br>Provide extract ventilation to points where emissions occur Efficiency of at least 90%                                                                                                                                                                                                                                                        |
| Conditions and measures related to personal protection, hygiene and health evaluation  | Use suitable eye protection<br>Wear chemically resistant gloves (tested to EN 374) in combination with 'basic' employee training Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying Efficiency of at least 90%<br>See Section 8 for information on appropriate personal protective equipment |
| Organisational measures to prevent /limit releases, dispersion and exposure            | Supervision in place to check that the RMMs in place are being used correctly and OCs followed                                                                                                                                                                                                                                                                                                                                              |
| Additional good practice advice beyond the REACH Chemical Safety Report                | Clean equipment and the work area every day<br>Ensure operatives are trained to minimise exposures                                                                                                                                                                                                                                                                                                                                          |
| Indoor/Outdoor use                                                                     | Indoor                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Assumes process temperature up to                                                      | 40 C                                                                                                                                                                                                                                                                                                                                                                                                                                        |

|                                                                                        |                                                                                                                                                                                                                                                                                                                                                               |
|----------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Process category(ies)                                                                  | PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities                                                                                                                                                                                                                             |
| Covers concentrations up to                                                            | 25%                                                                                                                                                                                                                                                                                                                                                           |
| Physical form of product                                                               | Solid, medium dustiness                                                                                                                                                                                                                                                                                                                                       |
| Level of dustiness                                                                     | Low                                                                                                                                                                                                                                                                                                                                                           |
| Exposure duration                                                                      | Avoid carrying out activities involving exposure for more than 4 hours                                                                                                                                                                                                                                                                                        |
| Use frequency                                                                          | Covers daily exposures up to 8 hours (unless stated differently).                                                                                                                                                                                                                                                                                             |
| Technical conditions and measures to control dispersion from source towards the worker | Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour)<br>Provide extract ventilation to points where emissions occur 90%                                                                                                                                                                                                 |
| Conditions and measures related to personal protection, hygiene and health evaluation  | Use suitable eye protection<br>Wear chemically resistant gloves (tested to EN 374) in combination with 'basic' employee training Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying Efficiency of at least 90% |

|                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|----------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                        | See Section 8 for information on appropriate personal protective equipment                                                                                                                                                                                                                                                                                                                                                                  |
| Organisational measures to prevent /limit releases, dispersion and exposure            | Supervision in place to check that the RMMs in place are being used correctly and OCs followed                                                                                                                                                                                                                                                                                                                                              |
| Additional good practice advice beyond the REACH Chemical Safety Report                | Clean equipment and the work area every day<br>Ensure operatives are trained to minimise exposures                                                                                                                                                                                                                                                                                                                                          |
| Indoor/Outdoor use                                                                     | Indoor                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Assumes process temperature up to                                                      | 40 C                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Process category(ies)                                                                  | PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities                                                                                                                                                                                                                                                                                                               |
| Covers concentrations up to                                                            | 25%                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Exposure duration                                                                      | Avoid carrying out activities involving exposure for more than 4 hours                                                                                                                                                                                                                                                                                                                                                                      |
| Use frequency                                                                          | Covers daily exposures up to 8 hours (unless stated differently).                                                                                                                                                                                                                                                                                                                                                                           |
| Technical conditions and measures to control dispersion from source towards the worker | Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour)<br>Handle in a fume cupboard or under extract ventilation Efficiency of at least 95%                                                                                                                                                                                                                                                             |
| Conditions and measures related to personal protection, hygiene and health evaluation  | Use suitable eye protection<br>Wear chemically resistant gloves (tested to EN 374) in combination with 'basic' employee training Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying Efficiency of at least 90%<br>See Section 8 for information on appropriate personal protective equipment |
| Organisational measures to prevent /limit releases, dispersion and exposure            | Supervision in place to check that the RMMs in place are being used correctly and OCs followed                                                                                                                                                                                                                                                                                                                                              |
| Additional good practice advice beyond the REACH Chemical Safety Report                | Clean equipment and the work area every day<br>Ensure operatives are trained to minimise exposures                                                                                                                                                                                                                                                                                                                                          |
| Indoor/Outdoor use                                                                     | Indoor                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Assumes process temperature up to                                                      | 40 C                                                                                                                                                                                                                                                                                                                                                                                                                                        |

### Section 3 - Exposure estimation

#### Environmental release category(ies) - ERC3 - Formulation in materials

##### **Predicted No Effect Concentration (PNEC)**

|                                   |                    |
|-----------------------------------|--------------------|
| <b>Freshwater</b>                 | 0.05 mg/l          |
| <b>Freshwater sediment</b>        | 0.181 mg/kg d.w.   |
| <b>Marine water</b>               | 0.005 mg/l         |
| <b>Marine sediment</b>            | 0.018 mg/kg d.w.   |
| <b>Soil</b>                       | 0.00687 mg/kg d.w. |
| <b>Impact on Sewage Treatment</b> | 20 mg/l            |
| <b>Intermittent release</b>       | 0.072 mg/l         |

**Calculation method** Used EUSES model

##### **Derived No Effect Level (DNEL):**

|                                                |                        |
|------------------------------------------------|------------------------|
| <b>Worker - inhalative, long-term - local</b>  | 0.6 mg/m <sup>3</sup>  |
| <b>Worker - inhalative, short-term - local</b> | 5.36 mg/m <sup>3</sup> |

**Calculation method**

The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated

## **Section 4 - Guidance to check compliance with the exposure scenario**

Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.

If scaling reveals a condition of unsafe use (i.e., RCRs > 1), additional RMMs or a site-specific chemical safety assessment is required.

## Annex to the Safety Data Sheet according to Regulation (EC) No 1907/2006 [REACH]

**Product Name** XIAMETER OFS-6020 SILANE  
**Chemical name** N-(3-(TRIMETHOXYSILYL) PROPYL)-1,2-ETHANEDIAMINE  
**Pure substance/mixture** Substance  
**REACH registration number** 01-2119970215-39-XXXX  
**CAS No** 1760-24-3  
**EC No (EU Index No)** 217-164-6  
**Supplier** Univar Solutions UK Ltd  
 Aquarius House  
 6 Mid Point Business Park  
 Bradford  
 GBR  
  
**Non-Emergency Telephone Number** +44 1274 267300 / +44 1274 267306  
  
**E-mail address** SDS.EMEA@univarsolutions.com

### Section 1 - Title

**Title** Formulation & (re)packing of substances and mixtures Polymer preparations and compounds  
**Type** Worker  
**Main user group** Industrial uses: Uses of substances as such or in preparations at industrial sites  
**Environmental release category(ies)** ERC3 - Formulation in materials  
**Process category(ies)** PROC4 - Use in batch and other process (synthesis) where opportunity for exposure arises  
 PROC5 - Mixing or blending in batch processes for formulation of preparations and articles (multi-stage and/or significant contact)  
 PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities  
 PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities  
 PROC9 - Transfer of substance or preparation into small containers (dedicated filling line, including weighing)  
  
**Product category(ies)** PC32 - Polymer preparations and compounds  
**Product Name** XIAMETER OFS-6020 SILANE  
**Sector(s) of use** SU3 - Industrial uses: Uses of substances as such or in preparations at industrial sites

### Section 2 - Operational conditions and risk management measures

#### Section 2.1 - Control of environmental exposure

**Environmental release category(ies)** - ERC3 - Formulation in materials

##### Amounts used

|       |                        |
|-------|------------------------|
| Type  | Annual amount per site |
| Value | <= 100                 |
| Units | t(ons)/year            |

|       |                       |
|-------|-----------------------|
| Type  | Daily amount per site |
| Value | <= 1000               |
| Units | kg/d                  |

##### Other operational conditions of use affecting environmental exposure

|               |     |
|---------------|-----|
| Emission days | 100 |
|---------------|-----|

##### Conditions and measures related to municipal sewage treatment plant

|                                   |               |
|-----------------------------------|---------------|
| Type                              | Municipal STP |
| Assumed domestic sewage treatment | 2000 m3/d     |

|                            |           |
|----------------------------|-----------|
| plant flow                 |           |
| Removal efficiency (total) | >= 0.003% |

**Further information**

|                        |            |
|------------------------|------------|
| Operational conditions | Indoor use |
|------------------------|------------|

**Risk management measures**

|                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                      |
|---------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Technical onsite conditions and measures to reduce or limit discharges, air emissions | Upgrade of the system in place or additional air treatment measures, such as wet scrubber and/or air filtration and/or thermal oxidation and/or vapour recovery systems, in order to achieve a reduction of the air emissions Efficiency of at least 90%<br>Negligible wastewater emissions as process operates without water contact<br>Process with efficient use of raw materials |
|---------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

**Control measures to prevent releases**

|       |                                              |
|-------|----------------------------------------------|
| Water | Assumed domestic sewage treatment plant flow |
|-------|----------------------------------------------|

**Conditions and measures related to external treatment of waste for disposal**

|          |                                                                            |
|----------|----------------------------------------------------------------------------|
| Disposal | Dispose of waste product or used containers according to local regulations |
|----------|----------------------------------------------------------------------------|

**Control of worker exposure**

|                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|----------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Process category(ies)                                                                  | PROC4 - Use in batch and other process (synthesis) where opportunity for exposure arises                                                                                                                                                                                                                                                                                                                                                    |
| Covers concentrations up to                                                            | 100%                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Use frequency                                                                          | Covers daily exposures up to 8 hours (unless stated differently).                                                                                                                                                                                                                                                                                                                                                                           |
| Technical conditions and measures to control dispersion from source towards the worker | Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour)<br>Provide extract ventilation to points where emissions occur Efficiency of at least 90%                                                                                                                                                                                                                                                        |
| Conditions and measures related to personal protection, hygiene and health evaluation  | Use suitable eye protection<br>Wear chemically resistant gloves (tested to EN 374) in combination with 'basic' employee training Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying Efficiency of at least 90%<br>See Section 8 for information on appropriate personal protective equipment |
| Organisational measures to prevent /limit releases, dispersion and exposure            | Supervision in place to check that the RMMs in place are being used correctly and OCs followed                                                                                                                                                                                                                                                                                                                                              |
| Additional good practice advice beyond the REACH Chemical Safety Report                | Clean equipment and the work area every day<br>Ensure operatives are trained to minimise exposures                                                                                                                                                                                                                                                                                                                                          |
| Indoor/Outdoor use                                                                     | Indoor                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Assumes process temperature up to                                                      | 40 C                                                                                                                                                                                                                                                                                                                                                                                                                                        |

|                                                                                        |                                                                                                                                                                                                                                                                                                                                                               |
|----------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Process category(ies)                                                                  | PROC5 - Mixing or blending in batch processes for formulation of preparations and articles (multi-stage and/or significant contact)                                                                                                                                                                                                                           |
| Covers concentrations up to                                                            | 5%                                                                                                                                                                                                                                                                                                                                                            |
| Physical form of product                                                               | Solid, medium dustiness                                                                                                                                                                                                                                                                                                                                       |
| Level of dustiness                                                                     | Low                                                                                                                                                                                                                                                                                                                                                           |
| Use frequency                                                                          | Covers daily exposures up to 8 hours (unless stated differently).                                                                                                                                                                                                                                                                                             |
| Technical conditions and measures to control dispersion from source towards the worker | Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour)<br>Provide extract ventilation to points where emissions occur Efficiency of at least 90%                                                                                                                                                                          |
| Conditions and measures related to personal protection, hygiene and health evaluation  | Use suitable eye protection<br>Wear chemically resistant gloves (tested to EN 374) in combination with 'basic' employee training Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying Efficiency of at least 90% |

|                                                                             |                                                                                                    |
|-----------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|
|                                                                             | See Section 8 for information on appropriate personal protective equipment                         |
| Organisational measures to prevent /limit releases, dispersion and exposure | Supervision in place to check that the RMMs in place are being used correctly and OCs followed     |
| Additional good practice advice beyond the REACH Chemical Safety Report     | Clean equipment and the work area every day<br>Ensure operatives are trained to minimise exposures |
| Indoor/Outdoor use                                                          | Indoor                                                                                             |
| Assumes process temperature up to                                           | 40 C                                                                                               |

|                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|----------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Process category(ies)                                                                  | PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities                                                                                                                                                                                                                                                                                                                                                                                                             |
| Covers concentrations up to                                                            | 100%                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Physical form of product                                                               | Solid, medium dustiness                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Level of dustiness                                                                     | Low                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Exposure duration                                                                      | Avoid carrying out activities involving exposure for more than 4 hours                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Use frequency                                                                          | Covers daily exposures up to 8 hours (unless stated differently).                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Technical conditions and measures to control dispersion from source towards the worker | Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour)<br>Provide extract ventilation to points where emissions occur 90%                                                                                                                                                                                                                                                                                                                                                                                 |
| Conditions and measures related to personal protection, hygiene and health evaluation  | Use suitable eye protection<br>Wear chemically resistant gloves (tested to EN 374) in combination with 'basic' employee training Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying Efficiency of at least 90%<br>Wear a respirator conforming to EN 140 with Type A filter or better Efficiency of at least 90%<br>See Section 8 for information on appropriate personal protective equipment |
| Organisational measures to prevent /limit releases, dispersion and exposure            | Supervision in place to check that the RMMs in place are being used correctly and OCs followed                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Additional good practice advice beyond the REACH Chemical Safety Report                | Clean equipment and the work area every day<br>Ensure operatives are trained to minimise exposures                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Indoor/Outdoor use                                                                     | Indoor                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Assumes process temperature up to                                                      | 40 C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |

|                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|----------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Process category(ies)                                                                  | PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities                                                                                                                                                                                                                                                                                                               |
| Covers concentrations up to                                                            | 100%                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Exposure duration                                                                      | Avoid carrying out activities involving exposure for more than 4 hours                                                                                                                                                                                                                                                                                                                                                                      |
| Use frequency                                                                          | Covers daily exposures up to 8 hours (unless stated differently).                                                                                                                                                                                                                                                                                                                                                                           |
| Technical conditions and measures to control dispersion from source towards the worker | Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour)                                                                                                                                                                                                                                                                                                                                                  |
| Conditions and measures related to personal protection, hygiene and health evaluation  | Use suitable eye protection<br>Wear chemically resistant gloves (tested to EN 374) in combination with 'basic' employee training Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying Efficiency of at least 90%<br>See Section 8 for information on appropriate personal protective equipment |
| Organisational measures to prevent /limit releases, dispersion and exposure            | Supervision in place to check that the RMMs in place are being used correctly and OCs followed                                                                                                                                                                                                                                                                                                                                              |
| Additional good practice advice beyond the REACH Chemical Safety Report                | Clean equipment and the work area every day<br>Ensure operatives are trained to minimise exposures                                                                                                                                                                                                                                                                                                                                          |
| Indoor/Outdoor use                                                                     | Indoor                                                                                                                                                                                                                                                                                                                                                                                                                                      |

|                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                              |
|----------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Assumes process temperature up to                                                      | 40 C                                                                                                                                                                                                                                                                                                                                                                                                         |
| Process category(ies)                                                                  | PROC9 - Transfer of substance or preparation into small containers (dedicated filling line, including weighing)                                                                                                                                                                                                                                                                                              |
| Covers concentrations up to                                                            | 100%                                                                                                                                                                                                                                                                                                                                                                                                         |
| Physical form of product                                                               | Solid, medium dustiness                                                                                                                                                                                                                                                                                                                                                                                      |
| Level of dustiness                                                                     | Low                                                                                                                                                                                                                                                                                                                                                                                                          |
| Exposure duration                                                                      | Avoid carrying out activities involving exposure for more than 4 hours                                                                                                                                                                                                                                                                                                                                       |
| Use frequency                                                                          | Covers daily exposures up to 8 hours (unless stated differently).                                                                                                                                                                                                                                                                                                                                            |
| Technical conditions and measures to control dispersion from source towards the worker | Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour)<br>Provide extract ventilation to points where emissions occur 90%                                                                                                                                                                                                                                                |
| Conditions and measures related to personal protection, hygiene and health evaluation  | Wear chemically resistant gloves (tested to EN 374) in combination with 'basic' employee training Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying Efficiency of at least 90%<br>See Section 8 for information on appropriate personal protective equipment |
| Organisational measures to prevent /limit releases, dispersion and exposure            | Supervision in place to check that the RMMs in place are being used correctly and OCs followed                                                                                                                                                                                                                                                                                                               |
| Additional good practice advice beyond the REACH Chemical Safety Report                | Clean equipment and the work area every day<br>Ensure operatives are trained to minimise exposures                                                                                                                                                                                                                                                                                                           |
| Indoor/Outdoor use                                                                     | Indoor                                                                                                                                                                                                                                                                                                                                                                                                       |
| Assumes process temperature up to                                                      | 40 C                                                                                                                                                                                                                                                                                                                                                                                                         |

### Section 3 - Exposure estimation

#### Environmental release category(ies) - ERC3 - Formulation in materials

##### Predicted No Effect Concentration (PNEC)

|                            |                    |
|----------------------------|--------------------|
| Freshwater                 | 0.05 mg/l          |
| Freshwater sediment        | 0.181 mg/kg d.w.   |
| Marine water               | 0.005 mg/l         |
| Marine sediment            | 0.018 mg/kg d.w.   |
| Soil                       | 0.00687 mg/kg d.w. |
| Impact on Sewage Treatment | 20 mg/l            |
| Intermittent release       | 0.072 mg/l         |

**Calculation method** Used EUSES model

##### Derived No Effect Level (DNEL):

|                                         |                        |
|-----------------------------------------|------------------------|
| Worker - inhalative, long-term - local  | 0.6 mg/m <sup>3</sup>  |
| Worker - inhalative, short-term - local | 5.36 mg/m <sup>3</sup> |

**Calculation method** The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated

### Section 4 - Guidance to check compliance with the exposure scenario

Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.

If scaling reveals a condition of unsafe use (i.e., RCRs > 1), additional RMMs or a site-specific chemical safety assessment is required.

## Annex to the Safety Data Sheet according to Regulation (EC) No 1907/2006 [REACH]

**Product Name** XIAMETER OFS-6020 SILANE  
**Chemical name** N-(3-(TRIMETHOXYSYLYL) PROPYL)-1,2-ETHANEDIAMINE  
**Pure substance/mixture** Substance  
**REACH registration number** 01-2119970215-39-XXXX  
**CAS No** 1760-24-3  
**EC No (EU Index No)** 217-164-6  
**Supplier** Univar Solutions UK Ltd  
 Aquarius House  
 6 Mid Point Business Park  
 Bradford  
 GBR  
  
**Non-Emergency Telephone Number** +44 1274 267300 / +44 1274 267306  
  
**E-mail address** SDS.EMEA@univarsolutions.com

### Section 1 - Title

**Title** Formulation & (re)packing of substances and mixtures road and construction products.  
**Type** Worker  
**Main user group** Industrial uses: Uses of substances as such or in preparations at industrial sites  
**Environmental release category(ies)** ERC2 - Formulation of preparations (mixtures)  
**Process category(ies)** PROC2 - Use in closed, continuous process with occasional controlled exposure  
 PROC3 - Use in closed batch process (synthesis or formulation)  
 PROC4 - Use in batch and other process (synthesis) where opportunity for exposure arises  
 PROC5 - Mixing or blending in batch processes for formulation of preparations and articles (multi-stage and/or significant contact)  
 PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities  
 PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities  
 PROC9 - Transfer of substance or preparation into small containers (dedicated filling line, including weighing)  
**Product category(ies)** PC0 - Other Products  
**Product Name** XIAMETER OFS-6020 SILANE  
**Sector(s) of use** SU3 - Industrial uses: Uses of substances as such or in preparations at industrial sites

### Section 2 - Operational conditions and risk management measures

#### Section 2.1 - Control of environmental exposure

**Environmental release category(ies)** - ERC2 - Formulation of preparations (mixtures)

##### Amounts used

|       |                        |
|-------|------------------------|
| Type  | Annual amount per site |
| Value | <= 50                  |
| Units | t(ons)/year            |

|       |                       |
|-------|-----------------------|
| Type  | Daily amount per site |
| Value | <= 200                |
| Units | kg/d                  |

##### Other operational conditions of use affecting environmental exposure

|               |     |
|---------------|-----|
| Emission days | 250 |
|---------------|-----|

##### Conditions and measures related to municipal sewage treatment plant

|      |               |
|------|---------------|
| Type | Municipal STP |
|------|---------------|

|                                              |                                             |
|----------------------------------------------|---------------------------------------------|
| Assumed domestic sewage treatment plant flow | 2000 m3/d                                   |
| Removal efficiency (total)                   | >= 0.003%                                   |
| Sludge treatment                             | Controlled application to agricultural soil |

**Environmental factors not influenced by risk management**

|                                    |     |
|------------------------------------|-----|
| Local freshwater dilution factor   | 10  |
| Local marine water dilution factor | 100 |

**Control measures to prevent releases**

|       |                                              |
|-------|----------------------------------------------|
| Water | Assumed domestic sewage treatment plant flow |
|-------|----------------------------------------------|

**Conditions and measures related to external treatment of waste for disposal**

|          |                                                                            |
|----------|----------------------------------------------------------------------------|
| Disposal | Dispose of waste product or used containers according to local regulations |
|----------|----------------------------------------------------------------------------|

|                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|----------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Control of worker exposure</b>                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Process category(ies)                                                                  | PROC2 - Use in closed, continuous process with occasional controlled exposure                                                                                                                                                                                                                                                                                                                                                               |
| Covers concentrations up to                                                            | 5%                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Use frequency                                                                          | Covers daily exposures up to 8 hours (unless stated differently).                                                                                                                                                                                                                                                                                                                                                                           |
| Technical conditions and measures to control dispersion from source towards the worker | Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour)                                                                                                                                                                                                                                                                                                                                                  |
| Conditions and measures related to personal protection, hygiene and health evaluation  | Use suitable eye protection<br>Wear chemically resistant gloves (tested to EN 374) in combination with 'basic' employee training Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying Efficiency of at least 90%<br>See Section 8 for information on appropriate personal protective equipment |
| Organisational measures to prevent /limit releases, dispersion and exposure            | Supervision in place to check that the RMMs in place are being used correctly and OCs followed                                                                                                                                                                                                                                                                                                                                              |
| Additional good practice advice beyond the REACH Chemical Safety Report                | Clean equipment and the work area every day<br>Ensure operatives are trained to minimise exposures                                                                                                                                                                                                                                                                                                                                          |
| Indoor/Outdoor use                                                                     | Indoor                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Assumes process temperature up to                                                      | 40 C                                                                                                                                                                                                                                                                                                                                                                                                                                        |

|                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|----------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Process category(ies)                                                                  | PROC3 - Use in closed batch process (synthesis or formulation)                                                                                                                                                                                                                                                                                                                                                                              |
| Covers concentrations up to                                                            | 5%                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Use frequency                                                                          | Covers daily exposures up to 8 hours (unless stated differently).                                                                                                                                                                                                                                                                                                                                                                           |
| Technical conditions and measures to control dispersion from source towards the worker | Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour)                                                                                                                                                                                                                                                                                                                                                  |
| Conditions and measures related to personal protection, hygiene and health evaluation  | Use suitable eye protection<br>Wear chemically resistant gloves (tested to EN 374) in combination with 'basic' employee training Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying Efficiency of at least 90%<br>See Section 8 for information on appropriate personal protective equipment |
| Organisational measures to prevent /limit releases, dispersion and exposure            | Supervision in place to check that the RMMs in place are being used correctly and OCs followed                                                                                                                                                                                                                                                                                                                                              |
| Additional good practice advice beyond the REACH Chemical Safety Report                | Clean equipment and the work area every day<br>Ensure operatives are trained to minimise exposures                                                                                                                                                                                                                                                                                                                                          |
| Indoor/Outdoor use                                                                     | Indoor                                                                                                                                                                                                                                                                                                                                                                                                                                      |

|                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|----------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Assumes process temperature up to                                                      | 40 C                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Process category(ies)                                                                  | PROC4 - Use in batch and other process (synthesis) where opportunity for exposure arises                                                                                                                                                                                                                                                                                                                                                    |
| Covers concentrations up to                                                            | 5%                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Use frequency                                                                          | Covers daily exposures up to 8 hours (unless stated differently).                                                                                                                                                                                                                                                                                                                                                                           |
| Technical conditions and measures to control dispersion from source towards the worker | Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour)<br>Provide extract ventilation to points where emissions occur Efficiency of at least 90%                                                                                                                                                                                                                                                        |
| Conditions and measures related to personal protection, hygiene and health evaluation  | Use suitable eye protection<br>Wear chemically resistant gloves (tested to EN 374) in combination with 'basic' employee training Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying Efficiency of at least 90%<br>See Section 8 for information on appropriate personal protective equipment |
| Organisational measures to prevent /limit releases, dispersion and exposure            | Supervision in place to check that the RMMs in place are being used correctly and OCs followed                                                                                                                                                                                                                                                                                                                                              |
| Additional good practice advice beyond the REACH Chemical Safety Report                | Clean equipment and the work area every day<br>Ensure operatives are trained to minimise exposures                                                                                                                                                                                                                                                                                                                                          |
| Indoor/Outdoor use                                                                     | Indoor                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Assumes process temperature up to                                                      | 40 C                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Process category(ies)                                                                  | PROC5 - Mixing or blending in batch processes for formulation of preparations and articles (multi-stage and/or significant contact)                                                                                                                                                                                                                                                                                                         |
| Covers concentrations up to                                                            | 5%                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Physical form of product                                                               | Solid, medium dustiness                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Level of dustiness                                                                     | Low                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Exposure duration                                                                      | Avoid carrying out activities involving exposure for more than 4 hours                                                                                                                                                                                                                                                                                                                                                                      |
| Use frequency                                                                          | Covers daily exposures up to 8 hours (unless stated differently).                                                                                                                                                                                                                                                                                                                                                                           |
| Technical conditions and measures to control dispersion from source towards the worker | Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour)                                                                                                                                                                                                                                                                                                                                                  |
| Conditions and measures related to personal protection, hygiene and health evaluation  | Use suitable eye protection<br>Wear chemically resistant gloves (tested to EN 374) in combination with 'basic' employee training Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying Efficiency of at least 90%<br>See Section 8 for information on appropriate personal protective equipment |
| Organisational measures to prevent /limit releases, dispersion and exposure            | Supervision in place to check that the RMMs in place are being used correctly and OCs followed                                                                                                                                                                                                                                                                                                                                              |
| Additional good practice advice beyond the REACH Chemical Safety Report                | Clean equipment and the work area every day<br>Ensure operatives are trained to minimise exposures                                                                                                                                                                                                                                                                                                                                          |
| Indoor/Outdoor use                                                                     | Indoor                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Assumes process temperature up to                                                      | 40 C                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Process category(ies)                                                                  | PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities                                                                                                                                                                                                                                                                                                           |
| Covers concentrations up to                                                            | 100%                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Physical form of product                                                               | Solid, medium dustiness                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Level of dustiness                                                                     | Low                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Exposure duration                                                                      | Avoid carrying out activities involving exposure for more than 4 hours                                                                                                                                                                                                                                                                                                                                                                      |
| Use frequency                                                                          | Covers daily exposures up to 8 hours (unless stated differently).                                                                                                                                                                                                                                                                                                                                                                           |
| Technical conditions and measures to control dispersion from source towards            | Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour)                                                                                                                                                                                                                                                                                                                                                  |

|                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|---------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| the worker                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Conditions and measures related to personal protection, hygiene and health evaluation | Use suitable eye protection<br>Wear chemically resistant gloves (tested to EN 374) in combination with 'basic' employee training Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying Efficiency of at least 90%<br>Wear a respirator conforming to EN 140 with Type A filter or better Efficiency of at least 90%<br>See Section 8 for information on appropriate personal protective equipment |
| Organisational measures to prevent /limit releases, dispersion and exposure           | Supervision in place to check that the RMMs in place are being used correctly and OCs followed                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Additional good practice advice beyond the REACH Chemical Safety Report               | Clean equipment and the work area every day<br>Ensure operatives are trained to minimise exposures                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Indoor/Outdoor use                                                                    | Indoor                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Assumes process temperature up to                                                     | 40 C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |

|                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|----------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Process category(ies)                                                                  | PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities                                                                                                                                                                                                                                                                                                               |
| Covers concentrations up to                                                            | 100%                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Use frequency                                                                          | Covers daily exposures up to 8 hours (unless stated differently).                                                                                                                                                                                                                                                                                                                                                                           |
| Technical conditions and measures to control dispersion from source towards the worker | Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour)                                                                                                                                                                                                                                                                                                                                                  |
| Conditions and measures related to personal protection, hygiene and health evaluation  | Use suitable eye protection<br>Wear chemically resistant gloves (tested to EN 374) in combination with 'basic' employee training Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying Efficiency of at least 90%<br>See Section 8 for information on appropriate personal protective equipment |
| Organisational measures to prevent /limit releases, dispersion and exposure            | Supervision in place to check that the RMMs in place are being used correctly and OCs followed                                                                                                                                                                                                                                                                                                                                              |
| Additional good practice advice beyond the REACH Chemical Safety Report                | Clean equipment and the work area every day<br>Ensure operatives are trained to minimise exposures                                                                                                                                                                                                                                                                                                                                          |
| Indoor/Outdoor use                                                                     | Indoor                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Assumes process temperature up to                                                      | 40 C                                                                                                                                                                                                                                                                                                                                                                                                                                        |

|                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|----------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Process category(ies)                                                                  | PROC9 - Transfer of substance or preparation into small containers (dedicated filling line, including weighing)                                                                                                                                                                                                                                                                                                                             |
| Covers concentrations up to                                                            | 5%                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Physical form of product                                                               | Solid, medium dustiness                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Level of dustiness                                                                     | Low                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Use frequency                                                                          | Covers daily exposures up to 8 hours (unless stated differently).                                                                                                                                                                                                                                                                                                                                                                           |
| Technical conditions and measures to control dispersion from source towards the worker | Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour)<br>Provide extract ventilation to points where emissions occur Efficiency of at least 90%                                                                                                                                                                                                                                                        |
| Conditions and measures related to personal protection, hygiene and health evaluation  | Use suitable eye protection<br>Wear chemically resistant gloves (tested to EN 374) in combination with 'basic' employee training Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying Efficiency of at least 90%<br>See Section 8 for information on appropriate personal protective equipment |
| Organisational measures to prevent /limit releases, dispersion and                     | Supervision in place to check that the RMMs in place are being used correctly and OCs followed                                                                                                                                                                                                                                                                                                                                              |

|                                                                         |                                                                                                    |
|-------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|
| exposure                                                                |                                                                                                    |
| Additional good practice advice beyond the REACH Chemical Safety Report | Clean equipment and the work area every day<br>Ensure operatives are trained to minimise exposures |
| Indoor/Outdoor use                                                      | Indoor                                                                                             |
| Assumes process temperature up to                                       | 40 C                                                                                               |

### Section 3 - Exposure estimation

Environmental release category(ies) - ERC2 - Formulation of preparations (mixtures)

**Predicted No Effect Concentration (PNEC)**

|                            |                    |
|----------------------------|--------------------|
| Freshwater                 | 0.05 mg/l          |
| Freshwater sediment        | 0.181 mg/kg d.w.   |
| Marine water               | 0.005 mg/l         |
| Marine sediment            | 0.018 mg/kg d.w.   |
| Soil                       | 0.00687 mg/kg d.w. |
| Impact on Sewage Treatment | 20 mg/l            |
| Intermittent release       | 0.072 mg/l         |

**Calculation method** Used EUSES model

**Derived No Effect Level (DNEL):**

|                                         |                        |
|-----------------------------------------|------------------------|
| Worker - inhalative, long-term - local  | 0.6 mg/m <sup>3</sup>  |
| Worker - inhalative, short-term - local | 5.36 mg/m <sup>3</sup> |

**Calculation method** The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated

### Section 4 - Guidance to check compliance with the exposure scenario

Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.

If scaling reveals a condition of unsafe use (i.e., RCRs > 1), additional RMMs or a site-specific chemical safety assessment is required.

## Annex to the Safety Data Sheet according to Regulation (EC) No 1907/2006 [REACH]

**Product Name** XIAMETER OFS-6020 SILANE  
**Chemical name** N-(3-(TRIMETHOXYSILYL) PROPYL)-1,2-ETHANEDIAMINE  
**Pure substance/mixture** Substance  
**REACH registration number** 01-2119970215-39-XXXX  
**CAS No** 1760-24-3  
**EC No (EU Index No)** 217-164-6  
**Supplier** Univar Solutions UK Ltd  
 Aquarius House  
 6 Mid Point Business Park  
 Bradford  
 GBR  
  
**Non-Emergency Telephone Number** +44 1274 267300 / +44 1274 267306  
  
**E-mail address** SDS.EMEA@univarsolutions.com

### Section 1 - Title

**Title** Use as an intermediate  
**Type** Worker  
**Main user group** Industrial uses: Uses of substances as such or in preparations at industrial sites  
**Environmental release category(ies)** ERC6a - Industrial use resulting in manufacture of another substance (use of intermediates)  
**Process category(ies)** PROC1 - Use in closed process, no likelihood of exposure  
 PROC2 - Use in closed, continuous process with occasional controlled exposure  
 PROC3 - Use in closed batch process (synthesis or formulation)  
 PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities  
 PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities  
 PROC28 - Manual maintenance (cleaning and repair) of machinery  
  
**Product Name** XIAMETER OFS-6020 SILANE  
**Sector(s) of use** SU3 - Industrial uses: Uses of substances as such or in preparations at industrial sites SU8 - Manufacture of bulk, large scale chemicals (including petroleum products) SU9 - Manufacture of fine chemicals

### Section 2 - Operational conditions and risk management measures

#### Section 2.1 - Control of environmental exposure

**Environmental release category(ies)** - ERC6a - Industrial use resulting in manufacture of another substance (use of intermediates)

##### Amounts used

|       |                        |
|-------|------------------------|
| Type  | Annual amount per site |
| Value | <= 250                 |
| Units | t(ons)/year            |

|       |                       |
|-------|-----------------------|
| Type  | Daily amount per site |
| Value | <= 10000              |
| Units | kg/d                  |

##### Other operational conditions of use affecting environmental exposure

|               |    |
|---------------|----|
| Emission days | 25 |
|---------------|----|

##### Conditions and measures related to municipal sewage treatment plant

|                            |            |
|----------------------------|------------|
| Type                       | Onsite STP |
| Removal efficiency (total) | >= 0.003%  |

|                                              |               |
|----------------------------------------------|---------------|
| Type                                         | Municipal STP |
| Assumed domestic sewage treatment plant flow | 1300 m3/d     |

**Environmental factors not influenced by risk management**

|                                    |      |
|------------------------------------|------|
| Local freshwater dilution factor   | 900  |
| Local marine water dilution factor | 1000 |

**Control measures to prevent releases**

|       |                                              |
|-------|----------------------------------------------|
| Water | Assumed domestic sewage treatment plant flow |
|-------|----------------------------------------------|

**Conditions and measures related to external recovery of waste**

|        |                                                                                                          |
|--------|----------------------------------------------------------------------------------------------------------|
| Method | External recovery and recycling of waste should comply with applicable local and/or national regulations |
|--------|----------------------------------------------------------------------------------------------------------|

**Conditions and measures related to external treatment of waste for disposal**

|          |                                                                     |
|----------|---------------------------------------------------------------------|
| Disposal | Dispose of waste cans and containers according to local regulations |
|----------|---------------------------------------------------------------------|

**Control of worker exposure**

|                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|----------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Process category(ies)                                                                  | PROC1 - Use in closed process, no likelihood of exposure                                                                                                                                                                                                                                                                                                                                                                                     |
| Covers concentrations up to                                                            | 100%                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Use frequency                                                                          | Covers daily exposures up to 8 hours (unless stated differently).                                                                                                                                                                                                                                                                                                                                                                            |
| Technical conditions and measures to control dispersion from source towards the worker | Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour)                                                                                                                                                                                                                                                                                                                                                   |
| Conditions and measures related to personal protection, hygiene and health evaluation  | Use suitable eye protection<br>Wear chemically resistant gloves (tested to EN 374) in combination with specific activity training Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying Efficiency of at least 95%<br>See Section 8 for information on appropriate personal protective equipment |
| Organisational measures to prevent /limit releases, dispersion and exposure            | Supervision in place to check that the RMMs in place are being used correctly and OCs followed                                                                                                                                                                                                                                                                                                                                               |
| Additional good practice advice beyond the REACH Chemical Safety Report                | Clean equipment and the work area every day<br>Ensure operatives are trained to minimise exposures                                                                                                                                                                                                                                                                                                                                           |
| Indoor/Outdoor use                                                                     | Indoor                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Assumes process temperature up to                                                      | 40 C                                                                                                                                                                                                                                                                                                                                                                                                                                         |

|                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|----------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Process category(ies)                                                                  | PROC2 - Use in closed, continuous process with occasional controlled exposure                                                                                                                                                                                                                                                                                                                                                                |
| Covers concentrations up to                                                            | 100%                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Use frequency                                                                          | Covers daily exposures up to 8 hours (unless stated differently).                                                                                                                                                                                                                                                                                                                                                                            |
| Technical conditions and measures to control dispersion from source towards the worker | Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour)<br>Provide extract ventilation to points where emissions occur Efficiency of at least 90%                                                                                                                                                                                                                                                         |
| Conditions and measures related to personal protection, hygiene and health evaluation  | Use suitable eye protection<br>Wear chemically resistant gloves (tested to EN 374) in combination with specific activity training Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying Efficiency of at least 95%<br>See Section 8 for information on appropriate personal protective equipment |
| Organisational measures to prevent /limit releases, dispersion and exposure            | Supervision in place to check that the RMMs in place are being used correctly and OCs followed                                                                                                                                                                                                                                                                                                                                               |

|                                                                         |                                                                                                    |
|-------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|
| Additional good practice advice beyond the REACH Chemical Safety Report | Clean equipment and the work area every day<br>Ensure operatives are trained to minimise exposures |
| Indoor/Outdoor use                                                      | Indoor                                                                                             |
| Assumes process temperature up to                                       | 40 C                                                                                               |

|                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|----------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Process category(ies)                                                                  | PROC3 - Use in closed batch process (synthesis or formulation)                                                                                                                                                                                                                                                                                                                                                                               |
| Covers concentrations up to                                                            | 100%                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Exposure duration                                                                      | Avoid carrying out activities involving exposure for more than 4 hours                                                                                                                                                                                                                                                                                                                                                                       |
| Use frequency                                                                          | Covers daily exposures up to 8 hours (unless stated differently).                                                                                                                                                                                                                                                                                                                                                                            |
| Technical conditions and measures to control dispersion from source towards the worker | Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour)<br>Provide extract ventilation to points where emissions occur Efficiency of at least 90%                                                                                                                                                                                                                                                         |
| Conditions and measures related to personal protection, hygiene and health evaluation  | Use suitable eye protection<br>Wear chemically resistant gloves (tested to EN 374) in combination with specific activity training Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying Efficiency of at least 95%<br>See Section 8 for information on appropriate personal protective equipment |
| Organisational measures to prevent /limit releases, dispersion and exposure            | Supervision in place to check that the RMMs in place are being used correctly and OCs followed                                                                                                                                                                                                                                                                                                                                               |
| Additional good practice advice beyond the REACH Chemical Safety Report                | Clean equipment and the work area every day<br>Ensure operatives are trained to minimise exposures                                                                                                                                                                                                                                                                                                                                           |
| Indoor/Outdoor use                                                                     | Indoor                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Assumes process temperature up to                                                      | 40 C                                                                                                                                                                                                                                                                                                                                                                                                                                         |

|                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|----------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Process category(ies)                                                                  | PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities PROC28 - Manual maintenance (cleaning and repair) of machinery                                                                                                                                                                                                                                                                                                                                               |
| Title                                                                                  | Equipment cleaning and maintenance                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Covers concentrations up to                                                            | 100%                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Physical form of product                                                               | Solid, medium dustiness                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Level of dustiness                                                                     | Low                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Exposure duration                                                                      | Avoid carrying out activities involving exposure for more than 4 hours                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Use frequency                                                                          | Covers daily exposures up to 8 hours (unless stated differently).                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Technical conditions and measures to control dispersion from source towards the worker | Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour)<br>Provide extract ventilation to points where emissions occur Efficiency of at least 90%                                                                                                                                                                                                                                                                                                                                                           |
| Conditions and measures related to personal protection, hygiene and health evaluation  | Use suitable eye protection<br>Wear chemically resistant gloves (tested to EN 374) in combination with specific activity training Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying Efficiency of at least 95%<br>Wear a respirator conforming to EN 140 with Type A filter or better Efficiency of at least 90%<br>See Section 8 for information on appropriate personal protective equipment |
| Organisational measures to prevent /limit releases, dispersion and exposure            | Supervision in place to check that the RMMs in place are being used correctly and OCs followed                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Additional good practice advice beyond the REACH Chemical Safety Report                | Clean equipment and the work area every day<br>Ensure operatives are trained to minimise exposures                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Indoor/Outdoor use                                                                     | Indoor                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Assumes process temperature up to                                                      | 40 C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |

|                       |                                                                                                                               |
|-----------------------|-------------------------------------------------------------------------------------------------------------------------------|
| Process category(ies) | PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities |
|-----------------------|-------------------------------------------------------------------------------------------------------------------------------|

|                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|----------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Covers concentrations up to                                                            | 100%                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Exposure duration                                                                      | Avoid carrying out activities involving exposure for more than 1 hour                                                                                                                                                                                                                                                                                                                                                                        |
| Use frequency                                                                          | Covers daily exposures up to 8 hours (unless stated differently).                                                                                                                                                                                                                                                                                                                                                                            |
| Technical conditions and measures to control dispersion from source towards the worker | Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour)<br>Handle in a fume cupboard or under extract ventilation Efficiency of at least 95%                                                                                                                                                                                                                                                              |
| Conditions and measures related to personal protection, hygiene and health evaluation  | Use suitable eye protection<br>Wear chemically resistant gloves (tested to EN 374) in combination with specific activity training Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying Efficiency of at least 95%<br>See Section 8 for information on appropriate personal protective equipment |
| Organisational measures to prevent /limit releases, dispersion and exposure            | Supervision in place to check that the RMMs in place are being used correctly and OCs followed                                                                                                                                                                                                                                                                                                                                               |
| Additional good practice advice beyond the REACH Chemical Safety Report                | Clean equipment and the work area every day<br>Ensure operatives are trained to minimise exposures                                                                                                                                                                                                                                                                                                                                           |
| Indoor/Outdoor use                                                                     | Indoor                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Assumes process temperature up to                                                      | 40 C                                                                                                                                                                                                                                                                                                                                                                                                                                         |

### Section 3 - Exposure estimation

**Environmental release category(ies) - ERC6a - Industrial use resulting in manufacture of another substance (use of intermediates)**

#### **Predicted No Effect Concentration (PNEC)**

|                                   |                    |
|-----------------------------------|--------------------|
| <b>Freshwater</b>                 | 0.05 mg/l          |
| <b>Freshwater sediment</b>        | 0.181 mg/kg d.w.   |
| <b>Marine water</b>               | 0.005 mg/l         |
| <b>Marine sediment</b>            | 0.018 mg/kg d.w.   |
| <b>Soil</b>                       | 0.00687 mg/kg d.w. |
| <b>Impact on Sewage Treatment</b> | 20 mg/l            |
| <b>Intermittent release</b>       | 0.072 mg/l         |

**Calculation method** Used EUSES model

#### **Derived No Effect Level (DNEL):**

|                                                |                        |
|------------------------------------------------|------------------------|
| <b>Worker - inhalative, long-term - local</b>  | 0.6 mg/m <sup>3</sup>  |
| <b>Worker - inhalative, short-term - local</b> | 5.36 mg/m <sup>3</sup> |

**Calculation method** The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated

### Section 4 - Guidance to check compliance with the exposure scenario

Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.

If scaling reveals a condition of unsafe use (i.e., RCRs > 1), additional RMMs or a site-specific chemical safety assessment is required.

## Annex to the Safety Data Sheet according to Regulation (EC) No 1907/2006 [REACH]

**Product Name** XIAMETER OFS-6020 SILANE  
**Chemical name** N-(3-(TRIMETHOXYSYLYL) PROPYL)-1,2-ETHANEDIAMINE  
**Pure substance/mixture** Substance  
**REACH registration number** 01-2119970215-39-XXXX  
**CAS No** 1760-24-3  
**EC No (EU Index No)** 217-164-6  
**Supplier** Univar Solutions UK Ltd  
 Aquarius House  
 6 Mid Point Business Park  
 Bradford  
 GBR  
  
**Non-Emergency Telephone Number** +44 1274 267300 / +44 1274 267306  
  
**E-mail address** SDS.EMEA@univarsolutions.com

### Section 1 - Title

**Title** Use as an intermediate Downstream user site  
**Type** Worker  
**Main user group** Industrial uses: Uses of substances as such or in preparations at industrial sites  
**Environmental release category(ies)** ERC6a - Industrial use resulting in manufacture of another substance (use of intermediates)  
**Process category(ies)** PROC1 - Use in closed process, no likelihood of exposure  
 PROC2 - Use in closed, continuous process with occasional controlled exposure  
 PROC3 - Use in closed batch process (synthesis or formulation)  
 PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities  
 PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities  
 PROC28 - Manual maintenance (cleaning and repair) of machinery  
  
**Product Name** XIAMETER OFS-6020 SILANE  
**Sector(s) of use** SU3 - Industrial uses: Uses of substances as such or in preparations at industrial sites SU8  
 - Manufacture of bulk, large scale chemicals (including petroleum products) SU9 -  
 Manufacture of fine chemicals

### Section 2 - Operational conditions and risk management measures

#### Section 2.1 - Control of environmental exposure

**Environmental release category(ies)** - ERC6a - Industrial use resulting in manufacture of another substance (use of intermediates)

#### Amounts used

|       |                        |
|-------|------------------------|
| Type  | Annual amount per site |
| Value | <= 30                  |
| Units | t(ons)/year            |

|       |                       |
|-------|-----------------------|
| Type  | Daily amount per site |
| Value | <= 300                |
| Units | kg/d                  |

#### Other operational conditions of use affecting environmental exposure

|               |     |
|---------------|-----|
| Emission days | 100 |
|---------------|-----|

#### Conditions and measures related to municipal sewage treatment plant

|                            |            |
|----------------------------|------------|
| Type                       | Onsite STP |
| Removal efficiency (total) | >= 0.003%  |

|                                              |               |
|----------------------------------------------|---------------|
| Type                                         | Municipal STP |
| Assumed domestic sewage treatment plant flow | 10000 m3/d    |

**Environmental factors not influenced by risk management**

|                                    |     |
|------------------------------------|-----|
| Local freshwater dilution factor   | 40  |
| Local marine water dilution factor | 100 |

**Control measures to prevent releases**

|       |                                              |
|-------|----------------------------------------------|
| Water | Assumed domestic sewage treatment plant flow |
|-------|----------------------------------------------|

**Conditions and measures related to external treatment of waste for disposal**

|          |                                                                     |
|----------|---------------------------------------------------------------------|
| Disposal | Dispose of waste cans and containers according to local regulations |
|----------|---------------------------------------------------------------------|

|                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|----------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Control of worker exposure</b>                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Process category(ies)                                                                  | PROC1 - Use in closed process, no likelihood of exposure                                                                                                                                                                                                                                                                                                                                                                                     |
| Covers concentrations up to                                                            | 100%                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Use frequency                                                                          | Covers daily exposures up to 8 hours (unless stated differently).                                                                                                                                                                                                                                                                                                                                                                            |
| Technical conditions and measures to control dispersion from source towards the worker | Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour)                                                                                                                                                                                                                                                                                                                                                   |
| Conditions and measures related to personal protection, hygiene and health evaluation  | Use suitable eye protection<br>Wear chemically resistant gloves (tested to EN 374) in combination with specific activity training Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying Efficiency of at least 95%<br>See Section 8 for information on appropriate personal protective equipment |
| Organisational measures to prevent /limit releases, dispersion and exposure            | Supervision in place to check that the RMMs in place are being used correctly and OCs followed                                                                                                                                                                                                                                                                                                                                               |
| Additional good practice advice beyond the REACH Chemical Safety Report                | Clean equipment and the work area every day<br>Ensure operatives are trained to minimise exposures                                                                                                                                                                                                                                                                                                                                           |
| Indoor/Outdoor use                                                                     | Indoor                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Assumes process temperature up to                                                      | 40 C                                                                                                                                                                                                                                                                                                                                                                                                                                         |

|                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|----------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Process category(ies)                                                                  | PROC2 - Use in closed, continuous process with occasional controlled exposure                                                                                                                                                                                                                                                                                                                                                                |
| Covers concentrations up to                                                            | 100%                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Use frequency                                                                          | Covers daily exposures up to 8 hours (unless stated differently).                                                                                                                                                                                                                                                                                                                                                                            |
| Technical conditions and measures to control dispersion from source towards the worker | Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour)<br>Provide extract ventilation to points where emissions occur Efficiency of at least 90%                                                                                                                                                                                                                                                         |
| Conditions and measures related to personal protection, hygiene and health evaluation  | Use suitable eye protection<br>Wear chemically resistant gloves (tested to EN 374) in combination with specific activity training Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying Efficiency of at least 95%<br>See Section 8 for information on appropriate personal protective equipment |
| Organisational measures to prevent /limit releases, dispersion and exposure            | Supervision in place to check that the RMMs in place are being used correctly and OCs followed                                                                                                                                                                                                                                                                                                                                               |
| Additional good practice advice beyond the REACH Chemical Safety Report                | Clean equipment and the work area every day<br>Ensure operatives are trained to minimise exposures                                                                                                                                                                                                                                                                                                                                           |
| Indoor/Outdoor use                                                                     | Indoor                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Assumes process temperature up to                                                      | 40 C                                                                                                                                                                                                                                                                                                                                                                                                                                         |

|                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|----------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Process category(ies)                                                                  | PROC3 - Use in closed batch process (synthesis or formulation)                                                                                                                                                                                                                                                                                                                                                                               |
| Covers concentrations up to                                                            | 100%                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Exposure duration                                                                      | Avoid carrying out activities involving exposure for more than 4 hours                                                                                                                                                                                                                                                                                                                                                                       |
| Use frequency                                                                          | Covers daily exposures up to 8 hours (unless stated differently).                                                                                                                                                                                                                                                                                                                                                                            |
| Technical conditions and measures to control dispersion from source towards the worker | Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour)<br>Provide extract ventilation to points where emissions occur Efficiency of at least 90%                                                                                                                                                                                                                                                         |
| Conditions and measures related to personal protection, hygiene and health evaluation  | Use suitable eye protection<br>Wear chemically resistant gloves (tested to EN 374) in combination with specific activity training Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying Efficiency of at least 95%<br>See Section 8 for information on appropriate personal protective equipment |
| Organisational measures to prevent /limit releases, dispersion and exposure            | Supervision in place to check that the RMMs in place are being used correctly and OCs followed                                                                                                                                                                                                                                                                                                                                               |
| Additional good practice advice beyond the REACH Chemical Safety Report                | Clean equipment and the work area every day<br>Ensure operatives are trained to minimise exposures                                                                                                                                                                                                                                                                                                                                           |
| Indoor/Outdoor use                                                                     | Indoor                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Assumes process temperature up to                                                      | 40 C                                                                                                                                                                                                                                                                                                                                                                                                                                         |

|                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|----------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Process category(ies)                                                                  | PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities PROC28 - Manual maintenance (cleaning and repair) of machinery                                                                                                                                                                                                                                                                                                                                               |
| Title                                                                                  | Equipment cleaning and maintenance                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Covers concentrations up to                                                            | 100%                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Physical form of product                                                               | Solid, medium dustiness                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Level of dustiness                                                                     | Low                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Exposure duration                                                                      | Avoid carrying out activities involving exposure for more than 4 hours                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Use frequency                                                                          | Covers daily exposures up to 8 hours (unless stated differently).                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Technical conditions and measures to control dispersion from source towards the worker | Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour)<br>Provide extract ventilation to points where emissions occur Efficiency of at least 90%                                                                                                                                                                                                                                                                                                                                                           |
| Conditions and measures related to personal protection, hygiene and health evaluation  | Use suitable eye protection<br>Wear chemically resistant gloves (tested to EN 374) in combination with specific activity training Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying Efficiency of at least 95%<br>Wear a respirator conforming to EN 140 with Type A filter or better Efficiency of at least 90%<br>See Section 8 for information on appropriate personal protective equipment |
| Organisational measures to prevent /limit releases, dispersion and exposure            | Supervision in place to check that the RMMs in place are being used correctly and OCs followed                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Additional good practice advice beyond the REACH Chemical Safety Report                | Clean equipment and the work area every day<br>Ensure operatives are trained to minimise exposures                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Indoor/Outdoor use                                                                     | Indoor                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Assumes process temperature up to                                                      | 40 C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |

|                                      |                                                                                                                               |
|--------------------------------------|-------------------------------------------------------------------------------------------------------------------------------|
| Process category(ies)                | PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities |
| Covers concentrations up to          | 100%                                                                                                                          |
| Exposure duration                    | Avoid carrying out activities involving exposure for more than 1 hour                                                         |
| Use frequency                        | Covers daily exposures up to 8 hours (unless stated differently).                                                             |
| Technical conditions and measures to | Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour)                                    |

|                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|---------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| control dispersion from source towards the worker                                     | Handle in a fume cupboard or under extract ventilation Efficiency of at least 95%                                                                                                                                                                                                                                                                                                                                                            |
| Conditions and measures related to personal protection, hygiene and health evaluation | Use suitable eye protection<br>Wear chemically resistant gloves (tested to EN 374) in combination with specific activity training Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying Efficiency of at least 95%<br>See Section 8 for information on appropriate personal protective equipment |
| Organisational measures to prevent /limit releases, dispersion and exposure           | Supervision in place to check that the RMMs in place are being used correctly and OCs followed                                                                                                                                                                                                                                                                                                                                               |
| Additional good practice advice beyond the REACH Chemical Safety Report               | Clean equipment and the work area every day<br>Ensure operatives are trained to minimise exposures                                                                                                                                                                                                                                                                                                                                           |
| Indoor/Outdoor use                                                                    | Indoor                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Assumes process temperature up to                                                     | 40 C                                                                                                                                                                                                                                                                                                                                                                                                                                         |

### Section 3 - Exposure estimation

**Environmental release category(ies) - ERC6a - Industrial use resulting in manufacture of another substance (use of intermediates)**

**Predicted No Effect Concentration (PNEC)**

|                            |                    |
|----------------------------|--------------------|
| Freshwater                 | 0.05 mg/l          |
| Freshwater sediment        | 0.181 mg/kg d.w.   |
| Marine water               | 0.005 mg/l         |
| Marine sediment            | 0.018 mg/kg d.w.   |
| Soil                       | 0.00687 mg/kg d.w. |
| Impact on Sewage Treatment | 20 mg/l            |
| Intermittent release       | 0.072 mg/l         |

**Calculation method** Used EUSES model

**Derived No Effect Level (DNEL):**

|                                         |                        |
|-----------------------------------------|------------------------|
| Worker - inhalative, long-term - local  | 0.6 mg/m <sup>3</sup>  |
| Worker - inhalative, short-term - local | 5.36 mg/m <sup>3</sup> |

**Calculation method** The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated

### Section 4 - Guidance to check compliance with the exposure scenario

Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.

If scaling reveals a condition of unsafe use (i.e., RCRs > 1), additional RMMs or a site-specific chemical safety assessment is required.

## Annex to the Safety Data Sheet according to Regulation (EC) No 1907/2006 [REACH]

**Product Name** XIAMETER OFS-6020 SILANE  
**Chemical name** N-(3-(TRIMETHOXYSILYL) PROPYL)-1,2-ETHANEDIAMINE  
**Pure substance/mixture** Substance  
**REACH registration number** 01-2119970215-39-XXXX  
**CAS No** 1760-24-3  
**EC No (EU Index No)** 217-164-6  
**Supplier** Univar Solutions UK Ltd  
 Aquarius House  
 6 Mid Point Business Park  
 Bradford  
 GBR  
  
**Non-Emergency Telephone Number** +44 1274 267300 / +44 1274 267306  
  
**E-mail address** SDS.EMEA@univarsolutions.com

### Section 1 - Title

**Title** Adhesives, sealants  
**Type** Worker  
**Main user group** Industrial uses: Uses of substances as such or in preparations at industrial sites  
**Environmental release category(ies)** ERC5 - Industrial use resulting in inclusion into or onto a matrix  
**Process category(ies)** PROC5 - Mixing or blending in batch processes for formulation of preparations and articles (multi-stage and/or significant contact)  
 PROC7 - Industrial spraying  
 PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities  
 PROC10 - Roller application or brushing  
 PROC13 - Treatment of articles by dipping and pouring  
  
**Product category(ies)** PC1 - Adhesives, sealants  
**Product Name** XIAMETER OFS-6020 SILANE  
**Sector(s) of use** SU3 - Industrial uses: Uses of substances as such or in preparations at industrial sites  
 SU16 - Manufacture of computer, electronic and optical products, electrical equipment  
 SU17 - General manufacturing SU19 - Building and construction work

### Section 2 - Operational conditions and risk management measures

#### Section 2.1 - Control of environmental exposure

**Environmental release category(ies)** - ERC5 - Industrial use resulting in inclusion into or onto a matrix

##### Amounts used

|       |                        |
|-------|------------------------|
| Type  | Annual amount per site |
| Value | <= 100                 |
| Units | t(ons)/year            |

|       |                       |
|-------|-----------------------|
| Type  | Daily amount per site |
| Value | <= 1000               |
| Units | kg/d                  |

##### Other operational conditions of use affecting environmental exposure

|               |     |
|---------------|-----|
| Emission days | 100 |
|---------------|-----|

##### Conditions and measures related to municipal sewage treatment plant

|                                   |               |
|-----------------------------------|---------------|
| Type                              | Municipal STP |
| Assumed domestic sewage treatment | 2000 m3/d     |

|                            |           |
|----------------------------|-----------|
| plant flow                 |           |
| Removal efficiency (total) | >= 0.003% |

**Risk management measures**

|                                                                                       |                                                                                                                                                                                                                                                                                                                                       |
|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Technical onsite conditions and measures to reduce or limit discharges, air emissions | Upgrade of the system in place or additional air treatment measures, such as wet scrubber and/or air filtration and/or thermal oxidation and/or vapour recovery systems, in order to achieve a reduction of the air emissions Efficiency of at least 70%<br>Negligible wastewater emissions as process operates without water contact |
|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

**Control measures to prevent releases**

|       |                                              |
|-------|----------------------------------------------|
| Water | Assumed domestic sewage treatment plant flow |
|-------|----------------------------------------------|

**Conditions and measures related to external treatment of waste for disposal**

|          |                                                                            |
|----------|----------------------------------------------------------------------------|
| Disposal | Dispose of waste product or used containers according to local regulations |
|----------|----------------------------------------------------------------------------|

**Control of worker exposure**

|                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|----------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Process category(ies)                                                                  | PROC5 - Mixing or blending in batch processes for formulation of preparations and articles (multi-stage and/or significant contact)                                                                                                                                                                                                                                                                                                         |
| Covers concentrations up to                                                            | 5%                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Physical form of product                                                               | Solid, medium dustiness                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Level of dustiness                                                                     | Low                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Exposure duration                                                                      | Avoid carrying out activities involving exposure for more than 1 hour                                                                                                                                                                                                                                                                                                                                                                       |
| Use frequency                                                                          | Covers daily exposures up to 8 hours (unless stated differently).                                                                                                                                                                                                                                                                                                                                                                           |
| Technical conditions and measures to control dispersion from source towards the worker | Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour)                                                                                                                                                                                                                                                                                                                                                  |
| Conditions and measures related to personal protection, hygiene and health evaluation  | Use suitable eye protection<br>Wear chemically resistant gloves (tested to EN 374) in combination with 'basic' employee training Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying Efficiency of at least 90%<br>See Section 8 for information on appropriate personal protective equipment |
| Organisational measures to prevent /limit releases, dispersion and exposure            | Supervision in place to check that the RMMs in place are being used correctly and OCs followed                                                                                                                                                                                                                                                                                                                                              |
| Additional good practice advice beyond the REACH Chemical Safety Report                | Clean equipment and the work area every day<br>Ensure operatives are trained to minimise exposures                                                                                                                                                                                                                                                                                                                                          |
| Indoor/Outdoor use                                                                     | Indoor                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Assumes process temperature up to                                                      | 30 C                                                                                                                                                                                                                                                                                                                                                                                                                                        |

|                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|----------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Process category(ies)                                                                  | PROC7 - Industrial spraying                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Covers concentrations up to                                                            | 5%                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Physical form of product                                                               | Solid, medium dustiness                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Level of dustiness                                                                     | Low                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Use frequency                                                                          | Covers daily exposures up to 8 hours (unless stated differently).                                                                                                                                                                                                                                                                                                                                                                            |
| Technical conditions and measures to control dispersion from source towards the worker | Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour)<br>Handle in a fume cupboard or under extract ventilation 95%                                                                                                                                                                                                                                                                                     |
| Conditions and measures related to personal protection, hygiene and health evaluation  | Use suitable eye protection<br>Wear chemically resistant gloves (tested to EN 374) in combination with specific activity training Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying Efficiency of at least 95%<br>See Section 8 for information on appropriate personal protective equipment |
| Organisational measures to prevent                                                     | Supervision in place to check that the RMMs in place are being used correctly and OCs                                                                                                                                                                                                                                                                                                                                                        |

|                                                                         |                                                                                                    |
|-------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|
| /limit releases, dispersion and exposure                                | followed                                                                                           |
| Additional good practice advice beyond the REACH Chemical Safety Report | Clean equipment and the work area every day<br>Ensure operatives are trained to minimise exposures |
| Indoor/Outdoor use                                                      | Indoor                                                                                             |
| Assumes process temperature up to                                       | 40 C                                                                                               |

|                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|----------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Process category(ies)                                                                  | PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities                                                                                                                                                                                                                                                                                                               |
| Covers concentrations up to                                                            | 5%                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Exposure duration                                                                      | Avoid carrying out activities involving exposure for more than 1 hour                                                                                                                                                                                                                                                                                                                                                                       |
| Use frequency                                                                          | Covers daily exposures up to 8 hours (unless stated differently).                                                                                                                                                                                                                                                                                                                                                                           |
| Technical conditions and measures to control dispersion from source towards the worker | Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour)                                                                                                                                                                                                                                                                                                                                                  |
| Conditions and measures related to personal protection, hygiene and health evaluation  | Use suitable eye protection<br>Wear chemically resistant gloves (tested to EN 374) in combination with 'basic' employee training Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying Efficiency of at least 90%<br>See Section 8 for information on appropriate personal protective equipment |
| Organisational measures to prevent /limit releases, dispersion and exposure            | Supervision in place to check that the RMMs in place are being used correctly and OCs followed                                                                                                                                                                                                                                                                                                                                              |
| Additional good practice advice beyond the REACH Chemical Safety Report                | Clean equipment and the work area every day<br>Ensure operatives are trained to minimise exposures                                                                                                                                                                                                                                                                                                                                          |
| Indoor/Outdoor use                                                                     | Indoor                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Assumes process temperature up to                                                      | 30 C                                                                                                                                                                                                                                                                                                                                                                                                                                        |

|                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|----------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Process category(ies)                                                                  | PROC10 - Roller application or brushing PROC13 - Treatment of articles by dipping and pouring                                                                                                                                                                                                                                                                                                                                               |
| Covers concentrations up to                                                            | 5%                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Physical form of product                                                               | Solid, medium dustiness                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Level of dustiness                                                                     | Low                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Exposure duration                                                                      | Avoid carrying out activities involving exposure for more than 4 hours                                                                                                                                                                                                                                                                                                                                                                      |
| Use frequency                                                                          | Covers daily exposures up to 8 hours (unless stated differently).                                                                                                                                                                                                                                                                                                                                                                           |
| Technical conditions and measures to control dispersion from source towards the worker | Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour)                                                                                                                                                                                                                                                                                                                                                  |
| Conditions and measures related to personal protection, hygiene and health evaluation  | Use suitable eye protection<br>Wear chemically resistant gloves (tested to EN 374) in combination with 'basic' employee training Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying Efficiency of at least 90%<br>See Section 8 for information on appropriate personal protective equipment |
| Organisational measures to prevent /limit releases, dispersion and exposure            | Supervision in place to check that the RMMs in place are being used correctly and OCs followed                                                                                                                                                                                                                                                                                                                                              |
| Additional good practice advice beyond the REACH Chemical Safety Report                | Clean equipment and the work area every day<br>Ensure operatives are trained to minimise exposures                                                                                                                                                                                                                                                                                                                                          |
| Indoor/Outdoor use                                                                     | Indoor                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Assumes process temperature up to                                                      | 40 C                                                                                                                                                                                                                                                                                                                                                                                                                                        |

|                       |                                                                                               |
|-----------------------|-----------------------------------------------------------------------------------------------|
| Process category(ies) | PROC10 - Roller application or brushing PROC13 - Treatment of articles by dipping and pouring |
| Title                 | Elevated temperature                                                                          |

|                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|----------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Covers concentrations up to                                                            | 5%                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Physical form of product                                                               | Solid, medium dustiness                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Level of dustiness                                                                     | Low                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Exposure duration                                                                      | Avoid carrying out activities involving exposure for more than 4 hours                                                                                                                                                                                                                                                                                                                                                                      |
| Use frequency                                                                          | Covers daily exposures up to 8 hours (unless stated differently).                                                                                                                                                                                                                                                                                                                                                                           |
| Technical conditions and measures to control dispersion from source towards the worker | Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour)                                                                                                                                                                                                                                                                                                                                                  |
| Conditions and measures related to personal protection, hygiene and health evaluation  | Use suitable eye protection<br>Wear chemically resistant gloves (tested to EN 374) in combination with 'basic' employee training Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying Efficiency of at least 90%<br>See Section 8 for information on appropriate personal protective equipment |
| Organisational measures to prevent /limit releases, dispersion and exposure            | Supervision in place to check that the RMMs in place are being used correctly and OCs followed                                                                                                                                                                                                                                                                                                                                              |
| Additional good practice advice beyond the REACH Chemical Safety Report                | Clean equipment and the work area every day<br>Ensure operatives are trained to minimise exposures                                                                                                                                                                                                                                                                                                                                          |
| Indoor/Outdoor use                                                                     | Indoor                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Assumes process temperature up to                                                      | 80 C                                                                                                                                                                                                                                                                                                                                                                                                                                        |

### Section 3 - Exposure estimation

**Environmental release category(ies) - ERC5 - Industrial use resulting in inclusion into or onto a matrix**

**Predicted No Effect Concentration (PNEC)**

|                            |                    |
|----------------------------|--------------------|
| Freshwater                 | 0.05 mg/l          |
| Freshwater sediment        | 0.181 mg/kg d.w.   |
| Marine water               | 0.005 mg/l         |
| Marine sediment            | 0.018 mg/kg d.w.   |
| Soil                       | 0.00687 mg/kg d.w. |
| Impact on Sewage Treatment | 20 mg/l            |
| Intermittent release       | 0.072 mg/l         |

**Calculation method** Used EUSES model

**Derived No Effect Level (DNEL):**

|                                         |                        |
|-----------------------------------------|------------------------|
| Worker - inhalative, long-term - local  | 0.6 mg/m <sup>3</sup>  |
| Worker - inhalative, short-term - local | 5.36 mg/m <sup>3</sup> |

**Calculation method** The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated

### Section 4 - Guidance to check compliance with the exposure scenario

Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.

If scaling reveals a condition of unsafe use (i.e., RCRs > 1), additional RMMs or a site-specific chemical safety assessment is required.

## Annex to the Safety Data Sheet according to Regulation (EC) No 1907/2006 [REACH]

**Product Name** XIAMETER OFS-6020 SILANE  
**Chemical name** N-(3-(TRIMETHOXYSILYL) PROPYL)-1,2-ETHANEDIAMINE  
**Pure substance/mixture** Substance  
**REACH registration number** 01-2119970215-39-XXXX  
**CAS No** 1760-24-3  
**EC No (EU Index No)** 217-164-6  
**Supplier** Univar Solutions UK Ltd  
 Aquarius House  
 6 Mid Point Business Park  
 Bradford  
 GBR  
  
**Non-Emergency Telephone Number** +44 1274 267300 / +44 1274 267306  
  
**E-mail address** SDS.EMEA@univarsolutions.com

### Section 1 - Title

**Title** Coatings  
**Type** Worker  
**Main user group** Industrial uses: Uses of substances as such or in preparations at industrial sites  
**Environmental release category(ies)** ERC5 - Industrial use resulting in inclusion into or onto a matrix  
**Process category(ies)** PROC1 - Use in closed process, no likelihood of exposure  
 PROC2 - Use in closed, continuous process with occasional controlled exposure  
 PROC3 - Use in closed batch process (synthesis or formulation)  
 PROC5 - Mixing or blending in batch processes for formulation of preparations and articles (multi-stage and/or significant contact)  
 PROC7 - Industrial spraying  
 PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities  
 PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities  
 PROC10 - Roller application or brushing  
 PROC13 - Treatment of articles by dipping and pouring  
  
**Product Name** XIAMETER OFS-6020 SILANE  
**Sector(s) of use** SU3 - Industrial uses: Uses of substances as such or in preparations at industrial sites SU4 - Manufacture of food products SU17 - General manufacturing SU18 - Manufacture of furniture

### Section 2 - Operational conditions and risk management measures

#### Section 2.1 - Control of environmental exposure

**Environmental release category(ies)** - ERC5 - Industrial use resulting in inclusion into or onto a matrix

##### Amounts used

|       |                        |
|-------|------------------------|
| Type  | Annual amount per site |
| Value | <= 1                   |
| Units | t(ons)/year            |

|       |                       |
|-------|-----------------------|
| Type  | Daily amount per site |
| Value | <= 10                 |
| Units | kg/d                  |

##### Other operational conditions of use affecting environmental exposure

|               |     |
|---------------|-----|
| Emission days | 100 |
|---------------|-----|

**Conditions and measures related to municipal sewage treatment plant**

|                                              |               |
|----------------------------------------------|---------------|
| Type                                         | Municipal STP |
| Assumed domestic sewage treatment plant flow | 2000 m3/d     |
| Removal efficiency (total)                   | >= 0.003%     |

**Environmental factors not influenced by risk management**

|                                    |     |
|------------------------------------|-----|
| Local freshwater dilution factor   | 10  |
| Local marine water dilution factor | 100 |

**Control measures to prevent releases**

|       |                                              |
|-------|----------------------------------------------|
| Water | Assumed domestic sewage treatment plant flow |
|-------|----------------------------------------------|

**Conditions and measures related to external treatment of waste for disposal**

|          |                                                                            |
|----------|----------------------------------------------------------------------------|
| Disposal | Dispose of waste product or used containers according to local regulations |
|----------|----------------------------------------------------------------------------|

**Control of worker exposure**

|                                                                                       |                                                                                                    |
|---------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|
| Process category(ies)                                                                 | PROC1 - Use in closed process, no likelihood of exposure                                           |
| Covers concentrations up to                                                           | 5%                                                                                                 |
| Use frequency                                                                         | Covers daily exposures up to 8 hours (unless stated differently).                                  |
| Conditions and measures related to personal protection, hygiene and health evaluation | Use suitable eye protection                                                                        |
| Organisational measures to prevent /limit releases, dispersion and exposure           | Supervision in place to check that the RMMs in place are being used correctly and OCs followed     |
| Additional good practice advice beyond the REACH Chemical Safety Report               | Clean equipment and the work area every day<br>Ensure operatives are trained to minimise exposures |
| Indoor/Outdoor use                                                                    | Indoor                                                                                             |
| Assumes process temperature up to                                                     | 40 C                                                                                               |

|                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|----------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Process category(ies)                                                                  | PROC2 - Use in closed, continuous process with occasional controlled exposure                                                                                                                                                                                                                                                                                                                                                               |
| Covers concentrations up to                                                            | 5%                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Use frequency                                                                          | Covers daily exposures up to 8 hours (unless stated differently).                                                                                                                                                                                                                                                                                                                                                                           |
| Technical conditions and measures to control dispersion from source towards the worker | Provide extract ventilation to points where emissions occur Efficiency of at least 90%                                                                                                                                                                                                                                                                                                                                                      |
| Conditions and measures related to personal protection, hygiene and health evaluation  | Use suitable eye protection<br>Wear chemically resistant gloves (tested to EN 374) in combination with 'basic' employee training Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying Efficiency of at least 90%<br>See Section 8 for information on appropriate personal protective equipment |
| Organisational measures to prevent /limit releases, dispersion and exposure            | Supervision in place to check that the RMMs in place are being used correctly and OCs followed                                                                                                                                                                                                                                                                                                                                              |
| Additional good practice advice beyond the REACH Chemical Safety Report                | Clean equipment and the work area every day<br>Ensure operatives are trained to minimise exposures                                                                                                                                                                                                                                                                                                                                          |
| Indoor/Outdoor use                                                                     | Indoor                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Assumes process temperature up to                                                      | 40 C                                                                                                                                                                                                                                                                                                                                                                                                                                        |

|                                                                             |                                                                                        |
|-----------------------------------------------------------------------------|----------------------------------------------------------------------------------------|
| Process category(ies)                                                       | PROC3 - Use in closed batch process (synthesis or formulation)                         |
| Covers concentrations up to                                                 | 5%                                                                                     |
| Use frequency                                                               | Covers daily exposures up to 8 hours (unless stated differently).                      |
| Technical conditions and measures to control dispersion from source towards | Provide extract ventilation to points where emissions occur Efficiency of at least 90% |

|                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| the worker                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Conditions and measures related to personal protection, hygiene and health evaluation | Use suitable eye protection<br>Wear chemically resistant gloves (tested to EN 374) in combination with 'basic' employee training Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying Efficiency of at least 90%<br>See Section 8 for information on appropriate personal protective equipment |
| Organisational measures to prevent /limit releases, dispersion and exposure           | Supervision in place to check that the RMMs in place are being used correctly and OCs followed                                                                                                                                                                                                                                                                                                                                              |
| Additional good practice advice beyond the REACH Chemical Safety Report               | Clean equipment and the work area every day<br>Ensure operatives are trained to minimise exposures                                                                                                                                                                                                                                                                                                                                          |
| Indoor/Outdoor use                                                                    | Indoor                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Assumes process temperature up to                                                     | 40 C                                                                                                                                                                                                                                                                                                                                                                                                                                        |

|                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|----------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Process category(ies)                                                                  | PROC5 - Mixing or blending in batch processes for formulation of preparations and articles (multi-stage and/or significant contact)                                                                                                                                                                                                                                                                                                         |
| Covers concentrations up to                                                            | 5%                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Physical form of product                                                               | Solid, medium dustiness                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Level of dustiness                                                                     | Low                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Use frequency                                                                          | Covers daily exposures up to 8 hours (unless stated differently).                                                                                                                                                                                                                                                                                                                                                                           |
| Technical conditions and measures to control dispersion from source towards the worker | Provide extract ventilation to points where emissions occur Efficiency of at least 90%                                                                                                                                                                                                                                                                                                                                                      |
| Conditions and measures related to personal protection, hygiene and health evaluation  | Use suitable eye protection<br>Wear chemically resistant gloves (tested to EN 374) in combination with 'basic' employee training Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying Efficiency of at least 90%<br>See Section 8 for information on appropriate personal protective equipment |
| Organisational measures to prevent /limit releases, dispersion and exposure            | Supervision in place to check that the RMMs in place are being used correctly and OCs followed                                                                                                                                                                                                                                                                                                                                              |
| Additional good practice advice beyond the REACH Chemical Safety Report                | Clean equipment and the work area every day<br>Ensure operatives are trained to minimise exposures                                                                                                                                                                                                                                                                                                                                          |
| Indoor/Outdoor use                                                                     | Indoor                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Assumes process temperature up to                                                      | 40 C                                                                                                                                                                                                                                                                                                                                                                                                                                        |

|                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|----------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Process category(ies)                                                                  | PROC7 - Industrial spraying                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Covers concentrations up to                                                            | 5%                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Physical form of product                                                               | Solid, medium dustiness                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Level of dustiness                                                                     | Low                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Use frequency                                                                          | Covers daily exposures up to 8 hours (unless stated differently).                                                                                                                                                                                                                                                                                                                                                                           |
| Technical conditions and measures to control dispersion from source towards the worker | Handle in a fume cupboard or under extract ventilation Efficiency of at least 95%                                                                                                                                                                                                                                                                                                                                                           |
| Conditions and measures related to personal protection, hygiene and health evaluation  | Use suitable eye protection<br>Wear chemically resistant gloves (tested to EN 374) in combination with 'basic' employee training Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying Efficiency of at least 90%<br>See Section 8 for information on appropriate personal protective equipment |
| Organisational measures to prevent /limit releases, dispersion and exposure            | Supervision in place to check that the RMMs in place are being used correctly and OCs followed                                                                                                                                                                                                                                                                                                                                              |
| Additional good practice advice beyond the REACH Chemical Safety Report                | Clean equipment and the work area every day<br>Ensure operatives are trained to minimise exposures                                                                                                                                                                                                                                                                                                                                          |

|                                   |        |
|-----------------------------------|--------|
| Indoor/Outdoor use                | Indoor |
| Assumes process temperature up to | 40 C   |

|                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Process category(ies)                                                                 | PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities                                                                                                                                                                                                                                                                                                           |
| Covers concentrations up to                                                           | 5%                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Physical form of product                                                              | Solid, medium dustiness                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Level of dustiness                                                                    | Low                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Exposure duration                                                                     | Avoid carrying out activities involving exposure for more than 4 hours                                                                                                                                                                                                                                                                                                                                                                      |
| Use frequency                                                                         | Covers daily exposures up to 8 hours (unless stated differently).                                                                                                                                                                                                                                                                                                                                                                           |
| Conditions and measures related to personal protection, hygiene and health evaluation | Use suitable eye protection<br>Wear chemically resistant gloves (tested to EN 374) in combination with 'basic' employee training Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying Efficiency of at least 90%<br>See Section 8 for information on appropriate personal protective equipment |
| Organisational measures to prevent /limit releases, dispersion and exposure           | Supervision in place to check that the RMMs in place are being used correctly and OCs followed                                                                                                                                                                                                                                                                                                                                              |
| Additional good practice advice beyond the REACH Chemical Safety Report               | Clean equipment and the work area every day<br>Ensure operatives are trained to minimise exposures                                                                                                                                                                                                                                                                                                                                          |
| Indoor/Outdoor use                                                                    | Outdoor                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Assumes process temperature up to                                                     | 40 C                                                                                                                                                                                                                                                                                                                                                                                                                                        |

|                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|----------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Process category(ies)                                                                  | PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities                                                                                                                                                                                                                                                                                                               |
| Covers concentrations up to                                                            | 5%                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Use frequency                                                                          | Covers daily exposures up to 8 hours (unless stated differently).                                                                                                                                                                                                                                                                                                                                                                           |
| Technical conditions and measures to control dispersion from source towards the worker | Handle in a fume cupboard or under extract ventilation Efficiency of at least 95%                                                                                                                                                                                                                                                                                                                                                           |
| Conditions and measures related to personal protection, hygiene and health evaluation  | Use suitable eye protection<br>Wear chemically resistant gloves (tested to EN 374) in combination with 'basic' employee training Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying Efficiency of at least 90%<br>See Section 8 for information on appropriate personal protective equipment |
| Organisational measures to prevent /limit releases, dispersion and exposure            | Supervision in place to check that the RMMs in place are being used correctly and OCs followed                                                                                                                                                                                                                                                                                                                                              |
| Additional good practice advice beyond the REACH Chemical Safety Report                | Clean equipment and the work area every day<br>Ensure operatives are trained to minimise exposures                                                                                                                                                                                                                                                                                                                                          |
| Indoor/Outdoor use                                                                     | Indoor                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Assumes process temperature up to                                                      | 40 C                                                                                                                                                                                                                                                                                                                                                                                                                                        |

|                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Process category(ies)                                                                 | PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities                                                                                                                                                                                                                                                                                                               |
| Covers concentrations up to                                                           | 5%                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Use frequency                                                                         | Covers daily exposures up to 8 hours (unless stated differently).                                                                                                                                                                                                                                                                                                                                                                           |
| Conditions and measures related to personal protection, hygiene and health evaluation | Use suitable eye protection<br>Wear chemically resistant gloves (tested to EN 374) in combination with 'basic' employee training Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying Efficiency of at least 90%<br>See Section 8 for information on appropriate personal protective equipment |
| Organisational measures to prevent /limit releases, dispersion and                    | Supervision in place to check that the RMMs in place are being used correctly and OCs followed                                                                                                                                                                                                                                                                                                                                              |

|                                                                         |                                                                                                    |
|-------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|
| exposure                                                                |                                                                                                    |
| Additional good practice advice beyond the REACH Chemical Safety Report | Clean equipment and the work area every day<br>Ensure operatives are trained to minimise exposures |
| Indoor/Outdoor use                                                      | Indoor                                                                                             |
| Assumes process temperature up to                                       | 40 C                                                                                               |

|                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|----------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Process category(ies)                                                                  | PROC10 - Roller application or brushing                                                                                                                                                                                                                                                                                                                                                                                                     |
| Covers concentrations up to                                                            | 5%                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Use frequency                                                                          | Covers daily exposures up to 8 hours (unless stated differently).                                                                                                                                                                                                                                                                                                                                                                           |
| Technical conditions and measures to control dispersion from source towards the worker | Provide extract ventilation to points where emissions occur Efficiency of at least 90%                                                                                                                                                                                                                                                                                                                                                      |
| Conditions and measures related to personal protection, hygiene and health evaluation  | Use suitable eye protection<br>Wear chemically resistant gloves (tested to EN 374) in combination with 'basic' employee training Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying Efficiency of at least 90%<br>See Section 8 for information on appropriate personal protective equipment |
| Organisational measures to prevent /limit releases, dispersion and exposure            | Supervision in place to check that the RMMs in place are being used correctly and OCs followed                                                                                                                                                                                                                                                                                                                                              |
| Additional good practice advice beyond the REACH Chemical Safety Report                | Clean equipment and the work area every day<br>Ensure operatives are trained to minimise exposures                                                                                                                                                                                                                                                                                                                                          |
| Indoor/Outdoor use                                                                     | Indoor                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Assumes process temperature up to                                                      | 40 C                                                                                                                                                                                                                                                                                                                                                                                                                                        |

|                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|----------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Process category(ies)                                                                  | PROC13 - Treatment of articles by dipping and pouring                                                                                                                                                                                                                                                                                                                                                                                       |
| Covers concentrations up to                                                            | 5%                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Physical form of product                                                               | Solid, medium dustiness                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Level of dustiness                                                                     | Low                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Use frequency                                                                          | Covers daily exposures up to 8 hours (unless stated differently).                                                                                                                                                                                                                                                                                                                                                                           |
| Technical conditions and measures to control dispersion from source towards the worker | Provide extract ventilation to points where emissions occur Efficiency of at least 90%                                                                                                                                                                                                                                                                                                                                                      |
| Conditions and measures related to personal protection, hygiene and health evaluation  | Use suitable eye protection<br>Wear chemically resistant gloves (tested to EN 374) in combination with 'basic' employee training Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying Efficiency of at least 90%<br>See Section 8 for information on appropriate personal protective equipment |
| Organisational measures to prevent /limit releases, dispersion and exposure            | Supervision in place to check that the RMMs in place are being used correctly and OCs followed                                                                                                                                                                                                                                                                                                                                              |
| Additional good practice advice beyond the REACH Chemical Safety Report                | Clean equipment and the work area every day<br>Ensure operatives are trained to minimise exposures                                                                                                                                                                                                                                                                                                                                          |
| Indoor/Outdoor use                                                                     | Indoor                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Assumes process temperature up to                                                      | 40 C                                                                                                                                                                                                                                                                                                                                                                                                                                        |

|                                                                                       |                                                                                                |
|---------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------|
| Process category(ies)                                                                 | PROC1 - Use in closed process, no likelihood of exposure                                       |
| Title                                                                                 | Storage                                                                                        |
| Covers concentrations up to                                                           | 5%                                                                                             |
| Use frequency                                                                         | Covers daily exposures up to 8 hours (unless stated differently).                              |
| Conditions and measures related to personal protection, hygiene and health evaluation | Use suitable eye protection                                                                    |
| Organisational measures to prevent /limit releases, dispersion and                    | Supervision in place to check that the RMMs in place are being used correctly and OCs followed |

|                                                                         |                                                                                                    |
|-------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|
| exposure                                                                |                                                                                                    |
| Additional good practice advice beyond the REACH Chemical Safety Report | Clean equipment and the work area every day<br>Ensure operatives are trained to minimise exposures |
| Indoor/Outdoor use                                                      | Indoor                                                                                             |
| Assumes process temperature up to                                       | 40 C                                                                                               |

### Section 3 - Exposure estimation

**Environmental release category(ies) - ERC5 - Industrial use resulting in inclusion into or onto a matrix**

**Predicted No Effect Concentration (PNEC)**

|                            |                    |
|----------------------------|--------------------|
| Freshwater                 | 0.05 mg/l          |
| Freshwater sediment        | 0.181 mg/kg d.w.   |
| Marine water               | 0.005 mg/l         |
| Marine sediment            | 0.018 mg/kg d.w.   |
| Soil                       | 0.00687 mg/kg d.w. |
| Impact on Sewage Treatment | 20 mg/l            |
| Intermittent release       | 0.072 mg/l         |

**Calculation method** Used EUSES model

**Derived No Effect Level (DNEL):**

|                                         |                        |
|-----------------------------------------|------------------------|
| Worker - inhalative, long-term - local  | 0.6 mg/m <sup>3</sup>  |
| Worker - inhalative, short-term - local | 5.36 mg/m <sup>3</sup> |

**Calculation method** The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated

### Section 4 - Guidance to check compliance with the exposure scenario

Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.

If scaling reveals a condition of unsafe use (i.e., RCRs > 1), additional RMMs or a site-specific chemical safety assessment is required.

## Annex to the Safety Data Sheet according to Regulation (EC) No 1907/2006 [REACH]

**Product Name** XIAMETER OFS-6020 SILANE  
**Chemical name** N-(3-(TRIMETHOXYSILYL) PROPYL)-1,2-ETHANEDIAMINE  
**Pure substance/mixture** Substance  
**REACH registration number** 01-2119970215-39-XXXX  
**CAS No** 1760-24-3  
**EC No (EU Index No)** 217-164-6  
**Supplier** Univar Solutions UK Ltd  
 Aquarius House  
 6 Mid Point Business Park  
 Bradford  
 GBR  
  
**Non-Emergency Telephone Number** +44 1274 267300 / +44 1274 267306  
  
**E-mail address** SDS.EMEA@univarsolutions.com

### Section 1 - Title

**Title** Coatings Non-metal-surface treatment products  
**Type** Worker  
**Main user group** Industrial uses: Uses of substances as such or in preparations at industrial sites  
**Environmental release category(ies)** ERC5 - Industrial use resulting in inclusion into or onto a matrix  
**Process category(ies)** PROC7 - Industrial spraying  
 PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities  
 PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities  
 PROC13 - Treatment of articles by dipping and pouring  
 PC15 - Non-metal-surface treatment products  
**Product category(ies)** XIAMETER OFS-6020 SILANE  
**Product Name** SU3 - Industrial uses: Uses of substances as such or in preparations at industrial sites  
**Sector(s) of use** SU13 - Manufacture of other non-metallic mineral products

### Section 2 - Operational conditions and risk management measures

#### Section 2.1 - Control of environmental exposure

**Environmental release category(ies)** - ERC5 - Industrial use resulting in inclusion into or onto a matrix

##### Amounts used

|       |                        |
|-------|------------------------|
| Type  | Annual amount per site |
| Value | <= 5.5                 |
| Units | t(ons)/year            |

|       |                       |
|-------|-----------------------|
| Type  | Daily amount per site |
| Value | <= 27.5               |
| Units | kg/d                  |

##### Other operational conditions of use affecting environmental exposure

|               |     |
|---------------|-----|
| Emission days | 200 |
|---------------|-----|

##### Conditions and measures related to municipal sewage treatment plant

|                                              |               |
|----------------------------------------------|---------------|
| Type                                         | Municipal STP |
| Assumed domestic sewage treatment plant flow | 2000 m3/d     |
| Removal efficiency (total)                   | >= 0.003%     |

**Control measures to prevent releases**

|       |                                              |
|-------|----------------------------------------------|
| Water | Assumed domestic sewage treatment plant flow |
|-------|----------------------------------------------|

**Conditions and measures related to external treatment of waste for disposal**

|          |                                                                            |
|----------|----------------------------------------------------------------------------|
| Disposal | Dispose of waste product or used containers according to local regulations |
|----------|----------------------------------------------------------------------------|

**Control of worker exposure**

|                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|----------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Process category(ies)                                                                  | PROC7 - Industrial spraying                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Covers concentrations up to                                                            | 25%                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Physical form of product                                                               | Solid, medium dustiness                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Level of dustiness                                                                     | Low                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Use frequency                                                                          | Covers daily exposures up to 8 hours (unless stated differently).                                                                                                                                                                                                                                                                                                                                                                           |
| Technical conditions and measures to control dispersion from source towards the worker | Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour)<br>Handle in a fume cupboard or under extract ventilation Efficiency of at least 95%                                                                                                                                                                                                                                                             |
| Conditions and measures related to personal protection, hygiene and health evaluation  | Use suitable eye protection<br>Wear chemically resistant gloves (tested to EN 374) in combination with 'basic' employee training Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying Efficiency of at least 90%<br>See Section 8 for information on appropriate personal protective equipment |
| Organisational measures to prevent /limit releases, dispersion and exposure            | Supervision in place to check that the RMMs in place are being used correctly and OCs followed                                                                                                                                                                                                                                                                                                                                              |
| Additional good practice advice beyond the REACH Chemical Safety Report                | Clean equipment and the work area every day<br>Ensure operatives are trained to minimise exposures                                                                                                                                                                                                                                                                                                                                          |
| Indoor/Outdoor use                                                                     | Indoor                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Assumes process temperature up to                                                      | 40 C                                                                                                                                                                                                                                                                                                                                                                                                                                        |

|                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|----------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Process category(ies)                                                                  | PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities                                                                                                                                                                                                                                                                                                           |
| Covers concentrations up to                                                            | 25%                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Physical form of product                                                               | Solid, medium dustiness                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Level of dustiness                                                                     | Low                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Use frequency                                                                          | Covers daily exposures up to 8 hours (unless stated differently).                                                                                                                                                                                                                                                                                                                                                                           |
| Technical conditions and measures to control dispersion from source towards the worker | Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour)<br>Provide extract ventilation to points where emissions occur Efficiency of at least 90%                                                                                                                                                                                                                                                        |
| Conditions and measures related to personal protection, hygiene and health evaluation  | Use suitable eye protection<br>Wear chemically resistant gloves (tested to EN 374) in combination with 'basic' employee training Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying Efficiency of at least 90%<br>See Section 8 for information on appropriate personal protective equipment |
| Organisational measures to prevent /limit releases, dispersion and exposure            | Supervision in place to check that the RMMs in place are being used correctly and OCs followed                                                                                                                                                                                                                                                                                                                                              |
| Additional good practice advice beyond the REACH Chemical Safety Report                | Clean equipment and the work area every day<br>Ensure operatives are trained to minimise exposures                                                                                                                                                                                                                                                                                                                                          |
| Indoor/Outdoor use                                                                     | Indoor                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Assumes process temperature up to                                                      | 40 C                                                                                                                                                                                                                                                                                                                                                                                                                                        |

|                       |                                                                                                                               |
|-----------------------|-------------------------------------------------------------------------------------------------------------------------------|
| Process category(ies) | PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities |
|-----------------------|-------------------------------------------------------------------------------------------------------------------------------|

|                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|----------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Covers concentrations up to                                                            | 25%                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Exposure duration                                                                      | Avoid carrying out activities involving exposure for more than 4 hours                                                                                                                                                                                                                                                                                                                                                                      |
| Use frequency                                                                          | Covers daily exposures up to 8 hours (unless stated differently).                                                                                                                                                                                                                                                                                                                                                                           |
| Technical conditions and measures to control dispersion from source towards the worker | Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour)<br>Handle in a fume cupboard or under extract ventilation Efficiency of at least 95%                                                                                                                                                                                                                                                             |
| Conditions and measures related to personal protection, hygiene and health evaluation  | Use suitable eye protection<br>Wear chemically resistant gloves (tested to EN 374) in combination with 'basic' employee training Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying Efficiency of at least 90%<br>See Section 8 for information on appropriate personal protective equipment |
| Organisational measures to prevent /limit releases, dispersion and exposure            | Supervision in place to check that the RMMs in place are being used correctly and OCs followed                                                                                                                                                                                                                                                                                                                                              |
| Additional good practice advice beyond the REACH Chemical Safety Report                | Clean equipment and the work area every day<br>Ensure operatives are trained to minimise exposures                                                                                                                                                                                                                                                                                                                                          |
| Indoor/Outdoor use                                                                     | Indoor                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Assumes process temperature up to                                                      | 40 C                                                                                                                                                                                                                                                                                                                                                                                                                                        |

|                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|----------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Process category(ies)                                                                  | PROC13 - Treatment of articles by dipping and pouring                                                                                                                                                                                                                                                                                                                                                                                       |
| Covers concentrations up to                                                            | 25%                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Physical form of product                                                               | Solid, medium dustiness                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Level of dustiness                                                                     | Low                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Use frequency                                                                          | Covers daily exposures up to 8 hours (unless stated differently).                                                                                                                                                                                                                                                                                                                                                                           |
| Technical conditions and measures to control dispersion from source towards the worker | Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour)<br>Provide extract ventilation to points where emissions occur Efficiency of at least 90%                                                                                                                                                                                                                                                        |
| Conditions and measures related to personal protection, hygiene and health evaluation  | Use suitable eye protection<br>Wear chemically resistant gloves (tested to EN 374) in combination with 'basic' employee training Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying Efficiency of at least 90%<br>See Section 8 for information on appropriate personal protective equipment |
| Organisational measures to prevent /limit releases, dispersion and exposure            | Supervision in place to check that the RMMs in place are being used correctly and OCs followed                                                                                                                                                                                                                                                                                                                                              |
| Additional good practice advice beyond the REACH Chemical Safety Report                | Clean equipment and the work area every day<br>Ensure operatives are trained to minimise exposures                                                                                                                                                                                                                                                                                                                                          |
| Indoor/Outdoor use                                                                     | Indoor                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Assumes process temperature up to                                                      | 40 C                                                                                                                                                                                                                                                                                                                                                                                                                                        |

|                                                                                       |                                                                                                    |
|---------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|
| Process category(ies)                                                                 | PROC1 - Use in closed process, no likelihood of exposure                                           |
| Title                                                                                 | Storage                                                                                            |
| Covers concentrations up to                                                           | 5%                                                                                                 |
| Use frequency                                                                         | Covers daily exposures up to 8 hours (unless stated differently).                                  |
| Conditions and measures related to personal protection, hygiene and health evaluation | Use suitable eye protection                                                                        |
| Organisational measures to prevent /limit releases, dispersion and exposure           | Supervision in place to check that the RMMs in place are being used correctly and OCs followed     |
| Additional good practice advice beyond the REACH Chemical Safety Report               | Clean equipment and the work area every day<br>Ensure operatives are trained to minimise exposures |
| Indoor/Outdoor use                                                                    | Indoor                                                                                             |
| Assumes process temperature up to                                                     | 40 C                                                                                               |

### Section 3 - Exposure estimation

Environmental release category(ies) - ERC5 - Industrial use resulting in inclusion into or onto a matrix

**Predicted No Effect Concentration  
(PNEC)**

|                            |                    |
|----------------------------|--------------------|
| Freshwater                 | 0.05 mg/l          |
| Freshwater sediment        | 0.181 mg/kg d.w.   |
| Marine water               | 0.005 mg/l         |
| Marine sediment            | 0.018 mg/kg d.w.   |
| Soil                       | 0.00687 mg/kg d.w. |
| Impact on Sewage Treatment | 20 mg/l            |
| Intermittent release       | 0.072 mg/l         |

Calculation method Used EUSES model

**Derived No Effect Level (DNEL):**

|                                         |                        |
|-----------------------------------------|------------------------|
| Worker - inhalative, long-term - local  | 0.6 mg/m <sup>3</sup>  |
| Worker - inhalative, short-term - local | 5.36 mg/m <sup>3</sup> |

Calculation method The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated

### Section 4 - Guidance to check compliance with the exposure scenario

Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.

If scaling reveals a condition of unsafe use (i.e., RCRs > 1), additional RMMs or a site-specific chemical safety assessment is required.

## Annex to the Safety Data Sheet according to Regulation (EC) No 1907/2006 [REACH]

**Product Name** XIAMETER OFS-6020 SILANE  
**Chemical name** N-(3-(TRIMETHOXYSILYL) PROPYL)-1,2-ETHANEDIAMINE  
**Pure substance/mixture** Substance  
**REACH registration number** 01-2119970215-39-XXXX  
**CAS No** 1760-24-3  
**EC No (EU Index No)** 217-164-6  
**Supplier** Univar Solutions UK Ltd  
 Aquarius House  
 6 Mid Point Business Park  
 Bradford  
 GBR  
  
**Non-Emergency Telephone Number** +44 1274 267300 / +44 1274 267306  
  
**E-mail address** SDS.EMEA@univarsolutions.com

### Section 1 - Title

**Title** Use in coatings, Non-metal surface treatment products, in situ treatment.  
**Type** Worker  
**Main user group** Industrial uses: Uses of substances as such or in preparations at industrial sites  
**Environmental release category(ies)** ERC5 - Industrial use resulting in inclusion into or onto a matrix  
**Process category(ies)** PROC5 - Mixing or blending in batch processes for formulation of preparations and articles (multi-stage and/or significant contact)  
 PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities  
 PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities  
  
**Product category(ies)** PC15 - Non-metal-surface treatment products  
**Product Name** XIAMETER OFS-6020 SILANE  
**Sector(s) of use** SU3 - Industrial uses: Uses of substances as such or in preparations at industrial sites  
 SU11 - Manufacture of rubber products SU12 - Manufacture of plastics products, including compounding and conversion

### Section 2 - Operational conditions and risk management measures

#### Section 2.1 - Control of environmental exposure

**Environmental release category(ies)** - ERC5 - Industrial use resulting in inclusion into or onto a matrix

##### Amounts used

|       |                        |
|-------|------------------------|
| Type  | Annual amount per site |
| Value | <= 100                 |
| Units | t(ons)/year            |

|       |                       |
|-------|-----------------------|
| Type  | Daily amount per site |
| Value | <= 1000               |
| Units | kg/d                  |

##### Other operational conditions of use affecting environmental exposure

|               |     |
|---------------|-----|
| Emission days | 100 |
|---------------|-----|

##### Conditions and measures related to municipal sewage treatment plant

|                                              |               |
|----------------------------------------------|---------------|
| Type                                         | Municipal STP |
| Assumed domestic sewage treatment plant flow | 2000 m3/d     |

|                            |           |
|----------------------------|-----------|
| Removal efficiency (total) | >= 0.003% |
|----------------------------|-----------|

**Risk management measures**

|                                                                                       |                                                                           |
|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------|
| Technical onsite conditions and measures to reduce or limit discharges, air emissions | Negligible wastewater emissions as process operates without water contact |
|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------|

**Control measures to prevent releases**

|       |                                              |
|-------|----------------------------------------------|
| Water | Assumed domestic sewage treatment plant flow |
|-------|----------------------------------------------|

**Conditions and measures related to external treatment of waste for disposal**

|          |                                                                            |
|----------|----------------------------------------------------------------------------|
| Disposal | Dispose of waste product or used containers according to local regulations |
|----------|----------------------------------------------------------------------------|

**Control of worker exposure**

|                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|----------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Process category(ies)                                                                  | PROC5 - Mixing or blending in batch processes for formulation of preparations and articles (multi-stage and/or significant contact)                                                                                                                                                                                                                                                                                                         |
| Covers concentrations up to                                                            | 100%                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Physical form of product                                                               | Solid, medium dustiness                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Level of dustiness                                                                     | Low                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Use frequency                                                                          | Covers daily exposures up to 8 hours (unless stated differently).                                                                                                                                                                                                                                                                                                                                                                           |
| Technical conditions and measures to control dispersion from source towards the worker | Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour)<br>Provide extract ventilation to points where emissions occur Efficiency of at least 90%                                                                                                                                                                                                                                                        |
| Conditions and measures related to personal protection, hygiene and health evaluation  | Use suitable eye protection<br>Wear chemically resistant gloves (tested to EN 374) in combination with 'basic' employee training Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying Efficiency of at least 90%<br>See Section 8 for information on appropriate personal protective equipment |
| Organisational measures to prevent /limit releases, dispersion and exposure            | Supervision in place to check that the RMMs in place are being used correctly and OCs followed                                                                                                                                                                                                                                                                                                                                              |
| Additional good practice advice beyond the REACH Chemical Safety Report                | Clean equipment and the work area every day<br>Ensure operatives are trained to minimise exposures                                                                                                                                                                                                                                                                                                                                          |
| Indoor/Outdoor use                                                                     | Indoor                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Assumes process temperature up to                                                      | 40 C                                                                                                                                                                                                                                                                                                                                                                                                                                        |

|                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|----------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Process category(ies)                                                                  | PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities                                                                                                                                                                                                                                                                                                           |
| Covers concentrations up to                                                            | 100%                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Physical form of product                                                               | Solid, medium dustiness                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Level of dustiness                                                                     | Low                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Use frequency                                                                          | Covers daily exposures up to 8 hours (unless stated differently).                                                                                                                                                                                                                                                                                                                                                                           |
| Technical conditions and measures to control dispersion from source towards the worker | Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour)<br>Provide extract ventilation to points where emissions occur Efficiency of at least 90%                                                                                                                                                                                                                                                        |
| Conditions and measures related to personal protection, hygiene and health evaluation  | Use suitable eye protection<br>Wear chemically resistant gloves (tested to EN 374) in combination with 'basic' employee training Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying Efficiency of at least 90%<br>See Section 8 for information on appropriate personal protective equipment |
| Organisational measures to prevent /limit releases, dispersion and                     | Supervision in place to check that the RMMs in place are being used correctly and OCs followed                                                                                                                                                                                                                                                                                                                                              |

|                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|----------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| exposure                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Additional good practice advice beyond the REACH Chemical Safety Report                | Clean equipment and the work area every day<br>Ensure operatives are trained to minimise exposures                                                                                                                                                                                                                                                                                                                                          |
| Indoor/Outdoor use                                                                     | Indoor                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Assumes process temperature up to                                                      | 40 C                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Process category(ies)                                                                  | PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities                                                                                                                                                                                                                                                                                                               |
| Covers concentrations up to                                                            | 100%                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Exposure duration                                                                      | Avoid carrying out activities involving exposure for more than 4 hours                                                                                                                                                                                                                                                                                                                                                                      |
| Use frequency                                                                          | Covers daily exposures up to 8 hours (unless stated differently).                                                                                                                                                                                                                                                                                                                                                                           |
| Technical conditions and measures to control dispersion from source towards the worker | Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour)<br>Handle in a fume cupboard or under extract ventilation Efficiency of at least 95%                                                                                                                                                                                                                                                             |
| Conditions and measures related to personal protection, hygiene and health evaluation  | Use suitable eye protection<br>Wear chemically resistant gloves (tested to EN 374) in combination with 'basic' employee training Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying Efficiency of at least 90%<br>See Section 8 for information on appropriate personal protective equipment |
| Organisational measures to prevent /limit releases, dispersion and exposure            | Supervision in place to check that the RMMs in place are being used correctly and OCs followed                                                                                                                                                                                                                                                                                                                                              |
| Additional good practice advice beyond the REACH Chemical Safety Report                | Clean equipment and the work area every day<br>Ensure operatives are trained to minimise exposures                                                                                                                                                                                                                                                                                                                                          |
| Indoor/Outdoor use                                                                     | Indoor                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Assumes process temperature up to                                                      | 40 C                                                                                                                                                                                                                                                                                                                                                                                                                                        |

### Section 3 - Exposure estimation

#### Environmental release category(ies) - ERC5 - Industrial use resulting in inclusion into or onto a matrix

##### **Predicted No Effect Concentration (PNEC)**

|                                   |                    |
|-----------------------------------|--------------------|
| <b>Freshwater</b>                 | 0.05 mg/l          |
| <b>Freshwater sediment</b>        | 0.181 mg/kg d.w.   |
| <b>Marine water</b>               | 0.005 mg/l         |
| <b>Marine sediment</b>            | 0.018 mg/kg d.w.   |
| <b>Soil</b>                       | 0.00687 mg/kg d.w. |
| <b>Impact on Sewage Treatment</b> | 20 mg/l            |
| <b>Intermittent release</b>       | 0.072 mg/l         |

**Calculation method** Used EUSES model

##### **Derived No Effect Level (DNEL):**

|                                                |                        |
|------------------------------------------------|------------------------|
| <b>Worker - inhalative, long-term - local</b>  | 0.6 mg/m <sup>3</sup>  |
| <b>Worker - inhalative, short-term - local</b> | 5.36 mg/m <sup>3</sup> |

**Calculation method** The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated

#### **Section 4 - Guidance to check compliance with the exposure scenario**

Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.

If scaling reveals a condition of unsafe use (i.e., RCRs > 1), additional RMMs or a site-specific chemical safety assessment is required.

## Annex to the Safety Data Sheet according to Regulation (EC) No 1907/2006 [REACH]

**Product Name** XIAMETER OFS-6020 SILANE  
**Chemical name** N-(3-(TRIMETHOXYSYLYL) PROPYL)-1,2-ETHANEDIAMINE  
**Pure substance/mixture** Substance  
**REACH registration number** 01-2119970215-39-XXXX  
**CAS No** 1760-24-3  
**EC No (EU Index No)** 217-164-6  
**Supplier** Univar Solutions UK Ltd  
 Aquarius House  
 6 Mid Point Business Park  
 Bradford  
 GBR  
  
**Non-Emergency Telephone Number** +44 1274 267300 / +44 1274 267306  
  
**E-mail address** SDS.EMEA@univarsolutions.com

### Section 1 - Title

**Title** Use in coatings, Non-metal surface treatment products, Direct pre-treatment.  
**Type** Worker  
**Main user group** Industrial uses: Uses of substances as such or in preparations at industrial sites  
**Environmental release category(ies)** ERC6b - Industrial use of reactive processing aids  
**Process category(ies)** PROC1 - Use in closed process, no likelihood of exposure  
 PROC2 - Use in closed, continuous process with occasional controlled exposure  
  
**Product category(ies)** PC15 - Non-metal-surface treatment products  
**Product Name** XIAMETER OFS-6020 SILANE  
**Sector(s) of use** SU3 - Industrial uses: Uses of substances as such or in preparations at industrial sites SU9  
 - Manufacture of fine chemicals SU13 - Manufacture of other non-metallic mineral products

### Section 2 - Operational conditions and risk management measures

#### Section 2.1 - Control of environmental exposure

**Environmental release category(ies)** - ERC6b - Industrial use of reactive processing aids

##### Amounts used

|       |                        |
|-------|------------------------|
| Type  | Annual amount per site |
| Value | <= 5.5                 |
| Units | t(ons)/year            |

|       |                       |
|-------|-----------------------|
| Type  | Daily amount per site |
| Value | <= 27.5               |
| Units | kg/d                  |

##### Other operational conditions of use affecting environmental exposure

|               |     |
|---------------|-----|
| Emission days | 200 |
|---------------|-----|

##### Conditions and measures related to municipal sewage treatment plant

|                                              |               |
|----------------------------------------------|---------------|
| Type                                         | Municipal STP |
| Assumed domestic sewage treatment plant flow | 2000 m3/d     |
| Removal efficiency (total)                   | >= 0.003%     |

##### Control measures to prevent releases

|       |                                              |
|-------|----------------------------------------------|
| Water | Assumed domestic sewage treatment plant flow |
|-------|----------------------------------------------|

**Conditions and measures related to external treatment of waste for disposal**

|          |                                                                            |
|----------|----------------------------------------------------------------------------|
| Disposal | Dispose of waste product or used containers according to local regulations |
|----------|----------------------------------------------------------------------------|

| <b>Control of worker exposure</b>                                                      |                                                                                                    |
|----------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|
| Process category(ies)                                                                  | PROC1 - Use in closed process, no likelihood of exposure                                           |
| Covers concentrations up to                                                            | 100%                                                                                               |
| Use frequency                                                                          | Covers daily exposures up to 8 hours (unless stated differently).                                  |
| Technical conditions and measures to control dispersion from source towards the worker | Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour)         |
| Organisational measures to prevent /limit releases, dispersion and exposure            | Supervision in place to check that the RMMs in place are being used correctly and OCs followed     |
| Additional good practice advice beyond the REACH Chemical Safety Report                | Clean equipment and the work area every day<br>Ensure operatives are trained to minimise exposures |
| Indoor/Outdoor use                                                                     | Indoor                                                                                             |
| Assumes process temperature up to                                                      | 40 C                                                                                               |

|                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|----------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Process category(ies)                                                                  | PROC2 - Use in closed, continuous process with occasional controlled exposure                                                                                                                                                                                                                                                                                                                                                               |
| Covers concentrations up to                                                            | 100%                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Use frequency                                                                          | Covers daily exposures up to 8 hours (unless stated differently).                                                                                                                                                                                                                                                                                                                                                                           |
| Technical conditions and measures to control dispersion from source towards the worker | Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour)<br>Provide extract ventilation to points where emissions occur Efficiency of at least 90%                                                                                                                                                                                                                                                        |
| Conditions and measures related to personal protection, hygiene and health evaluation  | Use suitable eye protection<br>Wear chemically resistant gloves (tested to EN 374) in combination with 'basic' employee training Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying Efficiency of at least 90%<br>See Section 8 for information on appropriate personal protective equipment |
| Organisational measures to prevent /limit releases, dispersion and exposure            | Supervision in place to check that the RMMs in place are being used correctly and OCs followed                                                                                                                                                                                                                                                                                                                                              |
| Additional good practice advice beyond the REACH Chemical Safety Report                | Clean equipment and the work area every day<br>Ensure operatives are trained to minimise exposures                                                                                                                                                                                                                                                                                                                                          |
| Indoor/Outdoor use                                                                     | Indoor                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Assumes process temperature up to                                                      | 40 C                                                                                                                                                                                                                                                                                                                                                                                                                                        |

### **Section 3 - Exposure estimation**

**Environmental release category(ies) - ERC6b - Industrial use of reactive processing aids**

**Predicted No Effect Concentration (PNEC)**

|                            |                    |
|----------------------------|--------------------|
| Freshwater                 | 0.05 mg/l          |
| Freshwater sediment        | 0.181 mg/kg d.w.   |
| Marine water               | 0.005 mg/l         |
| Marine sediment            | 0.018 mg/kg d.w.   |
| Soil                       | 0.00687 mg/kg d.w. |
| Impact on Sewage Treatment | 20 mg/l            |
| Intermittent release       | 0.072 mg/l         |

Calculation method Used EUSES model

**Derived No Effect Level (DNEL):**

|                                         |                        |
|-----------------------------------------|------------------------|
| Worker - inhalative, long-term - local  | 0.6 mg/m <sup>3</sup>  |
| Worker - inhalative, short-term - local | 5.36 mg/m <sup>3</sup> |

Calculation method The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated

## Section 4 - Guidance to check compliance with the exposure scenario

Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.

If scaling reveals a condition of unsafe use (i.e., RCRs > 1), additional RMMs or a site-specific chemical safety assessment is required.

## Annex to the Safety Data Sheet according to Regulation (EC) No 1907/2006 [REACH]

**Product Name** XIAMETER OFS-6020 SILANE  
**Chemical name** N-(3-(TRIMETHOXYSYLYL) PROPYL)-1,2-ETHANEDIAMINE  
**Pure substance/mixture** Substance  
**REACH registration number** 01-2119970215-39-XXXX  
**CAS No** 1760-24-3  
**EC No (EU Index No)** 217-164-6  
**Supplier** Univar Solutions UK Ltd  
 Aquarius House  
 6 Mid Point Business Park  
 Bradford  
 GBR  
  
**Non-Emergency Telephone Number** +44 1274 267300 / +44 1274 267306  
  
**E-mail address** SDS.EMEA@univarsolutions.com

### Section 1 - Title

**Title** Use in laboratories  
**Type** Worker  
**Main user group** Industrial uses: Uses of substances as such or in preparations at industrial sites  
**Environmental release category(ies)** ERC6b - Industrial use of reactive processing aids  
**Process category(ies)** PROC15 - Use as laboratory reagent  
**Product category(ies)** PC21 - Laboratory chemicals  
**Product Name** XIAMETER OFS-6020 SILANE  
**Sector(s) of use** SU3 - Industrial uses: Uses of substances as such or in preparations at industrial sites  
 SU24 - Scientific research and development

### Section 2 - Operational conditions and risk management measures

#### Section 2.1 - Control of environmental exposure

**Environmental release category(ies)** - ERC6b - Industrial use of reactive processing aids

##### Amounts used

|       |                        |
|-------|------------------------|
| Type  | Annual amount per site |
| Value | <= 0.01                |
| Units | t(ons)/year            |

|       |                       |
|-------|-----------------------|
| Type  | Daily amount per site |
| Value | <= 0.5                |
| Units | kg/d                  |

##### Other operational conditions of use affecting environmental exposure

|               |    |
|---------------|----|
| Emission days | 20 |
|---------------|----|

##### Conditions and measures related to municipal sewage treatment plant

|                                              |               |
|----------------------------------------------|---------------|
| Type                                         | Municipal STP |
| Assumed domestic sewage treatment plant flow | 2000 m3/d     |
| Removal efficiency (total)                   | >= 0.003%     |

##### Environmental factors not influenced by risk management

|                                    |     |
|------------------------------------|-----|
| Local freshwater dilution factor   | 10  |
| Local marine water dilution factor | 100 |

**Control measures to prevent releases**

|       |                                              |
|-------|----------------------------------------------|
| Water | Assumed domestic sewage treatment plant flow |
|-------|----------------------------------------------|

**Conditions and measures related to external treatment of waste for disposal**

|          |                                                                            |
|----------|----------------------------------------------------------------------------|
| Disposal | Dispose of waste product or used containers according to local regulations |
|----------|----------------------------------------------------------------------------|

**Control of worker exposure**

|                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|----------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Process category(ies)                                                                  | PROC15 - Use as laboratory reagent                                                                                                                                                                                                                                                                                                                                                                                                          |
| Covers concentrations up to                                                            | 100%                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Use frequency                                                                          | Covers daily exposures up to 8 hours (unless stated differently).                                                                                                                                                                                                                                                                                                                                                                           |
| Technical conditions and measures to control dispersion from source towards the worker | Provide a good standard of controlled ventilation (5 to 10 air changes per hour)<br>Handle in a fume cupboard Efficiency of at least 90%                                                                                                                                                                                                                                                                                                    |
| Conditions and measures related to personal protection, hygiene and health evaluation  | Use suitable eye protection<br>Wear chemically resistant gloves (tested to EN 374) in combination with 'basic' employee training Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying Efficiency of at least 90%<br>See Section 8 for information on appropriate personal protective equipment |
| Organisational measures to prevent /limit releases, dispersion and exposure            | Supervision in place to check that the RMMs in place are being used correctly and OCs followed                                                                                                                                                                                                                                                                                                                                              |
| Additional good practice advice beyond the REACH Chemical Safety Report                | Clean equipment and the work area every day<br>Ensure operatives are trained to minimise exposures                                                                                                                                                                                                                                                                                                                                          |
| Indoor/Outdoor use                                                                     | Indoor                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Assumes process temperature up to                                                      | 40 C                                                                                                                                                                                                                                                                                                                                                                                                                                        |

## Section 3 - Exposure estimation

**Environmental release category(ies) - ERC6b - Industrial use of reactive processing aids**

**Predicted No Effect Concentration (PNEC)**

|                            |                    |
|----------------------------|--------------------|
| Freshwater                 | 0.05 mg/l          |
| Freshwater sediment        | 0.181 mg/kg d.w.   |
| Marine water               | 0.005 mg/l         |
| Marine sediment            | 0.018 mg/kg d.w.   |
| Soil                       | 0.00687 mg/kg d.w. |
| Impact on Sewage Treatment | 20 mg/l            |
| Intermittent release       | 0.072 mg/l         |

**Calculation method** Used EUSES model

**Derived No Effect Level (DNEL):**

|                                         |                        |
|-----------------------------------------|------------------------|
| Worker - inhalative, long-term - local  | 0.6 mg/m <sup>3</sup>  |
| Worker - inhalative, short-term - local | 5.36 mg/m <sup>3</sup> |

**Calculation method** The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated

## Section 4 - Guidance to check compliance with the exposure scenario

Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.

If scaling reveals a condition of unsafe use (i.e., RCRs > 1), additional RMMs or a site-specific chemical safety assessment is required.

## Annex to the Safety Data Sheet according to Regulation (EC) No 1907/2006 [REACH]

**Product Name** XIAMETER OFS-6020 SILANE  
**Chemical name** N-(3-(TRIMETHOXSILYL) PROPYL)-1,2-ETHANEDIAMINE  
**Pure substance/mixture** Substance  
**REACH registration number** 01-2119970215-39-XXXX  
**CAS No** 1760-24-3  
**EC No (EU Index No)** 217-164-6  
**Supplier** Univar Solutions UK Ltd  
 Aquarius House  
 6 Mid Point Business Park  
 Bradford  
 GBR  
  
**Non-Emergency Telephone Number** +44 1274 267300 / +44 1274 267306  
  
**E-mail address** SDS.EMEA@univarsolutions.com

### Section 1 - Title

**Title** Use in polymer processing.  
**Type** Worker  
**Main user group** Industrial uses: Uses of substances as such or in preparations at industrial sites  
**Environmental release category(ies)** ERC6b - Industrial use of reactive processing aids  
**Process category(ies)** PROC10 - Roller application or brushing  
 PROC13 - Treatment of articles by dipping and pouring  
 PROC14 - Production of preparations or articles by tableting, compression, extrusion, pelettising  
 PROC21 - Low energy manipulation of substances bound in materials and/or articles  
 PC32 - Polymer preparations and compounds  
**Product category(ies)** XIAMETER OFS-6020 SILANE  
**Product Name** XIAMETER OFS-6020 SILANE  
**Sector(s) of use** SU3 - Industrial uses: Uses of substances as such or in preparations at industrial sites  
 SU11 - Manufacture of rubber products

### Section 2 - Operational conditions and risk management measures

#### Section 2.1 - Control of environmental exposure

**Environmental release category(ies)** - ERC6b - Industrial use of reactive processing aids

##### Amounts used

|       |                        |
|-------|------------------------|
| Type  | Annual amount per site |
| Value | <= 100                 |
| Units | t(ons)/year            |

|       |                       |
|-------|-----------------------|
| Type  | Daily amount per site |
| Value | <= 1000               |
| Units | kg/d                  |

##### Other operational conditions of use affecting environmental exposure

|               |     |
|---------------|-----|
| Emission days | 100 |
|---------------|-----|

##### Conditions and measures related to municipal sewage treatment plant

|                                              |               |
|----------------------------------------------|---------------|
| Type                                         | Municipal STP |
| Assumed domestic sewage treatment plant flow | 2000 m3/d     |
| Removal efficiency (total)                   | >= 0.003%     |

**Further information**

|                        |            |
|------------------------|------------|
| Operational conditions | Indoor use |
|------------------------|------------|

**Risk management measures**

|                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                      |
|---------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Technical onsite conditions and measures to reduce or limit discharges, air emissions | Upgrade of the system in place or additional air treatment measures, such as wet scrubber and/or air filtration and/or thermal oxidation and/or vapour recovery systems, in order to achieve a reduction of the air emissions Efficiency of at least 90%<br>Negligible wastewater emissions as process operates without water contact<br>Process with efficient use of raw materials |
|---------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

**Control measures to prevent releases**

|       |                                              |
|-------|----------------------------------------------|
| Water | Assumed domestic sewage treatment plant flow |
|-------|----------------------------------------------|

**Conditions and measures related to external treatment of waste for disposal**

|          |                                                                            |
|----------|----------------------------------------------------------------------------|
| Disposal | Dispose of waste product or used containers according to local regulations |
|----------|----------------------------------------------------------------------------|

**Control of worker exposure**

|                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|----------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Process category(ies)                                                                  | PROC10 - Roller application or brushing                                                                                                                                                                                                                                                                                                                                                                                                     |
| Covers concentrations up to                                                            | 5%                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Exposure duration                                                                      | Avoid carrying out activities involving exposure for more than 4 hours                                                                                                                                                                                                                                                                                                                                                                      |
| Use frequency                                                                          | Covers daily exposures up to 8 hours (unless stated differently).                                                                                                                                                                                                                                                                                                                                                                           |
| Technical conditions and measures to control dispersion from source towards the worker | Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour)<br>Provide extract ventilation to points where emissions occur Efficiency of at least 90%                                                                                                                                                                                                                                                        |
| Conditions and measures related to personal protection, hygiene and health evaluation  | Use suitable eye protection<br>Wear chemically resistant gloves (tested to EN 374) in combination with 'basic' employee training Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying Efficiency of at least 90%<br>See Section 8 for information on appropriate personal protective equipment |
| Organisational measures to prevent /limit releases, dispersion and exposure            | Supervision in place to check that the RMMs in place are being used correctly and OCs followed                                                                                                                                                                                                                                                                                                                                              |
| Additional good practice advice beyond the REACH Chemical Safety Report                | Clean equipment and the work area every day<br>Ensure operatives are trained to minimise exposures                                                                                                                                                                                                                                                                                                                                          |
| Indoor/Outdoor use                                                                     | Indoor                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Assumes process temperature up to                                                      | 40 C                                                                                                                                                                                                                                                                                                                                                                                                                                        |

|                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|----------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Process category(ies)                                                                  | PROC13 - Treatment of articles by dipping and pouring                                                                                                                                                                                                                                                                                                                                                                                       |
| Covers concentrations up to                                                            | 5%                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Physical form of product                                                               | Solid, medium dustiness                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Level of dustiness                                                                     | Low                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Exposure duration                                                                      | Avoid carrying out activities involving exposure for more than 4 hours                                                                                                                                                                                                                                                                                                                                                                      |
| Use frequency                                                                          | Covers daily exposures up to 8 hours (unless stated differently).                                                                                                                                                                                                                                                                                                                                                                           |
| Technical conditions and measures to control dispersion from source towards the worker | Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour)<br>Provide extract ventilation to points where emissions occur Efficiency of at least 90%                                                                                                                                                                                                                                                        |
| Conditions and measures related to personal protection, hygiene and health evaluation  | Use suitable eye protection<br>Wear chemically resistant gloves (tested to EN 374) in combination with 'basic' employee training Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying Efficiency of at least 90%<br>See Section 8 for information on appropriate personal protective equipment |
| Organisational measures to prevent /limit releases, dispersion and                     | Supervision in place to check that the RMMs in place are being used correctly and OCs followed                                                                                                                                                                                                                                                                                                                                              |

|                                                                         |                                                                                                    |
|-------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|
| exposure                                                                |                                                                                                    |
| Additional good practice advice beyond the REACH Chemical Safety Report | Clean equipment and the work area every day<br>Ensure operatives are trained to minimise exposures |
| Indoor/Outdoor use                                                      | Indoor                                                                                             |
| Assumes process temperature up to                                       | 40 C                                                                                               |

|                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|----------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Process category(ies)                                                                  | PROC14 - Production of preparations or articles by tableting, compression, extrusion, pelettising                                                                                                                                                                                                                                                                                                                                           |
| Covers concentrations up to                                                            | 5%                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Exposure duration                                                                      | Avoid carrying out activities involving exposure for more than 4 hours                                                                                                                                                                                                                                                                                                                                                                      |
| Use frequency                                                                          | Covers daily exposures up to 8 hours (unless stated differently).                                                                                                                                                                                                                                                                                                                                                                           |
| Technical conditions and measures to control dispersion from source towards the worker | Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour)<br>Provide extract ventilation to points where emissions occur Efficiency of at least 90%                                                                                                                                                                                                                                                        |
| Conditions and measures related to personal protection, hygiene and health evaluation  | Use suitable eye protection<br>Wear chemically resistant gloves (tested to EN 374) in combination with 'basic' employee training Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying Efficiency of at least 90%<br>See Section 8 for information on appropriate personal protective equipment |
| Organisational measures to prevent /limit releases, dispersion and exposure            | Supervision in place to check that the RMMs in place are being used correctly and OCs followed                                                                                                                                                                                                                                                                                                                                              |
| Additional good practice advice beyond the REACH Chemical Safety Report                | Clean equipment and the work area every day<br>Ensure operatives are trained to minimise exposures                                                                                                                                                                                                                                                                                                                                          |
| Indoor/Outdoor use                                                                     | Indoor                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Assumes process temperature up to                                                      | 40 C                                                                                                                                                                                                                                                                                                                                                                                                                                        |

|                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                              |
|----------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Process category(ies)                                                                  | PROC14 - Production of preparations or articles by tableting, compression, extrusion, pelettising                                                                                                                                                                                                                                                                                                            |
| Covers concentrations up to                                                            | 5%                                                                                                                                                                                                                                                                                                                                                                                                           |
| Use frequency                                                                          | Covers daily exposures up to 8 hours (unless stated differently).                                                                                                                                                                                                                                                                                                                                            |
| Technical conditions and measures to control dispersion from source towards the worker | Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour)<br>Provide extract ventilation to points where emissions occur Efficiency of at least 90%                                                                                                                                                                                                                         |
| Conditions and measures related to personal protection, hygiene and health evaluation  | Wear chemically resistant gloves (tested to EN 374) in combination with 'basic' employee training Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying Efficiency of at least 90%<br>See Section 8 for information on appropriate personal protective equipment |
| Organisational measures to prevent /limit releases, dispersion and exposure            | Supervision in place to check that the RMMs in place are being used correctly and OCs followed                                                                                                                                                                                                                                                                                                               |
| Additional good practice advice beyond the REACH Chemical Safety Report                | Clean equipment and the work area every day<br>Ensure operatives are trained to minimise exposures                                                                                                                                                                                                                                                                                                           |
| Indoor/Outdoor use                                                                     | Indoor                                                                                                                                                                                                                                                                                                                                                                                                       |
| Assumes process temperature up to                                                      | 40 C                                                                                                                                                                                                                                                                                                                                                                                                         |

### **Section 3 - Exposure estimation**

**Environmental release category(ies) - ERC6b - Industrial use of reactive processing aids**

**Predicted No Effect Concentration**

(PNEC)

|                            |                    |
|----------------------------|--------------------|
| Freshwater                 | 0.05 mg/l          |
| Freshwater sediment        | 0.181 mg/kg d.w.   |
| Marine water               | 0.005 mg/l         |
| Marine sediment            | 0.018 mg/kg d.w.   |
| Soil                       | 0.00687 mg/kg d.w. |
| Impact on Sewage Treatment | 20 mg/l            |
| Intermittent release       | 0.072 mg/l         |

Calculation method Used EUSES model

Derived No Effect Level (DNEL):

|                                         |                        |
|-----------------------------------------|------------------------|
| Worker - inhalative, long-term - local  | 0.6 mg/m <sup>3</sup>  |
| Worker - inhalative, short-term - local | 5.36 mg/m <sup>3</sup> |

Calculation method The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated

## Section 4 - Guidance to check compliance with the exposure scenario

Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.

If scaling reveals a condition of unsafe use (i.e., RCRs > 1), additional RMMs or a site-specific chemical safety assessment is required.

## Annex to the Safety Data Sheet according to Regulation (EC) No 1907/2006 [REACH]

**Product Name** XIAMETER OFS-6020 SILANE  
**Chemical name** N-(3-(TRIMETHOXYSILYL) PROPYL)-1,2-ETHANEDIAMINE  
**Pure substance/mixture** Substance  
**REACH registration number** 01-2119970215-39-XXXX  
**CAS No** 1760-24-3  
**EC No (EU Index No)** 217-164-6  
**Supplier** Univar Solutions UK Ltd  
 Aquarius House  
 6 Mid Point Business Park  
 Bradford  
 GBR  
  
**Non-Emergency Telephone Number** +44 1274 267300 / +44 1274 267306  
  
**E-mail address** SDS.EMEA@univarsolutions.com

### Section 1 - Title

**Title** Polymer production  
**Type** Worker  
**Main user group** Industrial uses: Uses of substances as such or in preparations at industrial sites  
**Environmental release category(ies)** ERC6c - Industrial use of monomers for manufacture of thermoplastics  
**Process category(ies)** PROC1 - Use in closed process, no likelihood of exposure  
 PROC2 - Use in closed, continuous process with occasional controlled exposure  
 PROC3 - Use in closed batch process (synthesis or formulation)  
 PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities  
 PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities  
 PROC28 - Manual maintenance (cleaning and repair) of machinery  
 PC32 - Polymer preparations and compounds  
**Product category(ies)**  
**Product Name** XIAMETER OFS-6020 SILANE  
**Sector(s) of use** SU3 - Industrial uses: Uses of substances as such or in preparations at industrial sites SU8 - Manufacture of bulk, large scale chemicals (including petroleum products) SU9 - Manufacture of fine chemicals

### Section 2 - Operational conditions and risk management measures

#### Section 2.1 - Control of environmental exposure

**Environmental release category(ies)** - ERC6c - Industrial use of monomers for manufacture of thermoplastics

#### Amounts used

|       |                        |
|-------|------------------------|
| Type  | Annual amount per site |
| Value | <= 250                 |
| Units | t(ons)/year            |

|       |                       |
|-------|-----------------------|
| Type  | Daily amount per site |
| Value | <= 10000              |
| Units | kg/d                  |

#### Other operational conditions of use affecting environmental exposure

|               |    |
|---------------|----|
| Emission days | 25 |
|---------------|----|

#### Conditions and measures related to municipal sewage treatment plant

|                            |            |
|----------------------------|------------|
| Type                       | Onsite STP |
| Removal efficiency (total) | >= 0.003%  |

|                                              |               |
|----------------------------------------------|---------------|
| Type                                         | Municipal STP |
| Assumed domestic sewage treatment plant flow | 1300 m3/d     |

**Environmental factors not influenced by risk management**

|                                    |      |
|------------------------------------|------|
| Local freshwater dilution factor   | 900  |
| Local marine water dilution factor | 1000 |

**Control measures to prevent releases**

|       |                                              |
|-------|----------------------------------------------|
| Water | Assumed domestic sewage treatment plant flow |
|-------|----------------------------------------------|

**Conditions and measures related to external recovery of waste**

|        |                                                                                                          |
|--------|----------------------------------------------------------------------------------------------------------|
| Method | External recovery and recycling of waste should comply with applicable local and/or national regulations |
|--------|----------------------------------------------------------------------------------------------------------|

**Conditions and measures related to external treatment of waste for disposal**

|          |                                                                            |
|----------|----------------------------------------------------------------------------|
| Disposal | Dispose of waste product or used containers according to local regulations |
|----------|----------------------------------------------------------------------------|

**Control of worker exposure**

|                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|----------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Process category(ies)                                                                  | PROC1 - Use in closed process, no likelihood of exposure                                                                                                                                                                                                                                                                                                                                                                                     |
| Covers concentrations up to                                                            | 100%                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Use frequency                                                                          | Covers daily exposures up to 8 hours (unless stated differently).                                                                                                                                                                                                                                                                                                                                                                            |
| Technical conditions and measures to control dispersion from source towards the worker | Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour)                                                                                                                                                                                                                                                                                                                                                   |
| Conditions and measures related to personal protection, hygiene and health evaluation  | Use suitable eye protection<br>Wear chemically resistant gloves (tested to EN 374) in combination with specific activity training Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying Efficiency of at least 95%<br>See Section 8 for information on appropriate personal protective equipment |
| Organisational measures to prevent /limit releases, dispersion and exposure            | Supervision in place to check that the RMMs in place are being used correctly and OCs followed                                                                                                                                                                                                                                                                                                                                               |
| Additional good practice advice beyond the REACH Chemical Safety Report                | Clean equipment and the work area every day<br>Ensure operatives are trained to minimise exposures                                                                                                                                                                                                                                                                                                                                           |
| Indoor/Outdoor use                                                                     | Indoor                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Assumes process temperature up to                                                      | 40 C                                                                                                                                                                                                                                                                                                                                                                                                                                         |

|                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|----------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Process category(ies)                                                                  | PROC2 - Use in closed, continuous process with occasional controlled exposure                                                                                                                                                                                                                                                                                                                                                                |
| Covers concentrations up to                                                            | 100%                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Use frequency                                                                          | Covers daily exposures up to 8 hours (unless stated differently).                                                                                                                                                                                                                                                                                                                                                                            |
| Technical conditions and measures to control dispersion from source towards the worker | Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour)<br>Provide extract ventilation to points where emissions occur 90%                                                                                                                                                                                                                                                                                |
| Conditions and measures related to personal protection, hygiene and health evaluation  | Use suitable eye protection<br>Wear chemically resistant gloves (tested to EN 374) in combination with specific activity training Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying Efficiency of at least 95%<br>See Section 8 for information on appropriate personal protective equipment |
| Organisational measures to prevent /limit releases, dispersion and exposure            | Supervision in place to check that the RMMs in place are being used correctly and OCs followed                                                                                                                                                                                                                                                                                                                                               |

|                                                                         |                                                                                                    |
|-------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|
| Additional good practice advice beyond the REACH Chemical Safety Report | Clean equipment and the work area every day<br>Ensure operatives are trained to minimise exposures |
| Indoor/Outdoor use                                                      | Indoor                                                                                             |
| Assumes process temperature up to                                       | 40 C                                                                                               |

|                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|----------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Process category(ies)                                                                  | PROC3 - Use in closed batch process (synthesis or formulation)                                                                                                                                                                                                                                                                                                                                                                               |
| Covers concentrations up to                                                            | 100%                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Exposure duration                                                                      | Avoid carrying out activities involving exposure for more than 4 hours                                                                                                                                                                                                                                                                                                                                                                       |
| Use frequency                                                                          | Covers daily exposures up to 8 hours (unless stated differently).                                                                                                                                                                                                                                                                                                                                                                            |
| Technical conditions and measures to control dispersion from source towards the worker | Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour)<br>Provide extract ventilation to points where emissions occur 90%                                                                                                                                                                                                                                                                                |
| Conditions and measures related to personal protection, hygiene and health evaluation  | Use suitable eye protection<br>Wear chemically resistant gloves (tested to EN 374) in combination with specific activity training Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying Efficiency of at least 95%<br>See Section 8 for information on appropriate personal protective equipment |
| Organisational measures to prevent /limit releases, dispersion and exposure            | Supervision in place to check that the RMMs in place are being used correctly and OCs followed                                                                                                                                                                                                                                                                                                                                               |
| Additional good practice advice beyond the REACH Chemical Safety Report                | Clean equipment and the work area every day<br>Ensure operatives are trained to minimise exposures                                                                                                                                                                                                                                                                                                                                           |
| Indoor/Outdoor use                                                                     | Indoor                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Assumes process temperature up to                                                      | 40 C                                                                                                                                                                                                                                                                                                                                                                                                                                         |

|                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|----------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Process category(ies)                                                                  | PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities PROC28 - Manual maintenance (cleaning and repair) of machinery                                                                                                                                                                                                                                                                                                                                               |
| Title                                                                                  | Equipment cleaning and maintenance                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Covers concentrations up to                                                            | 100%                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Physical form of product                                                               | Solid, medium dustiness                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Level of dustiness                                                                     | Low                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Exposure duration                                                                      | Avoid carrying out activities involving exposure for more than 4 hours                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Use frequency                                                                          | Covers daily exposures up to 8 hours (unless stated differently).                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Technical conditions and measures to control dispersion from source towards the worker | Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour)<br>Provide extract ventilation to points where emissions occur 90%                                                                                                                                                                                                                                                                                                                                                                                  |
| Conditions and measures related to personal protection, hygiene and health evaluation  | Use suitable eye protection<br>Wear chemically resistant gloves (tested to EN 374) in combination with specific activity training Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying Efficiency of at least 95%<br>Wear a respirator conforming to EN 140 with Type A filter or better Efficiency of at least 90%<br>See Section 8 for information on appropriate personal protective equipment |
| Organisational measures to prevent /limit releases, dispersion and exposure            | Supervision in place to check that the RMMs in place are being used correctly and OCs followed                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Additional good practice advice beyond the REACH Chemical Safety Report                | Clean equipment and the work area every day<br>Ensure operatives are trained to minimise exposures                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Indoor/Outdoor use                                                                     | Indoor                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Assumes process temperature up to                                                      | 40 C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |

|                       |                                                                                                                               |
|-----------------------|-------------------------------------------------------------------------------------------------------------------------------|
| Process category(ies) | PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities |
|-----------------------|-------------------------------------------------------------------------------------------------------------------------------|

|                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|----------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Covers concentrations up to                                                            | 100%                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Exposure duration                                                                      | Avoid carrying out activities involving exposure for more than 1 hour                                                                                                                                                                                                                                                                                                                                                                        |
| Use frequency                                                                          | Covers daily exposures up to 8 hours (unless stated differently).                                                                                                                                                                                                                                                                                                                                                                            |
| Technical conditions and measures to control dispersion from source towards the worker | Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour)<br>Handle in a fume cupboard or under extract ventilation Efficiency of at least 95%                                                                                                                                                                                                                                                              |
| Conditions and measures related to personal protection, hygiene and health evaluation  | Use suitable eye protection<br>Wear chemically resistant gloves (tested to EN 374) in combination with specific activity training Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying Efficiency of at least 95%<br>See Section 8 for information on appropriate personal protective equipment |
| Organisational measures to prevent /limit releases, dispersion and exposure            | Supervision in place to check that the RMMs in place are being used correctly and OCs followed                                                                                                                                                                                                                                                                                                                                               |
| Additional good practice advice beyond the REACH Chemical Safety Report                | Clean equipment and the work area every day<br>Ensure operatives are trained to minimise exposures                                                                                                                                                                                                                                                                                                                                           |
| Indoor/Outdoor use                                                                     | Indoor                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Assumes process temperature up to                                                      | 40 C                                                                                                                                                                                                                                                                                                                                                                                                                                         |

### Section 3 - Exposure estimation

**Environmental release category(ies) - ERC6c - Industrial use of monomers for manufacture of thermoplastics**

#### **Predicted No Effect Concentration (PNEC)**

|                            |                    |
|----------------------------|--------------------|
| Freshwater                 | 0.05 mg/l          |
| Freshwater sediment        | 0.181 mg/kg d.w.   |
| Marine water               | 0.005 mg/l         |
| Marine sediment            | 0.018 mg/kg d.w.   |
| Soil                       | 0.00687 mg/kg d.w. |
| Impact on Sewage Treatment | 20 mg/l            |
| Intermittent release       | 0.072 mg/l         |

**Calculation method** Used EUSES model

#### **Derived No Effect Level (DNEL):**

|                                         |                        |
|-----------------------------------------|------------------------|
| Worker - inhalative, long-term - local  | 0.6 mg/m <sup>3</sup>  |
| Worker - inhalative, short-term - local | 5.36 mg/m <sup>3</sup> |

**Calculation method** The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated

### Section 4 - Guidance to check compliance with the exposure scenario

Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.

If scaling reveals a condition of unsafe use (i.e., RCRs > 1), additional RMMs or a site-specific chemical safety assessment is required.

## Annex to the Safety Data Sheet according to Regulation (EC) No 1907/2006 [REACH]

**Product Name** XIAMETER OFS-6020 SILANE  
**Chemical name** N-(3-(TRIMETHOXYSILYL) PROPYL)-1,2-ETHANEDIAMINE  
**Pure substance/mixture** Substance  
**REACH registration number** 01-2119970215-39-XXXX  
**CAS No** 1760-24-3  
**EC No (EU Index No)** 217-164-6  
**Supplier** Univar Solutions UK Ltd  
 Aquarius House  
 6 Mid Point Business Park  
 Bradford  
 GBR  
  
**Non-Emergency Telephone Number** +44 1274 267300 / +44 1274 267306  
  
**E-mail address** SDS.EMEA@univarsolutions.com

### Section 1 - Title

**Title** Polymer production Downstream user site  
**Type** Worker  
**Main user group** Industrial uses: Uses of substances as such or in preparations at industrial sites  
**Environmental release category(ies)** ERC6c - Industrial use of monomers for manufacture of thermoplastics  
**Process category(ies)** PROC1 - Use in closed process, no likelihood of exposure  
 PROC2 - Use in closed, continuous process with occasional controlled exposure  
 PROC3 - Use in closed batch process (synthesis or formulation)  
 PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities  
 PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities  
 PROC28 - Manual maintenance (cleaning and repair) of machinery  
 PC32 - Polymer preparations and compounds  
**Product category(ies)**  
**Product Name** XIAMETER OFS-6020 SILANE  
**Sector(s) of use** SU3 - Industrial uses: Uses of substances as such or in preparations at industrial sites SU8 - Manufacture of bulk, large scale chemicals (including petroleum products) SU9 - Manufacture of fine chemicals

### Section 2 - Operational conditions and risk management measures

#### Section 2.1 - Control of environmental exposure

**Environmental release category(ies)** - ERC6c - Industrial use of monomers for manufacture of thermoplastics

##### Amounts used

|       |                        |
|-------|------------------------|
| Type  | Annual amount per site |
| Value | <= 30                  |
| Units | t(ons)/year            |

|       |                       |
|-------|-----------------------|
| Type  | Daily amount per site |
| Value | <= 300                |
| Units | kg/d                  |

##### Other operational conditions of use affecting environmental exposure

|               |     |
|---------------|-----|
| Emission days | 100 |
|---------------|-----|

##### Conditions and measures related to municipal sewage treatment plant

|                            |            |
|----------------------------|------------|
| Type                       | Onsite STP |
| Removal efficiency (total) | >= 0.003%  |

|                                              |               |
|----------------------------------------------|---------------|
| Type                                         | Municipal STP |
| Assumed domestic sewage treatment plant flow | 10000 m3/d    |

**Environmental factors not influenced by risk management**

|                                    |     |
|------------------------------------|-----|
| Local freshwater dilution factor   | 40  |
| Local marine water dilution factor | 100 |

**Control measures to prevent releases**

|       |                                              |
|-------|----------------------------------------------|
| Water | Assumed domestic sewage treatment plant flow |
|-------|----------------------------------------------|

**Conditions and measures related to external treatment of waste for disposal**

|          |                                                                            |
|----------|----------------------------------------------------------------------------|
| Disposal | Dispose of waste product or used containers according to local regulations |
|----------|----------------------------------------------------------------------------|

|                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|----------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Control of worker exposure</b>                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Process category(ies)                                                                  | PROC1 - Use in closed process, no likelihood of exposure                                                                                                                                                                                                                                                                                                                                                                                     |
| Covers concentrations up to                                                            | 100%                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Use frequency                                                                          | Covers daily exposures up to 8 hours (unless stated differently).                                                                                                                                                                                                                                                                                                                                                                            |
| Technical conditions and measures to control dispersion from source towards the worker | Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour)                                                                                                                                                                                                                                                                                                                                                   |
| Conditions and measures related to personal protection, hygiene and health evaluation  | Use suitable eye protection<br>Wear chemically resistant gloves (tested to EN 374) in combination with specific activity training Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying Efficiency of at least 95%<br>See Section 8 for information on appropriate personal protective equipment |
| Organisational measures to prevent /limit releases, dispersion and exposure            | Supervision in place to check that the RMMs in place are being used correctly and OCs followed                                                                                                                                                                                                                                                                                                                                               |
| Additional good practice advice beyond the REACH Chemical Safety Report                | Clean equipment and the work area every day<br>Ensure operatives are trained to minimise exposures                                                                                                                                                                                                                                                                                                                                           |
| Indoor/Outdoor use                                                                     | Indoor                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Assumes process temperature up to                                                      | 40 C                                                                                                                                                                                                                                                                                                                                                                                                                                         |

|                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|----------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Process category(ies)                                                                  | PROC2 - Use in closed, continuous process with occasional controlled exposure                                                                                                                                                                                                                                                                                                                                                                |
| Covers concentrations up to                                                            | 100%                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Use frequency                                                                          | Covers daily exposures up to 8 hours (unless stated differently).                                                                                                                                                                                                                                                                                                                                                                            |
| Technical conditions and measures to control dispersion from source towards the worker | Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour)<br>Provide extract ventilation to points where emissions occur 90%                                                                                                                                                                                                                                                                                |
| Conditions and measures related to personal protection, hygiene and health evaluation  | Use suitable eye protection<br>Wear chemically resistant gloves (tested to EN 374) in combination with specific activity training Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying Efficiency of at least 95%<br>See Section 8 for information on appropriate personal protective equipment |
| Organisational measures to prevent /limit releases, dispersion and exposure            | Supervision in place to check that the RMMs in place are being used correctly and OCs followed                                                                                                                                                                                                                                                                                                                                               |
| Additional good practice advice beyond the REACH Chemical Safety Report                | Clean equipment and the work area every day<br>Ensure operatives are trained to minimise exposures                                                                                                                                                                                                                                                                                                                                           |
| Indoor/Outdoor use                                                                     | Indoor                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Assumes process temperature up to                                                      | 40 C                                                                                                                                                                                                                                                                                                                                                                                                                                         |

|                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|----------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Process category(ies)                                                                  | PROC3 - Use in closed batch process (synthesis or formulation)                                                                                                                                                                                                                                                                                                                                                                               |
| Covers concentrations up to                                                            | 100%                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Exposure duration                                                                      | Avoid carrying out activities involving exposure for more than 4 hours                                                                                                                                                                                                                                                                                                                                                                       |
| Use frequency                                                                          | Covers daily exposures up to 8 hours (unless stated differently).                                                                                                                                                                                                                                                                                                                                                                            |
| Technical conditions and measures to control dispersion from source towards the worker | Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour)<br>Provide extract ventilation to points where emissions occur 90%                                                                                                                                                                                                                                                                                |
| Conditions and measures related to personal protection, hygiene and health evaluation  | Use suitable eye protection<br>Wear chemically resistant gloves (tested to EN 374) in combination with specific activity training Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying Efficiency of at least 95%<br>See Section 8 for information on appropriate personal protective equipment |
| Organisational measures to prevent /limit releases, dispersion and exposure            | Supervision in place to check that the RMMs in place are being used correctly and OCs followed                                                                                                                                                                                                                                                                                                                                               |
| Additional good practice advice beyond the REACH Chemical Safety Report                | Clean equipment and the work area every day<br>Ensure operatives are trained to minimise exposures                                                                                                                                                                                                                                                                                                                                           |
| Indoor/Outdoor use                                                                     | Indoor                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Assumes process temperature up to                                                      | 40 C                                                                                                                                                                                                                                                                                                                                                                                                                                         |

|                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|----------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Process category(ies)                                                                  | PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities PROC28 - Manual maintenance (cleaning and repair) of machinery                                                                                                                                                                                                                                                                                                                                               |
| Title                                                                                  | Equipment cleaning and maintenance                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Covers concentrations up to                                                            | 100%                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Physical form of product                                                               | Solid, medium dustiness                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Level of dustiness                                                                     | Low                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Exposure duration                                                                      | Avoid carrying out activities involving exposure for more than 4 hours                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Use frequency                                                                          | Covers daily exposures up to 8 hours (unless stated differently).                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Technical conditions and measures to control dispersion from source towards the worker | Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour)<br>Provide extract ventilation to points where emissions occur 90%                                                                                                                                                                                                                                                                                                                                                                                  |
| Conditions and measures related to personal protection, hygiene and health evaluation  | Use suitable eye protection<br>Wear chemically resistant gloves (tested to EN 374) in combination with specific activity training Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying Efficiency of at least 95%<br>Wear a respirator conforming to EN 140 with Type A filter or better Efficiency of at least 90%<br>See Section 8 for information on appropriate personal protective equipment |
| Organisational measures to prevent /limit releases, dispersion and exposure            | Supervision in place to check that the RMMs in place are being used correctly and OCs followed                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Additional good practice advice beyond the REACH Chemical Safety Report                | Clean equipment and the work area every day<br>Ensure operatives are trained to minimise exposures                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Indoor/Outdoor use                                                                     | Indoor                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Assumes process temperature up to                                                      | 40 C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |

|                                      |                                                                                                                               |
|--------------------------------------|-------------------------------------------------------------------------------------------------------------------------------|
| Process category(ies)                | PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities |
| Covers concentrations up to          | 100%                                                                                                                          |
| Exposure duration                    | Avoid carrying out activities involving exposure for more than 1 hour                                                         |
| Use frequency                        | Covers daily exposures up to 8 hours (unless stated differently).                                                             |
| Technical conditions and measures to | Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour)                                    |

|                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|---------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| control dispersion from source towards the worker                                     | Handle in a fume cupboard or under extract ventilation Efficiency of at least 95%                                                                                                                                                                                                                                                                                                                                                            |
| Conditions and measures related to personal protection, hygiene and health evaluation | Use suitable eye protection<br>Wear chemically resistant gloves (tested to EN 374) in combination with specific activity training Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying Efficiency of at least 95%<br>See Section 8 for information on appropriate personal protective equipment |
| Organisational measures to prevent /limit releases, dispersion and exposure           | Supervision in place to check that the RMMs in place are being used correctly and OCs followed                                                                                                                                                                                                                                                                                                                                               |
| Additional good practice advice beyond the REACH Chemical Safety Report               | Clean equipment and the work area every day<br>Ensure operatives are trained to minimise exposures                                                                                                                                                                                                                                                                                                                                           |
| Indoor/Outdoor use                                                                    | Indoor                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Assumes process temperature up to                                                     | 40 C                                                                                                                                                                                                                                                                                                                                                                                                                                         |

### Section 3 - Exposure estimation

#### Environmental release category(ies) - ERC6c - Industrial use of monomers for manufacture of thermoplastics

##### Predicted No Effect Concentration (PNEC)

|                            |                    |
|----------------------------|--------------------|
| Freshwater                 | 0.05 mg/l          |
| Freshwater sediment        | 0.181 mg/kg d.w.   |
| Marine water               | 0.005 mg/l         |
| Marine sediment            | 0.018 mg/kg d.w.   |
| Soil                       | 0.00687 mg/kg d.w. |
| Impact on Sewage Treatment | 20 mg/l            |
| Intermittent release       | 0.072 mg/l         |

Calculation method Used EUSES model

##### Derived No Effect Level (DNEL):

|                                         |                        |
|-----------------------------------------|------------------------|
| Worker - inhalative, long-term - local  | 0.6 mg/m <sup>3</sup>  |
| Worker - inhalative, short-term - local | 5.36 mg/m <sup>3</sup> |

Calculation method The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated

### Section 4 - Guidance to check compliance with the exposure scenario

Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.

If scaling reveals a condition of unsafe use (i.e., RCRs > 1), additional RMMs or a site-specific chemical safety assessment is required.

## Annex to the Safety Data Sheet according to Regulation (EC) No 1907/2006 [REACH]

**Product Name** XIAMETER OFS-6020 SILANE  
**Chemical name** N-(3-(TRIMETHOXYSILYL) PROPYL)-1,2-ETHANEDIAMINE  
**Pure substance/mixture** Substance  
**REACH registration number** 01-2119970215-39-XXXX  
**CAS No** 1760-24-3  
**EC No (EU Index No)** 217-164-6  
**Supplier** Univar Solutions UK Ltd  
 Aquarius House  
 6 Mid Point Business Park  
 Bradford  
 GBR  
  
**Non-Emergency Telephone Number** +44 1274 267300 / +44 1274 267306  
  
**E-mail address** SDS.EMEA@univarsolutions.com

### Section 1 - Title

**Title** road and construction products.  
**Type** Worker  
**Main user group** Industrial uses: Uses of substances as such or in preparations at industrial sites  
**Environmental release category(ies)** ERC5 - Industrial use resulting in inclusion into or onto a matrix  
**Process category(ies)** PROC5 - Mixing or blending in batch processes for formulation of preparations and articles (multi-stage and/or significant contact)  
 PROC7 - Industrial spraying  
 PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities  
 PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities  
 PROC9 - Transfer of substance or preparation into small containers (dedicated filling line, including weighing)  
 PROC10 - Roller application or brushing  
  
**Product category(ies)** PC0 - Other Products  
**Product Name** XIAMETER OFS-6020 SILANE  
**Sector(s) of use** SU3 - Industrial uses: Uses of substances as such or in preparations at industrial sites  
 SU19 - Building and construction work

### Section 2 - Operational conditions and risk management measures

#### Section 2.1 - Control of environmental exposure

**Environmental release category(ies)** - ERC5 - Industrial use resulting in inclusion into or onto a matrix

##### Amounts used

|       |                        |
|-------|------------------------|
| Type  | Annual amount per site |
| Value | <= 6.25                |
| Units | t(ons)/year            |

|       |                       |
|-------|-----------------------|
| Type  | Daily amount per site |
| Value | <= 62.5               |
| Units | kg/d                  |

##### Other operational conditions of use affecting environmental exposure

|               |     |
|---------------|-----|
| Emission days | 100 |
|---------------|-----|

##### Conditions and measures related to municipal sewage treatment plant

|      |               |
|------|---------------|
| Type | Municipal STP |
|------|---------------|

|                                              |                                             |
|----------------------------------------------|---------------------------------------------|
| Assumed domestic sewage treatment plant flow | 2000 m3/d                                   |
| Removal efficiency (total)                   | >= 0.003%                                   |
| Sludge treatment                             | Controlled application to agricultural soil |

**Environmental factors not influenced by risk management**

|                                    |     |
|------------------------------------|-----|
| Local freshwater dilution factor   | 10  |
| Local marine water dilution factor | 100 |

**Control measures to prevent releases**

|       |                                              |
|-------|----------------------------------------------|
| Water | Assumed domestic sewage treatment plant flow |
|-------|----------------------------------------------|

**Conditions and measures related to external treatment of waste for disposal**

|          |                                                                            |
|----------|----------------------------------------------------------------------------|
| Disposal | Dispose of waste product or used containers according to local regulations |
|----------|----------------------------------------------------------------------------|

|                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|----------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Control of worker exposure</b>                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Process category(ies)                                                                  | PROC5 - Mixing or blending in batch processes for formulation of preparations and articles (multi-stage and/or significant contact)                                                                                                                                                                                                                                                                                                         |
| Covers concentrations up to                                                            | 5%                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Physical form of product                                                               | Solid, medium dustiness                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Level of dustiness                                                                     | Low                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Exposure duration                                                                      | Avoid carrying out activities involving exposure for more than 4 hours                                                                                                                                                                                                                                                                                                                                                                      |
| Use frequency                                                                          | Covers daily exposures up to 8 hours (unless stated differently).                                                                                                                                                                                                                                                                                                                                                                           |
| Technical conditions and measures to control dispersion from source towards the worker | Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour)                                                                                                                                                                                                                                                                                                                                                  |
| Conditions and measures related to personal protection, hygiene and health evaluation  | Use suitable eye protection<br>Wear chemically resistant gloves (tested to EN 374) in combination with 'basic' employee training Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying Efficiency of at least 90%<br>See Section 8 for information on appropriate personal protective equipment |
| Organisational measures to prevent /limit releases, dispersion and exposure            | Supervision in place to check that the RMMs in place are being used correctly and OCs followed                                                                                                                                                                                                                                                                                                                                              |
| Additional good practice advice beyond the REACH Chemical Safety Report                | Clean equipment and the work area every day<br>Ensure operatives are trained to minimise exposures                                                                                                                                                                                                                                                                                                                                          |
| Indoor/Outdoor use                                                                     | Indoor                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Assumes process temperature up to                                                      | 40 C                                                                                                                                                                                                                                                                                                                                                                                                                                        |

|                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|----------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Process category(ies)                                                                  | PROC7 - Industrial spraying                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Covers concentrations up to                                                            | 5%                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Physical form of product                                                               | Solid, medium dustiness                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Level of dustiness                                                                     | Low                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Use frequency                                                                          | Covers daily exposures up to 8 hours (unless stated differently).                                                                                                                                                                                                                                                                                                                                                                           |
| Technical conditions and measures to control dispersion from source towards the worker | Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour)<br>Handle in a fume cupboard or under extract ventilation Efficiency of at least 95%                                                                                                                                                                                                                                                             |
| Conditions and measures related to personal protection, hygiene and health evaluation  | Use suitable eye protection<br>Wear chemically resistant gloves (tested to EN 374) in combination with 'basic' employee training Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying Efficiency of at least 90%<br>See Section 8 for information on appropriate personal protective equipment |
| Organisational measures to prevent                                                     | Supervision in place to check that the RMMs in place are being used correctly and OCs                                                                                                                                                                                                                                                                                                                                                       |

|                                                                         |                                                                                                    |
|-------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|
| /limit releases, dispersion and exposure                                | followed                                                                                           |
| Additional good practice advice beyond the REACH Chemical Safety Report | Clean equipment and the work area every day<br>Ensure operatives are trained to minimise exposures |
| Indoor/Outdoor use                                                      | Indoor                                                                                             |
| Assumes process temperature up to                                       | 40 C                                                                                               |

|                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|----------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Process category(ies)                                                                  | PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities                                                                                                                                                                                                                                                                                                           |
| Covers concentrations up to                                                            | 5%                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Physical form of product                                                               | Solid, medium dustiness                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Level of dustiness                                                                     | Low                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Exposure duration                                                                      | Avoid carrying out activities involving exposure for more than 4 hours                                                                                                                                                                                                                                                                                                                                                                      |
| Use frequency                                                                          | Covers daily exposures up to 8 hours (unless stated differently).                                                                                                                                                                                                                                                                                                                                                                           |
| Technical conditions and measures to control dispersion from source towards the worker | Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour)                                                                                                                                                                                                                                                                                                                                                  |
| Conditions and measures related to personal protection, hygiene and health evaluation  | Use suitable eye protection<br>Wear chemically resistant gloves (tested to EN 374) in combination with 'basic' employee training Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying Efficiency of at least 90%<br>See Section 8 for information on appropriate personal protective equipment |
| Organisational measures to prevent /limit releases, dispersion and exposure            | Supervision in place to check that the RMMs in place are being used correctly and OCs followed                                                                                                                                                                                                                                                                                                                                              |
| Additional good practice advice beyond the REACH Chemical Safety Report                | Clean equipment and the work area every day<br>Ensure operatives are trained to minimise exposures                                                                                                                                                                                                                                                                                                                                          |
| Indoor/Outdoor use                                                                     | Indoor                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Assumes process temperature up to                                                      | 40 C                                                                                                                                                                                                                                                                                                                                                                                                                                        |

|                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|----------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Process category(ies)                                                                  | PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities                                                                                                                                                                                                                                                                                                               |
| Covers concentrations up to                                                            | 5%                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Exposure duration                                                                      | Avoid carrying out activities involving exposure for more than 4 hours                                                                                                                                                                                                                                                                                                                                                                      |
| Use frequency                                                                          | Covers daily exposures up to 8 hours (unless stated differently).                                                                                                                                                                                                                                                                                                                                                                           |
| Technical conditions and measures to control dispersion from source towards the worker | Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour)                                                                                                                                                                                                                                                                                                                                                  |
| Conditions and measures related to personal protection, hygiene and health evaluation  | Use suitable eye protection<br>Wear chemically resistant gloves (tested to EN 374) in combination with 'basic' employee training Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying Efficiency of at least 90%<br>See Section 8 for information on appropriate personal protective equipment |
| Organisational measures to prevent /limit releases, dispersion and exposure            | Supervision in place to check that the RMMs in place are being used correctly and OCs followed                                                                                                                                                                                                                                                                                                                                              |
| Additional good practice advice beyond the REACH Chemical Safety Report                | Clean equipment and the work area every day<br>Ensure operatives are trained to minimise exposures                                                                                                                                                                                                                                                                                                                                          |
| Indoor/Outdoor use                                                                     | Indoor                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Assumes process temperature up to                                                      | 40 C                                                                                                                                                                                                                                                                                                                                                                                                                                        |

|                             |                                                                                                                 |
|-----------------------------|-----------------------------------------------------------------------------------------------------------------|
| Process category(ies)       | PROC9 - Transfer of substance or preparation into small containers (dedicated filling line, including weighing) |
| Covers concentrations up to | 5%                                                                                                              |

|                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|----------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Physical form of product                                                               | Solid, medium dustiness                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Level of dustiness                                                                     | Low                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Use frequency                                                                          | Covers daily exposures up to 8 hours (unless stated differently).                                                                                                                                                                                                                                                                                                                                                                           |
| Technical conditions and measures to control dispersion from source towards the worker | Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour)<br>Provide extract ventilation to points where emissions occur Efficiency of at least 90%                                                                                                                                                                                                                                                        |
| Conditions and measures related to personal protection, hygiene and health evaluation  | Use suitable eye protection<br>Wear chemically resistant gloves (tested to EN 374) in combination with 'basic' employee training Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying Efficiency of at least 90%<br>See Section 8 for information on appropriate personal protective equipment |
| Organisational measures to prevent /limit releases, dispersion and exposure            | Supervision in place to check that the RMMs in place are being used correctly and OCs followed                                                                                                                                                                                                                                                                                                                                              |
| Additional good practice advice beyond the REACH Chemical Safety Report                | Clean equipment and the work area every day<br>Ensure operatives are trained to minimise exposures                                                                                                                                                                                                                                                                                                                                          |
| Indoor/Outdoor use                                                                     | Indoor                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Assumes process temperature up to                                                      | 40 C                                                                                                                                                                                                                                                                                                                                                                                                                                        |

|                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|----------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Process category(ies)                                                                  | PROC10 - Roller application or brushing                                                                                                                                                                                                                                                                                                                                                                                                     |
| Covers concentrations up to                                                            | 5%                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Use frequency                                                                          | Covers daily exposures up to 8 hours (unless stated differently).                                                                                                                                                                                                                                                                                                                                                                           |
| Technical conditions and measures to control dispersion from source towards the worker | Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour)<br>Provide extract ventilation to points where emissions occur Efficiency of at least 90%                                                                                                                                                                                                                                                        |
| Conditions and measures related to personal protection, hygiene and health evaluation  | Use suitable eye protection<br>Wear chemically resistant gloves (tested to EN 374) in combination with 'basic' employee training Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying Efficiency of at least 90%<br>See Section 8 for information on appropriate personal protective equipment |
| Organisational measures to prevent /limit releases, dispersion and exposure            | Supervision in place to check that the RMMs in place are being used correctly and OCs followed                                                                                                                                                                                                                                                                                                                                              |
| Additional good practice advice beyond the REACH Chemical Safety Report                | Clean equipment and the work area every day<br>Ensure operatives are trained to minimise exposures                                                                                                                                                                                                                                                                                                                                          |
| Indoor/Outdoor use                                                                     | Indoor                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Assumes process temperature up to                                                      | 40 C                                                                                                                                                                                                                                                                                                                                                                                                                                        |

### Section 3 - Exposure estimation

**Environmental release category(ies) - ERC5 - Industrial use resulting in inclusion into or onto a matrix**

**Predicted No Effect Concentration (PNEC)**

|                                   |                    |
|-----------------------------------|--------------------|
| <b>Freshwater</b>                 | 0.05 mg/l          |
| <b>Freshwater sediment</b>        | 0.181 mg/kg d.w.   |
| <b>Marine water</b>               | 0.005 mg/l         |
| <b>Marine sediment</b>            | 0.018 mg/kg d.w.   |
| <b>Soil</b>                       | 0.00687 mg/kg d.w. |
| <b>Impact on Sewage Treatment</b> | 20 mg/l            |
| <b>Intermittent release</b>       | 0.072 mg/l         |

Calculation method Used EUSES model

**Derived No Effect Level (DNEL):**

|                                         |                        |
|-----------------------------------------|------------------------|
| Worker - inhalative, long-term - local  | 0.6 mg/m <sup>3</sup>  |
| Worker - inhalative, short-term - local | 5.36 mg/m <sup>3</sup> |

Calculation method The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated

## Section 4 - Guidance to check compliance with the exposure scenario

Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.

If scaling reveals a condition of unsafe use (i.e., RCRs > 1), additional RMMs or a site-specific chemical safety assessment is required.

## Annex to the Safety Data Sheet according to Regulation (EC) No 1907/2006 [REACH]

|                                       |                                                                                           |
|---------------------------------------|-------------------------------------------------------------------------------------------|
| <b>Product Name</b>                   | XIAMETER OFS-6020 SILANE                                                                  |
| <b>Chemical name</b>                  | N-(3-(TRIMETHOXYSILYL) PROPYL)-1,2-ETHANEDIAMINE                                          |
| <b>Pure substance/mixture</b>         | Substance                                                                                 |
| <b>REACH registration number</b>      | 01-2119970215-39-XXXX                                                                     |
| <b>CAS No</b>                         | 1760-24-3                                                                                 |
| <b>EC No (EU Index No)</b>            | 217-164-6                                                                                 |
| <b>Supplier</b>                       | Univar Solutions UK Ltd<br>Aquarius House<br>6 Mid Point Business Park<br>Bradford<br>GBR |
| <b>Non-Emergency Telephone Number</b> | +44 1274 267300 / +44 1274 267306                                                         |
| <b>E-mail address</b>                 | SDS.EMEA@univarsolutions.com                                                              |

### Section 1 - Title

|                                            |                                                                                                                                                                                                                                                                                                              |
|--------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Title</b>                               | Adhesives, sealants                                                                                                                                                                                                                                                                                          |
| <b>Type</b>                                | Worker                                                                                                                                                                                                                                                                                                       |
| <b>Main user group</b>                     | Professional uses: Public domain (administration, education, entertainment, services, craftsmen)                                                                                                                                                                                                             |
| <b>Environmental release category(ies)</b> | ERC8c - Wide dispersive indoor use resulting in inclusion into or onto a matrix ERC8f - Wide dispersive outdoor use resulting in inclusion into or onto a matrix                                                                                                                                             |
| <b>Process category(ies)</b>               | PROC5 - Mixing or blending in batch processes for formulation of preparations and articles (multi-stage and/or significant contact)<br>PROC10 - Roller application or brushing<br>PROC13 - Treatment of articles by dipping and pouring<br>PROC19 - Hand-mixing with intimate contact and only PPE available |
| <b>Product category(ies)</b>               | PC1 - Adhesives, sealants                                                                                                                                                                                                                                                                                    |
| <b>Product Name</b>                        | XIAMETER OFS-6020 SILANE                                                                                                                                                                                                                                                                                     |
| <b>Sector(s) of use</b>                    | SU16 - Manufacture of computer, electronic and optical products, electrical equipment<br>SU17 - General manufacturing SU19 - Building and construction work SU22 - Professional uses                                                                                                                         |

### Section 2 - Operational conditions and risk management measures

#### Section 2.1 - Control of environmental exposure

**Environmental release category(ies)** - ERC8c - Wide dispersive indoor use resulting in inclusion into or onto a matrix  
- ERC8f - Wide dispersive outdoor use resulting in inclusion into or onto a matrix

#### Conditions and measures related to municipal sewage treatment plant

|                            |               |
|----------------------------|---------------|
| Type                       | Municipal STP |
| Removal efficiency (total) | >= 0.003%     |

#### Conditions and measures related to external treatment of waste for disposal

|          |                                                                            |
|----------|----------------------------------------------------------------------------|
| Disposal | Dispose of waste product or used containers according to local regulations |
|----------|----------------------------------------------------------------------------|

#### Control of worker exposure

|                             |                                                                                                                                     |
|-----------------------------|-------------------------------------------------------------------------------------------------------------------------------------|
| Process category(ies)       | PROC5 - Mixing or blending in batch processes for formulation of preparations and articles (multi-stage and/or significant contact) |
| Covers concentrations up to | 5%                                                                                                                                  |
| Physical form of product    | Solid, medium dustiness                                                                                                             |
| Level of dustiness          | Low                                                                                                                                 |
| Exposure duration           | Avoid carrying out activities involving exposure for more than 4 hours                                                              |

|                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|----------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Use frequency                                                                          | Covers daily exposures up to 8 hours (unless stated differently).                                                                                                                                                                                                                                                                                                                                                                           |
| Technical conditions and measures to control dispersion from source towards the worker | Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour)                                                                                                                                                                                                                                                                                                                                                  |
| Conditions and measures related to personal protection, hygiene and health evaluation  | Use suitable eye protection<br>Wear chemically resistant gloves (tested to EN 374) in combination with 'basic' employee training Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying Efficiency of at least 90%<br>See Section 8 for information on appropriate personal protective equipment |
| Additional good practice advice beyond the REACH Chemical Safety Report                | Avoid splashing                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Indoor/Outdoor use                                                                     | Indoor                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Assumes process temperature up to                                                      | 30 C                                                                                                                                                                                                                                                                                                                                                                                                                                        |

|                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|----------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Process category(ies)                                                                  | PROC10 - Roller application or brushing PROC13 - Treatment of articles by dipping and pouring                                                                                                                                                                                                                                                                                                                                               |
| Title                                                                                  | Roller, spreader, flow application                                                                                                                                                                                                                                                                                                                                                                                                          |
| Covers concentrations up to                                                            | 5%                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Physical form of product                                                               | Solid, medium dustiness                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Level of dustiness                                                                     | Low                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Exposure duration                                                                      | Avoid carrying out activities involving exposure for more than 4 hours                                                                                                                                                                                                                                                                                                                                                                      |
| Use frequency                                                                          | Covers daily exposures up to 8 hours (unless stated differently).                                                                                                                                                                                                                                                                                                                                                                           |
| Technical conditions and measures to control dispersion from source towards the worker | Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour)                                                                                                                                                                                                                                                                                                                                                  |
| Conditions and measures related to personal protection, hygiene and health evaluation  | Use suitable eye protection<br>Wear chemically resistant gloves (tested to EN 374) in combination with 'basic' employee training Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying Efficiency of at least 90%<br>See Section 8 for information on appropriate personal protective equipment |
| Indoor/Outdoor use                                                                     | Indoor                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Assumes process temperature up to                                                      | 30 C                                                                                                                                                                                                                                                                                                                                                                                                                                        |

|                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|----------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Process category(ies)                                                                  | PROC19 - Hand-mixing with intimate contact and only PPE available                                                                                                                                                                                                                                                                                                                                                                           |
| Covers concentrations up to                                                            | 5%                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Exposure duration                                                                      | Avoid carrying out activities involving exposure for more than 4 hours                                                                                                                                                                                                                                                                                                                                                                      |
| Use frequency                                                                          | Covers daily exposures up to 8 hours (unless stated differently).                                                                                                                                                                                                                                                                                                                                                                           |
| Technical conditions and measures to control dispersion from source towards the worker | Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour)                                                                                                                                                                                                                                                                                                                                                  |
| Conditions and measures related to personal protection, hygiene and health evaluation  | Use suitable eye protection<br>Wear chemically resistant gloves (tested to EN 374) in combination with 'basic' employee training Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying Efficiency of at least 90%<br>See Section 8 for information on appropriate personal protective equipment |
| Indoor/Outdoor use                                                                     | Indoor                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Assumes process temperature up to                                                      | 30 C                                                                                                                                                                                                                                                                                                                                                                                                                                        |

## Section 3 - Exposure estimation

Environmental release category(ies) - ERC8c - Wide dispersive indoor use resulting in inclusion into or onto a matrix  
- ERC8f - Wide dispersive outdoor use resulting in inclusion into or onto a matrix

**Predicted No Effect Concentration  
(PNEC)**

|                            |                    |
|----------------------------|--------------------|
| Freshwater                 | 0.05 mg/l          |
| Freshwater sediment        | 0.181 mg/kg d.w.   |
| Marine water               | 0.005 mg/l         |
| Marine sediment            | 0.018 mg/kg d.w.   |
| Soil                       | 0.00687 mg/kg d.w. |
| Impact on Sewage Treatment | 20 mg/l            |
| Intermittent release       | 0.072 mg/l         |

Calculation method Used EUSES model

**Derived No Effect Level (DNEL):**

|                                         |                        |
|-----------------------------------------|------------------------|
| Worker - inhalative, long-term - local  | 0.6 mg/m <sup>3</sup>  |
| Worker - inhalative, short-term - local | 5.36 mg/m <sup>3</sup> |

Calculation method The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated

## **Section 4 - Guidance to check compliance with the exposure scenario**

Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.

If scaling reveals a condition of unsafe use (i.e., RCRs > 1), additional RMMs or a site-specific chemical safety assessment is required.

## Annex to the Safety Data Sheet according to Regulation (EC) No 1907/2006 [REACH]

**Product Name** XIAMETER OFS-6020 SILANE  
**Chemical name** N-(3-(TRIMETHOXYSILYL) PROPYL)-1,2-ETHANEDIAMINE  
**Pure substance/mixture** Substance  
**REACH registration number** 01-2119970215-39-XXXX  
**CAS No** 1760-24-3  
**EC No (EU Index No)** 217-164-6  
**Supplier** Univar Solutions UK Ltd  
 Aquarius House  
 6 Mid Point Business Park  
 Bradford  
 GBR  
  
**Non-Emergency Telephone Number** +44 1274 267300 / +44 1274 267306  
  
**E-mail address** SDS.EMEA@univarsolutions.com

### Section 1 - Title

**Title** Coatings  
**Type** Worker  
**Main user group** Professional uses: Public domain (administration, education, entertainment, services, craftsmen)  
**Environmental release category(ies)** ERC8c - Wide dispersive indoor use resulting in inclusion into or onto a matrix ERC8f - Wide dispersive outdoor use resulting in inclusion into or onto a matrix  
**Process category(ies)** PROC4 - Use in batch and other process (synthesis) where opportunity for exposure arises  
 PROC5 - Mixing or blending in batch processes for formulation of preparations and articles (multi-stage and/or significant contact)  
 PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities  
 PROC10 - Roller application or brushing  
 PROC11 - Non industrial spraying  
  
**Product Name** XIAMETER OFS-6020 SILANE  
**Sector(s) of use** SU17 - General manufacturing SU18 - Manufacture of furniture SU19 - Building and construction work SU22 - Professional uses

### Section 2 - Operational conditions and risk management measures

#### Section 2.1 - Control of environmental exposure

**Environmental release category(ies)** - ERC8c - Wide dispersive indoor use resulting in inclusion into or onto a matrix  
 - ERC8f - Wide dispersive outdoor use resulting in inclusion into or onto a matrix

#### Conditions and measures related to municipal sewage treatment plant

|                            |               |
|----------------------------|---------------|
| Type                       | Municipal STP |
| Removal efficiency (total) | >= 0.003%     |

#### Conditions and measures related to external treatment of waste for disposal

|          |                                                                            |
|----------|----------------------------------------------------------------------------|
| Disposal | Dispose of waste product or used containers according to local regulations |
|----------|----------------------------------------------------------------------------|

#### Control of worker exposure

|                                                                                        |                                                                                            |
|----------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------|
| Process category(ies)                                                                  | PROC4 - Use in batch and other process (synthesis) where opportunity for exposure arises   |
| Covers concentrations up to                                                            | 5%                                                                                         |
| Use frequency                                                                          | Covers daily exposures up to 8 hours (unless stated differently).                          |
| Technical conditions and measures to control dispersion from source towards the worker | Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour) |

|                                                                                       |                             |
|---------------------------------------------------------------------------------------|-----------------------------|
| Conditions and measures related to personal protection, hygiene and health evaluation | Use suitable eye protection |
| Indoor/Outdoor use                                                                    | Indoor                      |
| Assumes process temperature up to                                                     | 20 C                        |

|                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                 |
|----------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Process category(ies)                                                                  | PROC5 - Mixing or blending in batch processes for formulation of preparations and articles (multi-stage and/or significant contact)                                                                                                                                                                                                                                             |
| Covers concentrations up to                                                            | 5%                                                                                                                                                                                                                                                                                                                                                                              |
| Physical form of product                                                               | Solid, medium dustiness                                                                                                                                                                                                                                                                                                                                                         |
| Level of dustiness                                                                     | Low                                                                                                                                                                                                                                                                                                                                                                             |
| Exposure duration                                                                      | Avoid carrying out activities involving exposure for more than 4 hours                                                                                                                                                                                                                                                                                                          |
| Use frequency                                                                          | Covers daily exposures up to 8 hours (unless stated differently).                                                                                                                                                                                                                                                                                                               |
| Technical conditions and measures to control dispersion from source towards the worker | Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour)                                                                                                                                                                                                                                                                                      |
| Conditions and measures related to personal protection, hygiene and health evaluation  | Use suitable eye protection<br>Wear suitable gloves tested to EN 374 Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying Efficiency of at least 80%<br>See Section 8 for information on appropriate personal protective equipment |
| Indoor/Outdoor use                                                                     | Indoor                                                                                                                                                                                                                                                                                                                                                                          |
| Assumes process temperature up to                                                      | 20 C                                                                                                                                                                                                                                                                                                                                                                            |

|                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|----------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Process category(ies)                                                                  | PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities                                                                                                                                                                                                                                                                                                                                                 |
| Covers concentrations up to                                                            | 5%                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Physical form of product                                                               | Solid, medium dustiness                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Level of dustiness                                                                     | Low                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Exposure duration                                                                      | Avoid carrying out activities involving exposure for more than 4 hours                                                                                                                                                                                                                                                                                                                                                                                                            |
| Use frequency                                                                          | Covers daily exposures up to 8 hours (unless stated differently).                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Technical conditions and measures to control dispersion from source towards the worker | Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour)                                                                                                                                                                                                                                                                                                                                                                                        |
| Conditions and measures related to personal protection, hygiene and health evaluation  | Use suitable eye protection<br>Wear suitable gloves tested to EN 374 Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying Efficiency of at least 80%<br>Wear a respirator conforming to EN 140 with Type A filter or better Efficiency of at least 90%<br>See Section 8 for information on appropriate personal protective equipment |
| Indoor/Outdoor use                                                                     | Indoor                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Assumes process temperature up to                                                      | 40 C                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |

|                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                 |
|----------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Process category(ies)                                                                  | PROC10 - Roller application or brushing                                                                                                                                                                                                                                                                                                                                         |
| Covers concentrations up to                                                            | 5%                                                                                                                                                                                                                                                                                                                                                                              |
| Use frequency                                                                          | Covers daily exposures up to 8 hours (unless stated differently).                                                                                                                                                                                                                                                                                                               |
| Technical conditions and measures to control dispersion from source towards the worker | Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour)                                                                                                                                                                                                                                                                                      |
| Conditions and measures related to personal protection, hygiene and health evaluation  | Use suitable eye protection<br>Wear suitable gloves tested to EN 374 Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying Efficiency of at least 80%<br>See Section 8 for information on appropriate personal protective equipment |
| Indoor/Outdoor use                                                                     | Indoor                                                                                                                                                                                                                                                                                                                                                                          |

|                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|----------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Assumes process temperature up to                                                      | 20 C                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Process category(ies)                                                                  | PROC11 - Non industrial spraying                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Covers concentrations up to                                                            | 5%                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Physical form of product                                                               | Solid, medium dustiness                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Level of dustiness                                                                     | Low                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Exposure duration                                                                      | Avoid carrying out activities involving exposure for more than 4 hours                                                                                                                                                                                                                                                                                                                                                                                                            |
| Use frequency                                                                          | Covers daily exposures up to 8 hours (unless stated differently).                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Technical conditions and measures to control dispersion from source towards the worker | Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour)                                                                                                                                                                                                                                                                                                                                                                                        |
| Conditions and measures related to personal protection, hygiene and health evaluation  | Use suitable eye protection<br>Wear suitable gloves tested to EN 374 Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying Efficiency of at least 80%<br>Wear a respirator conforming to EN 140 with Type A filter or better Efficiency of at least 90%<br>See Section 8 for information on appropriate personal protective equipment |
| Indoor/Outdoor use                                                                     | Indoor                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Assumes process temperature up to                                                      | 20 C                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |

### Section 3 - Exposure estimation

**Environmental release category(ies) - ERC8c - Wide dispersive indoor use resulting in inclusion into or onto a matrix**  
**- ERC8f - Wide dispersive outdoor use resulting in inclusion into or onto a matrix**

#### Predicted No Effect Concentration (PNEC)

|                            |                    |
|----------------------------|--------------------|
| Freshwater                 | 0.05 mg/l          |
| Freshwater sediment        | 0.181 mg/kg d.w.   |
| Marine water               | 0.005 mg/l         |
| Marine sediment            | 0.018 mg/kg d.w.   |
| Soil                       | 0.00687 mg/kg d.w. |
| Impact on Sewage Treatment | 20 mg/l            |
| Intermittent release       | 0.072 mg/l         |

**Calculation method** Used EUSES model

#### Derived No Effect Level (DNEL):

|                                         |                        |
|-----------------------------------------|------------------------|
| Worker - inhalative, long-term - local  | 0.6 mg/m <sup>3</sup>  |
| Worker - inhalative, short-term - local | 5.36 mg/m <sup>3</sup> |

**Calculation method** The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated

### Section 4 - Guidance to check compliance with the exposure scenario

Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.

If scaling reveals a condition of unsafe use (i.e., RCRs > 1), additional RMMs or a site-specific chemical safety assessment is required.

## Annex to the Safety Data Sheet according to Regulation (EC) No 1907/2006 [REACH]

**Product Name** XIAMETER OFS-6020 SILANE  
**Chemical name** N-(3-(TRIMETHOXYSILYL) PROPYL)-1,2-ETHANEDIAMINE  
**Pure substance/mixture** Substance  
**REACH registration number** 01-2119970215-39-XXXX  
**CAS No** 1760-24-3  
**EC No (EU Index No)** 217-164-6  
**Supplier** Univar Solutions UK Ltd  
 Aquarius House  
 6 Mid Point Business Park  
 Bradford  
 GBR  
  
**Non-Emergency Telephone Number** +44 1274 267300 / +44 1274 267306  
  
**E-mail address** SDS.EMEA@univarsolutions.com

### Section 1 - Title

**Title** road and construction products.  
**Type** Worker  
**Main user group** Professional uses: Public domain (administration, education, entertainment, services, craftsmen)  
**Environmental release category(ies)** ERC8c - Wide dispersive indoor use resulting in inclusion into or onto a matrix ERC8f - Wide dispersive outdoor use resulting in inclusion into or onto a matrix  
**Process category(ies)** PROC5 - Mixing or blending in batch processes for formulation of preparations and articles (multi-stage and/or significant contact)  
 PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities  
 PROC10 - Roller application or brushing  
 PROC11 - Non industrial spraying  
 PROC13 - Treatment of articles by dipping and pouring  
**Product category(ies)** PC0 - Other Products  
**Product Name** XIAMETER OFS-6020 SILANE  
**Sector(s) of use** SU19 - Building and construction work SU22 - Professional uses

### Section 2 - Operational conditions and risk management measures

#### Section 2.1 - Control of environmental exposure

**Environmental release category(ies)** - ERC8c - Wide dispersive indoor use resulting in inclusion into or onto a matrix  
 - ERC8f - Wide dispersive outdoor use resulting in inclusion into or onto a matrix

#### Conditions and measures related to municipal sewage treatment plant

|                            |               |
|----------------------------|---------------|
| Type                       | Municipal STP |
| Removal efficiency (total) | >= 0.003%     |

#### Conditions and measures related to external treatment of waste for disposal

|          |                                                                            |
|----------|----------------------------------------------------------------------------|
| Disposal | Dispose of waste product or used containers according to local regulations |
|----------|----------------------------------------------------------------------------|

#### Control of worker exposure

|                             |                                                                                                                                     |
|-----------------------------|-------------------------------------------------------------------------------------------------------------------------------------|
| Process category(ies)       | PROC5 - Mixing or blending in batch processes for formulation of preparations and articles (multi-stage and/or significant contact) |
| Covers concentrations up to | 5%                                                                                                                                  |
| Physical form of product    | Solid, medium dustiness                                                                                                             |
| Level of dustiness          | Low                                                                                                                                 |
| Exposure duration           | Avoid carrying out activities involving exposure for more than 4 hours                                                              |

|                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                 |
|----------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Use frequency                                                                          | Covers daily exposures up to 8 hours (unless stated differently).                                                                                                                                                                                                                                                                                                               |
| Technical conditions and measures to control dispersion from source towards the worker | Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour)                                                                                                                                                                                                                                                                                      |
| Conditions and measures related to personal protection, hygiene and health evaluation  | Use suitable eye protection<br>Wear suitable gloves tested to EN 374 Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying Efficiency of at least 80%<br>See Section 8 for information on appropriate personal protective equipment |
| Indoor/Outdoor use                                                                     | Indoor                                                                                                                                                                                                                                                                                                                                                                          |
| Assumes process temperature up to                                                      | 30 C                                                                                                                                                                                                                                                                                                                                                                            |

|                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|----------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Process category(ies)                                                                  | PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities                                                                                                                                                                                                                                                                                                                                                 |
| Covers concentrations up to                                                            | 5%                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Physical form of product                                                               | Solid, medium dustiness                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Level of dustiness                                                                     | Low                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Exposure duration                                                                      | Avoid carrying out activities involving exposure for more than 4 hours                                                                                                                                                                                                                                                                                                                                                                                                            |
| Use frequency                                                                          | Covers daily exposures up to 8 hours (unless stated differently).                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Technical conditions and measures to control dispersion from source towards the worker | Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour)                                                                                                                                                                                                                                                                                                                                                                                        |
| Conditions and measures related to personal protection, hygiene and health evaluation  | Use suitable eye protection<br>Wear suitable gloves tested to EN 374 Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying Efficiency of at least 80%<br>Wear a respirator conforming to EN 140 with Type A filter or better Efficiency of at least 90%<br>See Section 8 for information on appropriate personal protective equipment |
| Indoor/Outdoor use                                                                     | Indoor                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Assumes process temperature up to                                                      | 30 C                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |

|                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                 |
|----------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Process category(ies)                                                                  | PROC10 - Roller application or brushing                                                                                                                                                                                                                                                                                                                                         |
| Covers concentrations up to                                                            | 5%                                                                                                                                                                                                                                                                                                                                                                              |
| Use frequency                                                                          | Covers daily exposures up to 8 hours (unless stated differently).                                                                                                                                                                                                                                                                                                               |
| Technical conditions and measures to control dispersion from source towards the worker | Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour)                                                                                                                                                                                                                                                                                      |
| Conditions and measures related to personal protection, hygiene and health evaluation  | Use suitable eye protection<br>Wear suitable gloves tested to EN 374 Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying Efficiency of at least 80%<br>See Section 8 for information on appropriate personal protective equipment |
| Indoor/Outdoor use                                                                     | Indoor                                                                                                                                                                                                                                                                                                                                                                          |
| Assumes process temperature up to                                                      | 30 C                                                                                                                                                                                                                                                                                                                                                                            |

|                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|----------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Process category(ies)                                                                  | PROC11 - Non industrial spraying                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Covers concentrations up to                                                            | 5%                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Physical form of product                                                               | Solid, medium dustiness                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Level of dustiness                                                                     | Low                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Use frequency                                                                          | Covers daily exposures up to 8 hours (unless stated differently).                                                                                                                                                                                                                                                                                                                                                                                         |
| Technical conditions and measures to control dispersion from source towards the worker | Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour)<br>Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately.<br>Provide basic employee training to prevent/minimise exposures and to report any skin |

|                                                                                       |                                                                                                                                                                                                                                                                                                                                                  |
|---------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                       | problems that may develop<br>Avoid direct eye contact with product, also via contamination on hands<br>Provide extract ventilation to points where emissions occur Efficiency of at least 80%                                                                                                                                                    |
| Conditions and measures related to personal protection, hygiene and health evaluation | Wear suitable gloves tested to EN 374 Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying Efficiency of at least 80%<br>See Section 8 for information on appropriate personal protective equipment |
| Indoor/Outdoor use                                                                    | Indoor                                                                                                                                                                                                                                                                                                                                           |
| Assumes process temperature up to                                                     | 40 C                                                                                                                                                                                                                                                                                                                                             |

|                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                 |
|----------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Process category(ies)                                                                  | PROC13 - Treatment of articles by dipping and pouring                                                                                                                                                                                                                                                                                                                           |
| Covers concentrations up to                                                            | 5%                                                                                                                                                                                                                                                                                                                                                                              |
| Physical form of product                                                               | Solid, medium dustiness                                                                                                                                                                                                                                                                                                                                                         |
| Level of dustiness                                                                     | Low                                                                                                                                                                                                                                                                                                                                                                             |
| Exposure duration                                                                      | Avoid carrying out activities involving exposure for more than 4 hours                                                                                                                                                                                                                                                                                                          |
| Use frequency                                                                          | Covers daily exposures up to 8 hours (unless stated differently).                                                                                                                                                                                                                                                                                                               |
| Technical conditions and measures to control dispersion from source towards the worker | Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour)                                                                                                                                                                                                                                                                                      |
| Conditions and measures related to personal protection, hygiene and health evaluation  | Use suitable eye protection<br>Wear suitable gloves tested to EN 374 Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying Efficiency of at least 80%<br>See Section 8 for information on appropriate personal protective equipment |
| Indoor/Outdoor use                                                                     | Indoor                                                                                                                                                                                                                                                                                                                                                                          |
| Assumes process temperature up to                                                      | 30 C                                                                                                                                                                                                                                                                                                                                                                            |

### Section 3 - Exposure estimation

**Environmental release category(ies) - ERC8c - Wide dispersive indoor use resulting in inclusion into or onto a matrix**  
**- ERC8f - Wide dispersive outdoor use resulting in inclusion into or onto a matrix**

#### Predicted No Effect Concentration (PNEC)

|                            |                    |
|----------------------------|--------------------|
| Freshwater                 | 0.05 mg/l          |
| Freshwater sediment        | 0.181 mg/kg d.w.   |
| Marine water               | 0.005 mg/l         |
| Marine sediment            | 0.018 mg/kg d.w.   |
| Soil                       | 0.00687 mg/kg d.w. |
| Impact on Sewage Treatment | 20 mg/l            |
| Intermittent release       | 0.072 mg/l         |

**Calculation method** Used EUSES model

#### Derived No Effect Level (DNEL):

|                                         |                        |
|-----------------------------------------|------------------------|
| Worker - inhalative, long-term - local  | 0.6 mg/m <sup>3</sup>  |
| Worker - inhalative, short-term - local | 5.36 mg/m <sup>3</sup> |

**Calculation method** The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated

## **Section 4 - Guidance to check compliance with the exposure scenario**

Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.

If scaling reveals a condition of unsafe use (i.e., RCRs > 1), additional RMMs or a site-specific chemical safety assessment is required.

## Annex to the Safety Data Sheet according to Regulation (EC) No 1907/2006 [REACH]

**Product Name** XIAMETER OFS-6020 SILANE  
**Chemical name** N-(3-(TRIMETHOXYSILYL) PROPYL)-1,2-ETHANEDIAMINE  
**Pure substance/mixture** Substance  
**REACH registration number** 01-2119970215-39-XXXX  
**CAS No** 1760-24-3  
**EC No (EU Index No)** 217-164-6  
**Supplier** Univar Solutions UK Ltd  
 Aquarius House  
 6 Mid Point Business Park  
 Bradford  
 GBR  
  
**Non-Emergency Telephone Number** +44 1274 267300 / +44 1274 267306  
  
**E-mail address** SDS.EMEA@univarsolutions.com

### Section 1 - Title

**Title** Adhesives, sealants  
**Type** Consumer  
**Main user group** Consumer uses: Private households (= general public = consumers)  
**Environmental release category(ies)** ERC8c - Wide dispersive indoor use resulting in inclusion into or onto a matrix ERC8f - Wide dispersive outdoor use resulting in inclusion into or onto a matrix  
**Product category(ies)** PC1 - Adhesives, sealants  
**Product Name** XIAMETER OFS-6020 SILANE  
**Sector(s) of use** SU21 - Consumer uses

### Section 2 - Operational conditions and risk management measures

#### Section 2.1 - Control of environmental exposure

**Environmental release category(ies)** - ERC8c - Wide dispersive indoor use resulting in inclusion into or onto a matrix  
 - ERC8f - Wide dispersive outdoor use resulting in inclusion into or onto a matrix

#### Conditions and measures related to municipal sewage treatment plant

|                            |               |
|----------------------------|---------------|
| Type                       | Municipal STP |
| Removal efficiency (total) | >= 0.003%     |

#### Conditions and measures related to external treatment of waste for disposal

|          |                                                                            |
|----------|----------------------------------------------------------------------------|
| Disposal | Dispose of waste product or used containers according to local regulations |
|----------|----------------------------------------------------------------------------|

#### Control of consumer exposure

|                             |                                                                        |
|-----------------------------|------------------------------------------------------------------------|
| Product categories [PC]     | PC1 - Adhesives, sealants                                              |
| Covers concentrations up to | 5%                                                                     |
| Amounts used                | Amount per use <= 9 g/event                                            |
| Exposure duration           | Avoid carrying out activities involving exposure for more than 4 hours |
| Use frequency               | 1 events per day                                                       |
| Risk management measures    | No Oral exposure<br>No Spraying                                        |

|                             |                               |
|-----------------------------|-------------------------------|
| Product categories [PC]     | PC1 - Adhesives, sealants     |
| Product (sub) category(ies) | Glue from spray               |
| Covers concentrations up to | 5%                            |
| Amounts used                | Amount per use <= 204 g/event |

|                                |                                                                        |
|--------------------------------|------------------------------------------------------------------------|
| Exposure duration              | Avoid carrying out activities involving exposure for more than 4 hours |
| Use frequency                  | 1 events per day                                                       |
| Risk management measures       | No Oral exposure                                                       |
| Covers skin contact area up to | 1 - 2 cm <sup>2</sup>                                                  |

|                             |                                                               |
|-----------------------------|---------------------------------------------------------------|
| Product categories [PC]     | PC1 - Adhesives, sealants                                     |
| Product (sub) category(ies) | Caulking                                                      |
| Covers concentrations up to | 5%                                                            |
| Amounts used                | Amount per use <= 75 g/event                                  |
| Exposure duration           | Avoid carrying out operation for more than 1 hours 15 minutes |
| Use frequency               | 1 events per day                                              |
| Risk management measures    | No Oral exposure<br>No Spraying                               |

|                                |                                                                        |
|--------------------------------|------------------------------------------------------------------------|
| Product categories [PC]        | PC1 - Adhesives, sealants                                              |
| Product (sub) category(ies)    | Sealant                                                                |
| Covers concentrations up to    | 5%                                                                     |
| Amounts used                   | Amount per use <= 390 g/event                                          |
| Exposure duration              | Avoid carrying out activities involving exposure for more than 4 hours |
| Use frequency                  | 1 events per day                                                       |
| Risk management measures       | No Oral exposure<br>No Spraying                                        |
| Covers skin contact area up to | 1 - 2 cm <sup>2</sup>                                                  |

### Section 3 - Exposure estimation

**Environmental release category(ies) - ERC8c - Wide dispersive indoor use resulting in inclusion into or onto a matrix**  
**- ERC8f - Wide dispersive outdoor use resulting in inclusion into or onto a matrix**

#### Predicted No Effect Concentration (PNEC)

|                            |                    |
|----------------------------|--------------------|
| Freshwater                 | 0.05 mg/l          |
| Freshwater sediment        | 0.181 mg/kg d.w.   |
| Marine water               | 0.005 mg/l         |
| Marine sediment            | 0.018 mg/kg d.w.   |
| Soil                       | 0.00687 mg/kg d.w. |
| Impact on Sewage Treatment | 20 mg/l            |
| Intermittent release       | 0.072 mg/l         |

**Calculation method** Used EUSES model

#### Derived No Effect Level (DNEL):

|                                         |                        |
|-----------------------------------------|------------------------|
| Worker - inhalative, long-term - local  | 0.6 mg/m <sup>3</sup>  |
| Worker - inhalative, short-term - local | 5.36 mg/m <sup>3</sup> |

**Calculation method** The ECETOC TRA tool has been used to estimate consumer exposures unless otherwise indicated The Consexpo model has been used to estimate consumer exposures unless otherwise indicated

### Section 4 - Guidance to check compliance with the exposure scenario

Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.

If scaling reveals a condition of unsafe use (i.e., RCRs > 1), additional RMMs or a site-specific chemical safety assessment is required.

## Annex to the Safety Data Sheet according to Regulation (EC) No 1907/2006 [REACH]

|                                       |                                                                                           |
|---------------------------------------|-------------------------------------------------------------------------------------------|
| <b>Product Name</b>                   | XIAMETER OFS-6020 SILANE                                                                  |
| <b>Chemical name</b>                  | N-(3-(TRIMETHOXYSILYL) PROPYL)-1,2-ETHANEDIAMINE                                          |
| <b>Pure substance/mixture</b>         | Substance                                                                                 |
| <b>REACH registration number</b>      | 01-2119970215-39-XXXX                                                                     |
| <b>CAS No</b>                         | 1760-24-3                                                                                 |
| <b>EC No (EU Index No)</b>            | 217-164-6                                                                                 |
| <b>Supplier</b>                       | Univar Solutions UK Ltd<br>Aquarius House<br>6 Mid Point Business Park<br>Bradford<br>GBR |
| <b>Non-Emergency Telephone Number</b> | +44 1274 267300 / +44 1274 267306                                                         |
| <b>E-mail address</b>                 | SDS.EMEA@univarsolutions.com                                                              |

### Section 1 - Title

|                                            |                                                                                                                                                                  |
|--------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Title</b>                               | Coatings                                                                                                                                                         |
| <b>Type</b>                                | Consumer                                                                                                                                                         |
| <b>Main user group</b>                     | Consumer uses: Private households (= general public = consumers)                                                                                                 |
| <b>Environmental release category(ies)</b> | ERC8c - Wide dispersive indoor use resulting in inclusion into or onto a matrix ERC8f - Wide dispersive outdoor use resulting in inclusion into or onto a matrix |
| <b>Product category(ies)</b>               | PC9a - Coatings and paints, thinners, paint removers                                                                                                             |
| <b>Product Name</b>                        | XIAMETER OFS-6020 SILANE                                                                                                                                         |
| <b>Sector(s) of use</b>                    | SU21 - Consumer uses                                                                                                                                             |

### Section 2 - Operational conditions and risk management measures

#### Section 2.1 - Control of environmental exposure

**Environmental release category(ies)** - ERC8c - Wide dispersive indoor use resulting in inclusion into or onto a matrix  
- ERC8f - Wide dispersive outdoor use resulting in inclusion into or onto a matrix

#### Other operational conditions of use affecting environmental exposure

|               |     |
|---------------|-----|
| Emission days | 365 |
|---------------|-----|

#### Conditions and measures related to municipal sewage treatment plant

|                            |               |
|----------------------------|---------------|
| Type                       | Municipal STP |
| Removal efficiency (total) | >= 0.003%     |

#### Conditions and measures related to external recovery of waste

|        |                                                                                                          |
|--------|----------------------------------------------------------------------------------------------------------|
| Method | External recovery and recycling of waste should comply with applicable local and/or national regulations |
|--------|----------------------------------------------------------------------------------------------------------|

#### Conditions and measures related to external treatment of waste for disposal

|          |                                                                     |
|----------|---------------------------------------------------------------------|
| Disposal | Dispose of waste cans and containers according to local regulations |
|----------|---------------------------------------------------------------------|

#### Control of consumer exposure

|                             |                                                                   |
|-----------------------------|-------------------------------------------------------------------|
| Product categories [PC]     | PC9a - Coatings and paints, thinners, paint removers              |
| Covers concentrations up to | 0%                                                                |
| Amounts used                | Amount per use <= 3750 g/event                                    |
| Exposure duration           | Covers daily exposures up to 8 hours (unless stated differently). |
| Use frequency               | 1 events per day                                                  |

|                          |                                 |
|--------------------------|---------------------------------|
| Risk management measures | No Oral exposure<br>No Spraying |
|--------------------------|---------------------------------|

|                             |                                                      |
|-----------------------------|------------------------------------------------------|
| Product categories [PC]     | PC9a - Coatings and paints, thinners, paint removers |
| Covers concentrations up to | 0%                                                   |
| Amounts used                | Amount per use <= 1300 g/event                       |
| Exposure duration           | Avoid carrying out operation for more than 7 hours   |
| Use frequency               | 1 events per day                                     |
| Risk management measures    | No Oral exposure<br>No Spraying                      |

|                                |                                                      |
|--------------------------------|------------------------------------------------------|
| Product categories [PC]        | PC9a - Coatings and paints, thinners, paint removers |
| Covers concentrations up to    | 1%                                                   |
| Amounts used                   | Amount per use <= 1300 g/event                       |
| Exposure duration              | Avoid carrying out operation for more than 7 hours   |
| Use frequency                  | 1 events per day                                     |
| Risk management measures       | No Oral exposure<br>No Spraying                      |
| Covers skin contact area up to | 150 - 200 cm2                                        |

|                             |                                                       |
|-----------------------------|-------------------------------------------------------|
| Product categories [PC]     | PC9a - Coatings and paints, thinners, paint removers  |
| Covers concentrations up to | 0%                                                    |
| Amounts used                | Amount per use <= 300 g/event                         |
| Exposure duration           | Avoid carrying out operation for more than 0.33 hours |
| Use frequency               | 1 events per day                                      |
| Risk management measures    | No Oral exposure                                      |

|                                |                                                       |
|--------------------------------|-------------------------------------------------------|
| Product categories [PC]        | PC9a - Coatings and paints, thinners, paint removers  |
| Covers concentrations up to    | 1%                                                    |
| Amounts used                   | Amount per use <= 300 g/event                         |
| Exposure duration              | Avoid carrying out operation for more than 0.33 hours |
| Use frequency                  | 1 events per day                                      |
| Risk management measures       | No Oral exposure                                      |
| Covers skin contact area up to | 150 - 200 cm2                                         |

|                                |                                                      |
|--------------------------------|------------------------------------------------------|
| Product categories [PC]        | PC9a - Coatings and paints, thinners, paint removers |
| Covers concentrations up to    | 5%                                                   |
| Amounts used                   | Amount per use <= 1300 g/event                       |
| Exposure duration              | Avoid carrying out operation for more than 7 hours   |
| Use frequency                  | 1 events per day                                     |
| Risk management measures       | No Oral exposure<br>No Spraying                      |
| Covers skin contact area up to | 150 - 200 cm2                                        |

|                                |                                                       |
|--------------------------------|-------------------------------------------------------|
| Product categories [PC]        | PC9a - Coatings and paints, thinners, paint removers  |
| Covers concentrations up to    | 5%                                                    |
| Amounts used                   | Amount per use <= 300 g/event                         |
| Exposure duration              | Avoid carrying out operation for more than 0.33 hours |
| Use frequency                  | 1 events per day                                      |
| Risk management measures       | No Oral exposure                                      |
| Covers skin contact area up to | 150 - 200 cm2                                         |

### Section 3 - Exposure estimation

Environmental release category(ies) - ERC8c - Wide dispersive indoor use resulting in inclusion into or onto a matrix  
- ERC8f - Wide dispersive outdoor use resulting in inclusion into or onto a matrix

**Predicted No Effect Concentration  
(PNEC)**

|                            |                    |
|----------------------------|--------------------|
| Freshwater                 | 0.05 mg/l          |
| Freshwater sediment        | 0.181 mg/kg d.w.   |
| Marine water               | 0.005 mg/l         |
| Marine sediment            | 0.018 mg/kg d.w.   |
| Soil                       | 0.00687 mg/kg d.w. |
| Impact on Sewage Treatment | 20 mg/l            |
| Intermittent release       | 0.072 mg/l         |

**Calculation method** Used EUSES model

**Derived No Effect Level (DNEL):**

|                                         |                        |
|-----------------------------------------|------------------------|
| Worker - inhalative, long-term - local  | 0.6 mg/m <sup>3</sup>  |
| Worker - inhalative, short-term - local | 5.36 mg/m <sup>3</sup> |

**Calculation method** The ECETOC TRA tool has been used to estimate consumer exposures unless otherwise indicated The Consexpo model has been used to estimate consumer exposures unless otherwise indicated

## **Section 4 - Guidance to check compliance with the exposure scenario**

Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.

If scaling reveals a condition of unsafe use (i.e., RCRs > 1), additional RMMs or a site-specific chemical safety assessment is required.

## Annex to the Safety Data Sheet according to Regulation (EC) No 1907/2006 [REACH]

|                                       |                                                                                           |
|---------------------------------------|-------------------------------------------------------------------------------------------|
| <b>Product Name</b>                   | XIAMETER OFS-6020 SILANE                                                                  |
| <b>Chemical name</b>                  | N-(3-(TRIMETHOXYSYLYL) PROPYL)-1,2-ETHANEDIAMINE                                          |
| <b>Pure substance/mixture</b>         | Substance                                                                                 |
| <b>REACH registration number</b>      | 01-2119970215-39-XXXX                                                                     |
| <b>CAS No</b>                         | 1760-24-3                                                                                 |
| <b>EC No (EU Index No)</b>            | 217-164-6                                                                                 |
| <b>Supplier</b>                       | Univar Solutions UK Ltd<br>Aquarius House<br>6 Mid Point Business Park<br>Bradford<br>GBR |
| <b>Non-Emergency Telephone Number</b> | +44 1274 267300 / +44 1274 267306                                                         |
| <b>E-mail address</b>                 | SDS.EMEA@univarsolutions.com                                                              |

### Section 1 - Title

|                                            |                                                                                                                                                                  |
|--------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Title</b>                               | road and construction products.                                                                                                                                  |
| <b>Type</b>                                | Consumer                                                                                                                                                         |
| <b>Main user group</b>                     | Consumer uses: Private households (= general public = consumers)                                                                                                 |
| <b>Environmental release category(ies)</b> | ERC8c - Wide dispersive indoor use resulting in inclusion into or onto a matrix ERC8f - Wide dispersive outdoor use resulting in inclusion into or onto a matrix |
| <b>Product category(ies)</b>               | PC0 - Other Products                                                                                                                                             |
| <b>Product Name</b>                        | XIAMETER OFS-6020 SILANE                                                                                                                                         |
| <b>Sector(s) of use</b>                    | SU21 - Consumer uses                                                                                                                                             |

### Section 2 - Operational conditions and risk management measures

#### Section 2.1 - Control of environmental exposure

**Environmental release category(ies)** - ERC8c - Wide dispersive indoor use resulting in inclusion into or onto a matrix  
- ERC8f - Wide dispersive outdoor use resulting in inclusion into or onto a matrix

#### Other operational conditions of use affecting environmental exposure

|               |     |
|---------------|-----|
| Emission days | 365 |
|---------------|-----|

#### Conditions and measures related to municipal sewage treatment plant

|                            |               |
|----------------------------|---------------|
| Type                       | Municipal STP |
| Removal efficiency (total) | >= 0.003%     |

#### Conditions and measures related to external treatment of waste for disposal

|          |                                                                            |
|----------|----------------------------------------------------------------------------|
| Disposal | Dispose of waste product or used containers according to local regulations |
|----------|----------------------------------------------------------------------------|

#### Control of consumer exposure

|                             |                                                               |
|-----------------------------|---------------------------------------------------------------|
| Product categories [PC]     | PC0 - Other Products                                          |
| Covers concentrations up to | 5%                                                            |
| Amounts used                | Amount per use <= 500 g/event                                 |
| Exposure duration           | Avoid carrying out operation for more than 1 hours 15 minutes |
| Use frequency               | 1 events per day                                              |
| Risk management measures    | No Oral exposure<br>No Spraying                               |

|                             |                      |
|-----------------------------|----------------------|
| Product categories [PC]     | PC0 - Other Products |
| Covers concentrations up to | 0.1%                 |

|                          |                                                               |
|--------------------------|---------------------------------------------------------------|
| Amounts used             | Amount per use <= 500 g/event                                 |
| Exposure duration        | Avoid carrying out operation for more than 1 hours 15 minutes |
| Use frequency            | 1 events per day                                              |
| Risk management measures | No Oral exposure<br>No Spraying                               |

|                             |                                                      |
|-----------------------------|------------------------------------------------------|
| Product categories [PC]     | PC0 - Other Products                                 |
| Covers concentrations up to | 0.1%                                                 |
| Amounts used                | Amount per use <= 1000 g/event                       |
| Exposure duration           | Avoid carrying out operation for more than 2.2 hours |
| Use frequency               | 1 events per day                                     |
| Risk management measures    | No Oral exposure<br>No Spraying                      |

|                                |                                                                        |
|--------------------------------|------------------------------------------------------------------------|
| Product categories [PC]        | PC0 - Other Products                                                   |
| Covers concentrations up to    | 0.1%                                                                   |
| Amounts used                   | Amount per use <= 4082 g/event                                         |
| Exposure duration              | Avoid carrying out activities involving exposure for more than 4 hours |
| Use frequency                  | 1 events per day                                                       |
| Risk management measures       | No Oral exposure<br>No Spraying                                        |
| Covers skin contact area up to | 1 - 2 cm <sup>2</sup>                                                  |

|                             |                                                                       |
|-----------------------------|-----------------------------------------------------------------------|
| Product categories [PC]     | PC0 - Other Products                                                  |
| Covers concentrations up to | 0.1%                                                                  |
| Amounts used                | Amount per use <= 1000 g/event                                        |
| Exposure duration           | Avoid carrying out activities involving exposure for more than 1 hour |
| Use frequency               | 1 events per day                                                      |
| Risk management measures    | No Oral exposure                                                      |

### Section 3 - Exposure estimation

**Environmental release category(ies) - ERC8c - Wide dispersive indoor use resulting in inclusion into or onto a matrix**  
**- ERC8f - Wide dispersive outdoor use resulting in inclusion into or onto a matrix**

#### Predicted No Effect Concentration (PNEC)

|                            |                    |
|----------------------------|--------------------|
| Freshwater                 | 0.05 mg/l          |
| Freshwater sediment        | 0.181 mg/kg d.w.   |
| Marine water               | 0.005 mg/l         |
| Marine sediment            | 0.018 mg/kg d.w.   |
| Soil                       | 0.00687 mg/kg d.w. |
| Impact on Sewage Treatment | 20 mg/l            |
| Intermittent release       | 0.072 mg/l         |

**Calculation method** Used EUSES model

#### Derived No Effect Level (DNEL):

|                                         |                        |
|-----------------------------------------|------------------------|
| Worker - inhalative, long-term - local  | 0.6 mg/m <sup>3</sup>  |
| Worker - inhalative, short-term - local | 5.36 mg/m <sup>3</sup> |

**Calculation method** The ECETOC TRA tool has been used to estimate consumer exposures unless otherwise

indicated The Consexpo model has been used to estimate consumer exposures unless otherwise indicated

#### **Section 4 - Guidance to check compliance with the exposure scenario**

Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.

If scaling reveals a condition of unsafe use (i.e., RCRs > 1), additional RMMs or a site-specific chemical safety assessment is required.