

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

Revision date 17-Dec-2023

Revision Number 2

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

### 1.1. Product identifier

**Product Code(s)** 63836  
**Safety data sheet number** 63836  
**Product Name** SOLUBLE OIL OF MUSTARD FLAVORING NS  
**Pure substance/mixture** Mixture

Contains ALLYL ISOTHIOCYANATE

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

**Recommended use** Food industry

### 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>Skin corrosion/irritation</b>                 | Category 2 - (H315) |
| <b>Serious eye damage/eye irritation</b>         | Category 2 - (H319) |
| <b>Respiratory sensitisation</b>                 | Category 1 - (H334) |
| <b>Skin sensitisation</b>                        | Category 1 - (H317) |
| <b>Chronic aquatic toxicity</b>                  | Category 2 - (H411) |

**2.2. Label elements**

Contains ALLYL ISOTHIOCYANATE

**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

H411 - Toxic to aquatic life with long lasting effects

**Precautionary statements**

P261 - Avoid breathing dust/fume/gas/mist/vapours/spray

P273 - Avoid release to the environment

P280 - Wear protective gloves and eye/face protection

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

P342 + P311 - If experiencing respiratory symptoms: Call a POISON CENTER or doctor

P391 - Collect spillage

**Unknown aquatic toxicity****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**

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) |
|---------------------------------|----------|---------------------|------------------------------|------------------------------------------------------------------------------------------------|------------------------------------|----------|----------------------|
| ALLYL ISOTHIOCYANATE<br>57-06-7 | 0 - 10%  | 200-309-2           | -                            | Skin Corr. 1C (H314)<br>Flam. Liq. 3 (H226)<br>Skin Sens. 1 (H317)<br>Aquatic Chronic 1 (H410) | -                                  | -        | -                    |

|  |  |  |  |                                                                                                                                          |  |  |  |
|--|--|--|--|------------------------------------------------------------------------------------------------------------------------------------------|--|--|--|
|  |  |  |  | Aquatic Acute 1 (H400)<br>Resp. Sens. 1 (H334)<br>Acute Tox. 3 (H311)<br>Acute Tox. 2 (H330)<br>Acute Tox. 4 (H302)<br>Eye Dam. 1 (H318) |  |  |  |
|--|--|--|--|------------------------------------------------------------------------------------------------------------------------------------------|--|--|--|

**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.                                                                                                                                                                                                                            |
| <b>Inhalation</b>                         | May cause allergic respiratory reaction. If breathing has stopped, give artificial respiration. Get medical attention immediately. Remove to fresh air.                                                                                                                             |
| <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>                       | 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.                                                                                                                      |
| <b>Self-protection of the first aider</b> | Avoid contact with skin, eyes or clothing. 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

|                   |                                                                                                                                                                                                                      |
|-------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Symptoms</b>   | May cause allergy or asthma symptoms or breathing difficulties if inhaled. Coughing and/ or wheezing. Itching. Rashes. Hives. May cause redness and tearing of the eyes. Burning sensation. Difficulty in breathing. |
| <b>Inhalation</b> | Coughing and/ or wheezing. Harmful if inhaled. Difficulty in breathing.                                                                                                                                              |
| <b>Eyes</b>       | Burning sensation. May cause redness and tearing of the eyes.                                                                                                                                                        |
| <b>Dermal</b>     | Hives. Itching. Rashes. Irritating. Erythema (skin redness). Prolonged contact may cause redness and irritation.                                                                                                     |

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

|                        |                        |
|------------------------|------------------------|
| <b>Note to doctors</b> | Treat symptomatically. |
|------------------------|------------------------|

## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

|                                     |                                                                        |
|-------------------------------------|------------------------------------------------------------------------|
| <b>Suitable Extinguishing Media</b> | Dry chemical, CO <sub>2</sub> , alcohol-resistant foam or water spray. |
| <b>Large Fire</b>                   | 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** Product is or contains a sensitiser. May cause sensitisation by inhalation. May cause sensitisation by skin contact.

**Hazardous combustion products** Carbon oxides.

### **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.

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

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

**Personal precautions** Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Use personal protective equipment as required. Avoid breathing vapours or mists.

**Other information** Refer to protective measures listed in Sections 7 and 8.

**For emergency responders** Use personal protection recommended in Section 8.

### **6.2. Environmental precautions**

**Environmental precautions** Prevent further leakage or spillage if safe to do so.

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

**Methods for containment** Prevent further leakage or spillage if safe to do so.

**Methods for cleaning up** Take up mechanically, placing in appropriate containers for disposal.

**Prevention of secondary hazards** Clean contaminated objects and areas thoroughly observing environmental regulations.

### **6.4. Reference to other sections**

**Reference to other sections** 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** 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. Take off contaminated clothing and wash it before reuse. Avoid breathing vapours or mists.

**General hygiene considerations** Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this product.

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

**Storage Conditions** Keep containers tightly closed in a dry, cool and well-ventilated place. Keep at > 8 °C.

**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                      |
|---------------------------------|------|-------------------------|---------------------------------|
| ALLYL ISOTHIOCYANATE<br>57-06-7 |      | 96 µg/kg bw/day [4] [6] | 0.335 mg/m <sup>3</sup> [4] [6] |

[4]

Systemic health effects.

[6]

Long term.

**Derived No Effect Level (DNEL) - General Public** No information available.

**Predicted No Effect Concentration (PNEC)**

| Chemical name                   | Freshwater | Freshwater<br>(intermittent release) | Marine water | Marine water<br>(intermittent release) | Air |
|---------------------------------|------------|--------------------------------------|--------------|----------------------------------------|-----|
| ALLYL ISOTHIOCYANATE<br>57-06-7 | 0.13 µg/L  |                                      | 0.013 µg/L   |                                        |     |

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

No information available.

**Personal protective equipment****Eye/face protection**

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

**Hand protection**

Wear suitable gloves. Impervious gloves. Ensure that the breakthrough time of the glove material is not exceeded. Refer to glove supplier for information on breakthrough time for specific gloves. Gloves must conform to standard EN 374.

**Skin and body protection**

Wear suitable protective clothing. Long sleeved clothing.

|                                       |                                                                                                                                                                          |
|---------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Respiratory protection</b>         | No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required. |
| <b>General hygiene considerations</b> | Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this product.                             |

## SECTION 9: Physical and chemical properties

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

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

| Property                                | Values                   | Remarks • Method          |
|-----------------------------------------|--------------------------|---------------------------|
| Melting point / freezing point          |                          | No information available. |
| Initial boiling point and boiling range |                          | No information available. |
| Flammability                            |                          | No information available. |
| Flammability Limit in Air               |                          | No information available. |
| Upper flammability or explosive limits  |                          |                           |
| Lower flammability or explosive limits  |                          |                           |
| Flash point                             | 91 °C                    |                           |
| Autoignition temperature                |                          | 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                       |                          | No information available. |
| Water solubility                        | No data available        | No information available. |
| Solubility(ies)                         |                          | No information available. |
| Partition coefficient                   |                          | No information available. |
| Vapour pressure                         |                          | No information available. |
| 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                    | No information available |                           |
| Oxidising properties                    | No information available |                           |

### 9.2. Other information

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

|                   |                                              |
|-------------------|----------------------------------------------|
| <b>Reactivity</b> | Stable under recommended storage 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** None under normal processing.

**10.4. Conditions to avoid**

**Conditions to avoid** Excessive heat.

**10.5. Incompatible materials**

**Incompatible materials** Strong acids. Strong bases. Strong oxidising agents.

**10.6. Hazardous decomposition products**

**Hazardous decomposition products** Carbon oxides.

## SECTION 11: Toxicological information

**11.1. Information on toxicological effects**

**Information on likely routes of exposure**

**Product Information**

**Inhalation** Harmful by inhalation. May cause allergy or asthma symptoms or breathing difficulties if inhaled.

**Eye contact** Causes serious eye irritation.

**Skin contact** Causes skin irritation. May cause allergic skin reaction.

**Ingestion** Gastrointestinal discomfort.

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

**Symptoms** Coughing and/ or wheezing. Itching. Rashes. Hives. Redness. May cause redness and tearing of the eyes.

**Acute toxicity**

**Numerical measures of toxicity**

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

ATEmix (oral) 23,809.50 mg/kg  
 ATEmix (dermal) 14,285.70 mg/kg  
 ATEmix (inhalation-gas) 4,762.38 ppm  
 ATEmix (inhalation-vapour) 23.857 mg/l  
 ATEmix (inhalation-dust/mist) 2.3857 mg/l

**Component Information**

| Chemical name        | Oral LD50           | Dermal LD50           | Inhalation LC50                |
|----------------------|---------------------|-----------------------|--------------------------------|
| ALLYL ISOTHIOCYANATE | = 112 mg/kg ( Rat ) | = 88 mg/kg ( Rabbit ) | 0.206 - 0.508 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>         | Causes skin irritation.                                                                                         |
| <b>Serious eye damage/eye irritation</b> | Causes serious eye irritation.                                                                                  |
| <b>Respiratory or skin sensitisation</b> | May cause an allergic skin reaction. May cause allergy or asthma symptoms or breathing difficulties if inhaled. |
| <b>Germ cell mutagenicity</b>            | No information available.                                                                                       |
| <b>Carcinogenicity</b>                   | No information available.                                                                                       |
| <b>Reproductive toxicity</b>             | No information available.                                                                                       |
| <b>STOT - single exposure</b>            | No information available.                                                                                       |
| <b>STOT - repeated exposure</b>          | No information available.                                                                                       |
| <b>Aspiration hazard</b>                 | No information available.                                                                                       |
| <b>Other adverse effects</b>             | No information available.                                                                                       |

**SECTION 12: Ecological information****12.1. Toxicity**

**Ecotoxicity** Toxic to aquatic life with long lasting effects.

**Unknown aquatic toxicity**

| Chemical name        | Algae/aquatic plants | Fish                                                                                           | Toxicity to microorganisms | Crustacea |
|----------------------|----------------------|------------------------------------------------------------------------------------------------|----------------------------|-----------|
| ALLYL ISOTHIOCYANATE | -                    | LC50: =0.0856mg/L (96h, Pimephales promelas)<br>LC50: 0.054 - 0.109mg/L (96h, Oryzias latipes) | -                          | -         |

**12.2. Persistence and degradability**

**Persistence and degradability** No information available.

**12.3. Bioaccumulative potential**

**Bioaccumulation** There is no data for this product.



**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         |
|----------------------|---------------------------------|
| ALLYL ISOTHIOCYANATE | 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 UN3082  
 14.2 UN proper shipping name ENVIRONMENTALLY HAZARDOUS SUBSTANCES, LIQUID, N.O.S. (ALLYL ISOTHIOCYANATE)  
 14.3 Transport hazard class(es) 9  
 14.4 Packing group III  
 14.5 Environmental hazards Yes  
 14.6 Special precautions for user  
     Special Provisions A97, A158, A197  
     ERG Code 9L

**IMDG**

14.1 UN number or ID number UN3082  
 UN proper shipping name ENVIRONMENTALLY HAZARDOUS SUBSTANCES, LIQUID, N.O.S. (ALLYL ISOTHIOCYANATE)  
 14.3 Transport hazard class(es) 9  
 14.4 Packing group III  
 14.5 Environmental hazards Yes  
 14.6 Special precautions for user  
     Special Provisions 274, 335, 969  
     EmS-No F-A, S-F  
 14.7 Maritime transport in bulk according to IMO instruments No information available

**RID**

14.1 UN number or ID number UN3082  
 14.2 UN proper shipping name ENVIRONMENTALLY HAZARDOUS SUBSTANCES, LIQUID, N.O.S. (ALLYL ISOTHIOCYANATE)  
 14.3 Transport hazard class(es) 9  
 14.4 Packing group III  
 14.5 Environmental hazards Yes

**14.6 Special precautions for user**

**Special Provisions** 274, 335, 375, 601  
**Classification code** M6

**ADR**

**14.1 UN number or ID number** UN3082  
**14.2 UN proper shipping name** ENVIRONMENTALLY HAZARDOUS SUBSTANCES, LIQUID, N.O.S. (ALLYL ISOTHIOCYANATE)  
**14.3 Transport hazard class(es)** 9  
**14.4 Packing group** III  
**14.5 Environmental hazards** Yes  
**14.6 Special precautions for user**  
**Special Provisions** 274, 335, 601, 375  
**Classification code** M6  
**Tunnel restriction code** (-)

**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).

**Persistent Organic Pollutants**

Not applicable

**Export Notification requirements**

Not applicable

**Dangerous substance category per COMAH Regulations 2015 (as amended)**

E2 - Hazardous to the Aquatic Environment in Category Chronic 2

**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/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>KECL</b>          | Contact supplier for inventory compliance status |
| <b>PICCS</b>         | Contact supplier for inventory compliance status |

AIIC Contact supplier for inventory compliance status  
 NZIoC 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****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)  
 EPA (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)  
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** Jitendra Panchal

**Revision date** 17-Dec-2023

**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**