

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

Revision date 18-Jun-2025

Revision Number 1

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

### 1.1. Product identifier

**Product Code(s)** 126491  
**Safety data sheet number** 126491  
**Product Name** ONGRONAT XP 1184

**Pure substance/mixture** Mixture

Contains 4, 4'-MDI/PPG; REACTION MASS OF 4,4'-METHYLENEDIPHENYL DIISOCYANATE AND O-(P-ISOCYANATO BENZYL)PHENYL ISOCYANATE / METHYLENE DIPHENYL DIISOCYANATE

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

**Recommended use** Manufacture of polyurethane.  
Isocyanate component for polyurethanes.

**Uses advised against** Consumer spray applications  
Consumer applications that require heating above room temperature before or during use.  
Professional cleaning applications with aprotic polar solvents (meeting the IUPAC definition)  
Do not use for private purposes (household)

### 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

|                                                    |                     |
|----------------------------------------------------|---------------------|
| Acute toxicity - Inhalation (Vapours)              | Category 4 - (H332) |
| Skin corrosion/irritation                          | Category 2 - (H315) |
| Serious eye damage/eye irritation                  | Category 2 - (H319) |
| Respiratory sensitisation                          | Category 1 - (H334) |
| Skin sensitisation                                 | Category 1 - (H317) |
| Carcinogenicity                                    | Category 2 - (H351) |
| Specific target organ toxicity — single exposure   | Category 3 - (H335) |
| Category 3 Respiratory irritation                  |                     |
| Specific target organ toxicity — repeated exposure | Category 2 - (H373) |

## 2.2. Label elements

Contains 4, 4'-MDI/PPG; REACTION MASS OF 4,4'-METHYLENEDIPHENYL DIISOCYANATE AND O-(P-ISOCYANATOBENZYL)PHENYL ISOCYANATE / METHYLENE DIPHENYL DIISOCYANATE



### Signal word

Danger

### Hazard statements

H315 - Causes skin irritation  
H317 - May cause an allergic skin reaction  
H319 - Causes serious eye irritation  
H332 - Harmful if inhaled  
H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled  
H335 - May cause respiratory irritation  
H351 - Suspected of causing cancer  
H373 - May cause damage to organs through prolonged or repeated exposure  
EUH204 - Contains isocyanates. May produce an allergic reaction

### Precautionary statements

P260 - Do not breathe dust/fume/gas/mist/vapours/spray  
P280 - Wear protective gloves/protective clothing/eye protection/face protection  
P284 - Wear respiratory protection  
P302 + P352 - IF ON SKIN: Wash with plenty of soap and water  
P304 + P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing  
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing  
P308 + P313 - IF exposed or concerned: Get medical advice/attention

### Additional information

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

## 2.3. Other hazards

As from 24 August 2023 adequate training is required before industrial or professional use.

## SECTION 3: Composition/information on ingredients

**3.1 Substances**

Not applicable

**3.2 Mixtures**

| 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) |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|---------------------|------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------|----------|----------------------|
| 4, 4'-MDI/PPG 9048-57-1                                                                                                                                                       | 50 - 70% | 500-028-8           | -                            | Skin Irrit. 2 (H315)<br>Skin Sens. 1B (H317)<br>Eye Irrit. 2 (H319)<br>Acute Tox. 4 (H332)<br>Resp. Sens. 1 (H334)<br>STOT SE 3 (H335)<br>Carc. 2 (H351)<br>STOT RE 2 (H373) | -                                  | -        | -                    |
| REACTION MASS OF<br>OF<br>4,4'-METHYLENEDI<br>PHENYL<br>DIISOCYANATE<br>AND<br>O-(P-ISOCYANATO<br>BENZYL)PHENYL<br>ISOCYANATE /<br>METHYLENE<br>DIPHENYL<br>DIISOCYANATE<br>- | 30 - 50% | 905-806-4           | -                            | Skin Irrit. 2 (H315)<br>Skin Sens. 1B (H317)<br>Eye Irrit. 2 (H319)<br>Acute Tox. 4 (H332)<br>Resp. Sens. 1 (H334)<br>STOT SE 3 (H335)<br>Carc. 2 (H351)<br>STOT RE 2 (H373) | -                                  | -        | -                    |

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

This product does not contain candidate substances of very high concern at a concentration  $\geq 0.1\%$  (UK REACH Article 59)

**SECTION 4: First aid measures****4.1. Description of first aid measures**

|                       |                                                                                                                                                                                                                                                                                     |
|-----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>General advice</b> | Show this safety data sheet to the doctor in attendance. IF exposed or concerned: Get medical advice/attention.                                                                                                                                                                     |
| <b>Inhalation</b>     | May cause allergic respiratory reaction. If breathing has stopped, give artificial respiration. Get medical attention immediately. Remove to fresh air. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation.                                           |
| <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. Keep eye wide open while rinsing. Do not rub affected area. Get medical attention if irritation develops and persists. |
| <b>Skin contact</b>   | Take off contaminated clothing and wash it before reuse. May cause an allergic skin reaction. In the case of skin irritation or allergic reactions see a doctor. Wash off immediately with soap and plenty of water for at least 15 minutes.                                        |
| <b>Ingestion</b>      | May produce an allergic reaction. Do NOT induce vomiting. Rinse mouth. Never give                                                                                                                                                                                                   |

anything by mouth to an unconscious person. Get immediate medical attention.

**Self-protection of the first aider** Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. Avoid contact with skin, eyes or clothing. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation. Use personal protective equipment as required. See section 8 for more information. Avoid breathing vapours or mists.

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

**Symptoms** Causes skin irritation. May cause an allergic skin reaction. Causes serious eye irritation. Harmful if inhaled. May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause respiratory irritation. Suspected of causing cancer. May cause damage to organs through prolonged or repeated exposure.

**Inhalation** Harmful if inhaled. May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause respiratory irritation.

**Eyes** Causes serious eye irritation.

**Dermal** Causes skin irritation. May cause an allergic skin reaction.

**Ingestion** No information available

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

**Note to doctors** May cause sensitisation in susceptible persons. Treat symptomatically.

### **SECTION 5: Firefighting measures**

#### **5.1. Extinguishing media**

**Suitable Extinguishing Media** Foam. Carbon dioxide (CO<sub>2</sub>). Dry chemical. Water spray.

**Large Fire** CAUTION: Use of water spray when fighting fire may be inefficient.

**Unsuitable extinguishing media** Do not scatter spilled material with high pressure water streams.

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

**Specific hazards arising from the chemical** Thermal decomposition may release: Carbon oxides. Nitrogen oxides (NO<sub>x</sub>). Hydrocarbons. Isocyanates. Hydrogen cyanide. Product is or contains a sensitiser. May cause sensitisation by inhalation. May cause sensitisation by skin contact.

#### **5.3. Advice for firefighters**

**Special protective equipment and precautions for fire-fighters** Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment. Reaction between water and hot isocyanate may be vigorous. Do not allow runoff to sewer, waterway or ground. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations. Cool containers with flooding quantities of water until well after fire is out. In the event of fire and/or explosion do not breathe fumes. Cylinders may rupture under extreme heat. Move containers from fire area if you can do it without risk. Due to reaction with water producing carbon dioxide (CO<sub>2</sub>) gas, a hazardous build-up of pressure could result if contaminated containers are resealed. Closed containers can burst violently when heated, due to excess pressure build-up.

### **SECTION 6: Accidental release measures**

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

|                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|---------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Personal precautions</b>     | Call emergency response number for advice. Do not clean-up or dispose of unless adequately trained to do so, or under the supervision of a specialist. Keep unnecessary and unprotected personnel from entering. Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Use personal protective equipment as required. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak. Avoid breathing vapours or mists. |
| <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> | Do not allow runoff to sewer, waterway or ground. 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. Do not breathe vapours/spray. Test atmosphere for MDI vapour.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <b>Methods for cleaning up</b>         | <p>Take up with sand, earth or other non-combustible absorbent material. Do not absorb in sawdust or other combustible absorbents. Leave to react for at least 30 minutes. Sweep up and shovel into suitable containers for disposal. Collect spillage in containers, seal securely and deliver for disposal according to local regulations. Industrial cleaning with Aprotic Polar Solvents (meeting the IUPAC definition) may lead to formation of (hazardous) primary aromatic amines (&gt; 0.1 %). Flush remainder carefully with plenty of water. The compositions of liquid decontaminants are (percentages by weight or volume):</p> <p>Decontaminant 1:</p> <ul style="list-style-type: none"><li>- Sodium carbonate: 5 - 10%</li><li>- Liquid detergent: 0.2 - 2%</li><li>- Water: to make up to 100%</li></ul> <p>Decontaminant 2:</p> <ul style="list-style-type: none"><li>- Concentrated ammonia solution: 3 - 8%</li><li>- Liquid detergent: 0.2 - 2%</li><li>- Water: to make up to 100%</li></ul> <p>Decontaminant 1 reacts slower with diisocyanates but is more environmentally friendly than decontaminant 2.</p> <p>Decontaminant 2 contains ammonia. Ammonia presents health hazards.</p> |
| <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 1, 8, 13 for more information. |
|------------------------------------|--------------------------------------------|

**SECTION 7: Handling and storage****7.1. Precautions for safe handling**

|                                |                                                                                                                                                                                    |
|--------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Advice on safe handling</b> | Use with local exhaust ventilation. Use engineering controls to keep exposures below the OEL or DNEL. Handle in accordance with good industrial hygiene and safety practice. Avoid |
|--------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

contact with skin, eyes or clothing. Ensure adequate ventilation. In case of insufficient ventilation, wear suitable respiratory equipment. Do not eat, drink or smoke when using this product. Take off contaminated clothing and wash it before reuse. Avoid breathing vapours or mists.

#### General hygiene considerations

Do not breathe vapour or mist. Regular cleaning of equipment, work area and clothing is recommended. Do not allow contact with water. Handle in accordance with good industrial hygiene and safety practice. Ensure that eyewash stations and safety showers are close to the workstation location. Remove contaminated clothing and protective equipment before entering eating areas. Keep away from food, drink and animal feedingstuffs. Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this product. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Wash hands before breaks and immediately after handling the product.

### 7.2. Conditions for safe storage, including any incompatibilities

#### Storage Conditions

Keep containers tightly closed in a dry, cool and well-ventilated place. Store locked up. Store in accordance with local regulations. Keep only in original packaging. Protect from direct sunlight. Store away from incompatible materials. Keep away from food, drink and animal feedingstuffs. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Keep in properly labelled containers. Use appropriate containment to avoid environmental contamination. Industrial cleaning with Aprotic Polar Solvents (meeting the IUPAC definition) may lead to formation of (hazardous) primary aromatic amines (> 0.1 %).

#### Packaging materials

Suitable container/equipment material: Steel, stainless steel.  
Unsuitable container/equipment material: copper, Copper alloys, Galvanized containers.

### 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

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

#### 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                                                      |
|---------------------------------------------------------------------------------------------------------------------------------------------------|------|--------|-----------------------------------------------------------------|
| REACTION MASS OF<br>4,4'-METHYLENEDIPHENYL<br>DIISOCYANATE AND<br>O-(P-ISOCYANATOBENZYL)PHENYL<br>ISOCYANATE / METHYLENE<br>DIPHENYL DIISOCYANATE |      |        | 0.1 mg/m <sup>3</sup> [5] [7]<br>0.05 mg/m <sup>3</sup> [5] [6] |

| Chemical name | Oral | Dermal | Inhalation |
|---------------|------|--------|------------|
| -             |      |        |            |

[5] Local health effects.  
 [6] Long term.  
 [7] Short term.

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

| Chemical name                                                                                                                                          | Oral | Dermal | Inhalation                                                        |
|--------------------------------------------------------------------------------------------------------------------------------------------------------|------|--------|-------------------------------------------------------------------|
| REACTION MASS OF<br>4,4'-METHYLENEDIPHENYL<br>DIISOCYANATE AND<br>O-(P-ISOCYANATOBENZYL)PHENYL<br>ISOCYANATE / METHYLENE<br>DIPHENYL DIISOCYANATE<br>- |      |        | 0.05 mg/m <sup>3</sup> [5] [7]<br>0.025 mg/m <sup>3</sup> [5] [6] |

[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 |
|--------------------------------------------------------------------------------------------------------------------------------------------------------|------------|--------------------------------------|--------------|----------------------------------------|-----|
| REACTION MASS OF<br>4,4'-METHYLENEDIPHENYL<br>DIISOCYANATE AND<br>O-(P-ISOCYANATOBENZYL)PHENYL<br>ISOCYANATE / METHYLENE<br>DIPHENYL DIISOCYANATE<br>- | 3.7 µg/L   | 37 µg/L                              | 0.37 µg/L    |                                        |     |

| Chemical name                                                                                                                                          | Freshwater<br>sediment | Marine sediment | Sewage treatment | Soil       | Food chain |
|--------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|-----------------|------------------|------------|------------|
| REACTION MASS OF<br>4,4'-METHYLENEDIPHENYL<br>DIISOCYANATE AND<br>O-(P-ISOCYANATOBENZYL)PHENYL<br>ISOCYANATE / METHYLENE<br>DIPHENYL DIISOCYANATE<br>- | 11.7 mg/L              | 1.17 mg/L       |                  | 2.33 mg/kg |            |

**8.2. Exposure controls****Engineering controls**

Ensure adequate ventilation. Use engineering controls to keep exposures below the OEL or DNEL. Ensure that eyewash stations and safety showers are close to the workstation

location.

### Personal protective equipment

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

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

| Gloves               |                                                |                 |                    |
|----------------------|------------------------------------------------|-----------------|--------------------|
| Duration of contact  | PPE - Glove material                           | Glove thickness | Break through time |
| Long term (repeated) | Neoprene gloves                                | $\geq 0.5$ mm   | $\geq 480$ minutes |
| Long term (repeated) | Nitrile/butadiene rubber ("nitrile" or "NBR"). | $\geq 0.35$ mm  | $\geq 480$ minutes |
| Long term (repeated) | Butyl rubber                                   | $\geq 0.5$ mm   | $\geq 480$ minutes |
| Long term (repeated) | Fluorinated rubber                             | $\geq 0.4$ mm   | $\geq 480$ minutes |

**Skin and body protection** Wear suitable protective clothing. Long sleeved clothing.

**Respiratory protection** Breathing apparatus, full face mask respirator. Respirator type protection can be used in combination with an organic vapour filter type A, and where dusts or aerosols could be present, a minimum of A/P2 filter can be used.

**General hygiene considerations** Do not breathe vapour or mist. Regular cleaning of equipment, work area and clothing is recommended. Do not allow contact with water. Handle in accordance with good industrial hygiene and safety practice. Ensure that eyewash stations and safety showers are close to the workstation location. Remove contaminated clothing and protective equipment before entering eating areas. Keep away from food, drink and animal feedingstuffs. Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this product. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Wash hands before breaks and immediately after handling the product.

**Environmental exposure controls** Local authorities should be advised if significant spillages cannot be contained. Ensure all waste water is collected and treated via a waste water treatment plant. Dispose of contents and container in accordance with local, regional, national, and international regulations as applicable.

## **SECTION 9: Physical and chemical properties**

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

|                 |                           |
|-----------------|---------------------------|
| Physical state  | Liquid                    |
| Appearance      | Liquid                    |
| Colour          | Colourless To yellow      |
| Odour           | No information available. |
| Odour threshold | No information available  |

| <u>Property</u>                         | <u>Values</u> |
|-----------------------------------------|---------------|
| Melting point / freezing point          | 5 °C          |
| Initial boiling point and boiling range | $> 300$ °C    |
| Flammability                            |               |
| Flammability Limit in Air               |               |
| Upper flammability or explosive limits  |               |
| Lower flammability or explosive limits  |               |
| Flash point                             | $> 200$ °C    |
| Autoignition temperature                |               |

**Remarks • Method**  
 Crystallisation point. @ 10 °C.  
 Read-across.  
 No information available.  
 No information available.

Closed cup.  
 No information available.



|                            |                                 |                           |
|----------------------------|---------------------------------|---------------------------|
| Decomposition temperature  |                                 | No information available. |
| pH                         |                                 | No information available. |
| pH (as aqueous solution)   |                                 | No information available. |
| Kinematic viscosity        |                                 | No information available. |
| Dynamic viscosity          | 1000 - 2000 mPa s               | @ 25 °C.                  |
| Water solubility           | Insoluble in water 0.03 mg/L    | @ 22 °C. Read-across.     |
| Solubility(ies)            |                                 | No information available. |
| Partition coefficient      |                                 | No information available. |
| Vapour pressure            | < 0.00001 mbar                  | @ 25 °C.                  |
| Relative density           |                                 | No information available. |
| Bulk density               |                                 | No information available. |
| Liquid Density             | No information available        | No information available. |
| Relative vapour density    |                                 | No information available. |
| Particle characteristics   |                                 | No information available. |
| Particle Size              | No information available        |                           |
| Particle Size Distribution | No information available        |                           |
| Explosive properties       | Not considered to be explosive. |                           |
| Oxidising properties       | No data available               |                           |

## 9.2. Other information

# SECTION 10: Stability and reactivity

## 10.1. Reactivity

**Reactivity** Reacts with:.. Water. Acids. Alcohols. Amines. Bases. Oxidising agents.

## 10.2. Chemical stability

**Stability** The main removal mechanism of MDI in the environment is hydrolysis. MDI reacts quickly with water to form predominantly solid, insoluble polyureas.

Stability in organic solvents: All MDI isomers and forms are highly unstable in dimethyl sulfoxide (DMSO) solvent, water content of the DMSO increasing breakdown. The corresponding diamine is identified as one of the breakdown products. MDI is more stable in EGDE (ethyleneglycoldimethylether) as solvent.

Polymerization: Polymerises at about 200 °C with evolution of CO<sub>2</sub>.

(Read-across based on 4,4'-methylenediphenyl diisocyanate - CAS 101-68-8.).

## Explosion data

**Sensitivity to mechanical impact** None.

**Sensitivity to static discharge** None.

## 10.3. Possibility of hazardous reactions

**Possibility of hazardous reactions** Reaction is slow with cold or warm water (< 50 °C), with hot water or steam the reaction is faster, producing carbon-dioxide causing pressure increase. Acids, alcohols, amines, bases and oxidants cause fire and explosion hazard.

## 10.4. Conditions to avoid

**Conditions to avoid** Protect from moisture. Protect from light. Industrial cleaning with Aprotic Polar Solvents (meeting the IUPAC definition) may lead to formation of (hazardous) primary aromatic amines (> 0.1 %). Excessive heat.

## 10.5. Incompatible materials

**Incompatible materials** Water. Acids. Alcohols. Amines. Bases. Oxidising agents.

**10.6. Hazardous decomposition products**

**Hazardous decomposition products** Thermal decomposition may release: Carbon oxides. Nitrogen oxides (NOx). Hydrocarbons. Isocyanates. Hydrogen cyanide.

**SECTION 11: Toxicological information****11.1. Information on toxicological effects****Information on likely routes of exposure****Product Information**

|                     |                                                                                                                                                                                                                                                                                          |
|---------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Inhalation</b>   | May cause allergy or asthma symptoms or breathing difficulties if inhaled. Specific test data for the substance or mixture is not available. May cause sensitisation in susceptible persons. (based on components). May cause irritation of respiratory tract. Harmful by inhalation.    |
| <b>Eye contact</b>  | Specific test data for the substance or mixture is not available. Causes serious eye irritation. (based on components). May cause redness, itching, and pain.                                                                                                                            |
| <b>Skin contact</b> | May cause an allergic skin reaction. Specific test data for the substance or mixture is not available. Repeated or prolonged skin contact may cause allergic reactions with susceptible persons. (based on components). May cause sensitisation by skin contact. Causes skin irritation. |
| <b>Ingestion</b>    | Specific test data for the substance or mixture is not available. May cause additional affects as listed under "Inhalation".                                                                                                                                                             |

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

**Symptoms** Causes skin irritation. May cause an allergic skin reaction. Causes serious eye irritation. Harmful if inhaled. May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause respiratory irritation. Suspected of causing cancer. May cause damage to organs through prolonged or repeated exposure.

**Acute toxicity****Numerical measures of toxicity**

The following values are calculated based on chapter 3.1 of the GHS document

**Component Information**

| Chemical name                                                                                                                                         | Oral LD50          | Dermal LD50 | Inhalation LC50   |
|-------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|-------------|-------------------|
| 4, 4'-MDI/PPG                                                                                                                                         | -                  | -           | 11 mg/L (Vapours) |
| REACTION MASS OF<br>4,4'-METHYLENEDIPHENYL<br>DIISOCYANATE AND<br>O-(P-ISOCYANATOBENZYL)P<br>HENYL ISOCYANATE /<br>METHYLENE DIPHENYL<br>DIISOCYANATE | > 2000 mg/kg (Rat) | -           | 11 mg/L (Vapours) |

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

**Skin corrosion/irritation** Classification based on data available for ingredients. Causes skin irritation.

## 4, 4'-MDI/PPG (9048-57-1)

| Method | Species | Exposure route | Effective dose | Exposure time | Results                |
|--------|---------|----------------|----------------|---------------|------------------------|
|        |         | Dermal         |                |               | Causes skin irritation |

## REACTION MASS OF 4,4'-METHYLENEDIPHENYL DIISOCYANATE AND O-(P-ISOCYANATOBENZYL)PHENYL ISOCYANATE / METHYLENE DIPHENYL DIISOCYANATE (-)

| Method   | Species | Exposure route | Effective dose | Exposure time   | Results                |
|----------|---------|----------------|----------------|-----------------|------------------------|
| OECD 404 | Rabbit  | Dermal         |                | 4 hours 14 days | Causes skin irritation |

**Serious eye damage/eye irritation** Classification based on data available for ingredients. Causes serious eye irritation.

## 4, 4'-MDI/PPG (9048-57-1)

| Method | Species | Exposure route | Effective dose | Exposure time | Results                       |
|--------|---------|----------------|----------------|---------------|-------------------------------|
|        |         | eye            |                |               | Causes serious eye irritation |

## REACTION MASS OF 4,4'-METHYLENEDIPHENYL DIISOCYANATE AND O-(P-ISOCYANATOBENZYL)PHENYL ISOCYANATE / METHYLENE DIPHENYL DIISOCYANATE (-)

| Method   | Species        | Exposure route | Effective dose | Exposure time | Results                       |
|----------|----------------|----------------|----------------|---------------|-------------------------------|
| OECD 405 | Rabbit         | eye            |                | 21 days       | Not classified                |
|          | Human evidence | eye            |                |               | Causes serious eye irritation |

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

## 4, 4'-MDI/PPG (9048-57-1)

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

## REACTION MASS OF 4,4'-METHYLENEDIPHENYL DIISOCYANATE AND O-(P-ISOCYANATOBENZYL)PHENYL ISOCYANATE / METHYLENE DIPHENYL DIISOCYANATE (-)

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

**Germ cell mutagenicity** No information available.

**Carcinogenicity**

Industrial cleaning with Aprotic Polar Solvents (meeting the IUPAC definition) may lead to formation of (hazardous) primary aromatic amines (> 0.1 %). Primary aromatic amines are chemicals that are regarded as potentially carcinogenic for humans based on animal testing. Some of these chemicals are known human carcinogens. Compliance with the control measures recommended in the exposure scenario is expected to protect against these effects. Contains a known or suspected carcinogen. Classification based on data available for ingredients. Suspected of causing cancer.

## Component Information

4, 4'-MDI/PPG (9048-57-1)

| Method | Species | Results                     |
|--------|---------|-----------------------------|
|        |         | Suspected of causing cancer |

REACTION MASS OF 4,4'-METHYLENEDIPHENYL DIISOCYANATE AND O-(P-ISOCYANATOBENZYL)PHENYL ISOCYANATE / METHYLENE DIPHENYL DIISOCYANATE (-)

| Method | Species | Results                     |
|--------|---------|-----------------------------|
|        |         | Suspected of causing cancer |

**Reproductive toxicity**

No information available.

**STOT - single exposure**

May cause respiratory irritation.

4, 4'-MDI/PPG (9048-57-1)

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

REACTION MASS OF 4,4'-METHYLENEDIPHENYL DIISOCYANATE AND O-(P-ISOCYANATOBENZYL)PHENYL ISOCYANATE / METHYLENE DIPHENYL DIISOCYANATE (-)

| 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.

## Component Information

4, 4'-MDI/PPG (9048-57-1)

| Method | Species | Exposure route | Effective dose | Exposure time | Results                                                           |
|--------|---------|----------------|----------------|---------------|-------------------------------------------------------------------|
|        |         |                |                |               | May cause damage to organs through prolonged or repeated exposure |

REACTION MASS OF 4,4'-METHYLENEDIPHENYL DIISOCYANATE AND O-(P-ISOCYANATOBENZYL)PHENYL ISOCYANATE / METHYLENE DIPHENYL DIISOCYANATE (-)

| Method | Species | Exposure route | Effective dose | Exposure time | Results                                                           |
|--------|---------|----------------|----------------|---------------|-------------------------------------------------------------------|
|        |         |                |                |               | May cause damage to organs through prolonged or repeated exposure |

**Aspiration hazard**

No information available.

**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.

### 12.2. Persistence and degradability

**Persistence and degradability** No information available.

### 12.3. Bioaccumulative potential

**Bioaccumulation** No information available.

### 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         |
|------------------------------------------------------------------------------------------------------------------------------------|---------------------------------|
| 4, 4'-MDI/PPG                                                                                                                      | The substance is not PBT / vPvB |
| REACTION MASS OF 4,4'-METHYLENEDIPHENYL DIISOCYANATE AND O-(P-ISOCYANATOBENZYL)PHENYL ISOCYANATE / METHYLENE DIPHENYL DIISOCYANATE | 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** Waste is classified as hazardous waste. Disposal to licensed waste disposal site in accordance with the local Waste Disposal Authority.

**Contaminated packaging** Do not reuse empty containers.

## **SECTION 14: Transport information**

### IATA

14.1 UN number or ID number Not regulated  
 14.2  
 14.3 Transport hazard class(es) Not regulated  
 14.4 Packing group Not regulated  
 14.5 Environmental hazards Not applicable  
 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 Not applicable  
 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** Not applicable  
**14.6 Special precautions for user**  
**Special Provisions** None

**ADR**

**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** Not applicable  
**14.6 Special precautions for user**  
**Special Provisions** 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**

| Chemical name                                                                                                                          | Restricted substance per REACH Annex XVII | Substance subject to authorisation per REACH Annex XIV |
|----------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------|--------------------------------------------------------|
| 4, 4'-MDI/PPG - 9048-57-1                                                                                                              | 56                                        | -                                                      |
| REACTION MASS OF 4,4'-METHYLENEDIPHENYL DIISOCYANATE AND O-(P-ISOCYANATOBENZYL)PHENYL ISOCYANATE / METHYLENE DIPHENYL DIISOCYANATE - - | 56, 74                                    | -                                                      |

#### **Persistent Organic Pollutants**

Not applicable

#### **Export Notification requirements**

Not applicable

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

Not applicable

#### **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/NDSL</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** No information available

**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**

H315 - Causes skin irritation  
H317 - May cause an allergic skin reaction  
H319 - Causes serious eye irritation  
H332 - Harmful if inhaled  
H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled  
H335 - May cause respiratory irritation  
H351 - Suspected of causing cancer  
H373 - May cause damage to organs through prolonged or repeated exposure

**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 \*\*\*Indicates updated data since last publication

**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** N Bajaj

**Revision date** 18-Jun-2025

**Training Advice** Only trained personnel should use this material.

**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**