

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

Supersedes date 04-Aug-2023

Revision date 20-Jun-2024

Revision Number 3.01

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

1.1. Product identifier

Product Code(s) 2560, 2556
Product Name Granville Zerocol 12 Red Antifreeze
UFI XVD0-T07E-800T-M01G
Pure substance/mixture Mixture

Contains ETHANEDIOL

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

Recommended use Heat transfer medium

1.3. Details of the supplier of the safety data sheet

Supplier

Granville Oil & Chemicals Ltd
29 Goldthorpe Ind. Est
Goldthorpe
Rotherham
South Yorkshire
S63 9BL
T 01709 890099
lab@granvilleoil.com

Veedol Ireland Ltd
77 Camden Street Lower
Saint Kevin's
Dublin
Ireland
D02 XE80
T +353 151 363 47

For further information, please contact

E-mail address lab@granvilleoil.com

Non-Emergency Telephone Number +44 (0)1709 890099

1.4. Emergency telephone number

Emergency Telephone 999

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

| | |
|--|---------------------|
| Acute toxicity - Oral | Category 4 - (H302) |
| Specific target organ toxicity — repeated exposure | Category 2 - (H373) |

2.2. Label elements

Contains ETHANEDIOL



Signal word

Warning

Hazard statements

H302 - Harmful if swallowed

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

H373 - May cause damage to the following organs through prolonged or repeated exposure: Kidneys

Precautionary statements

P260 - Do not breathe dust/fume/gas/mist/vapours/spray

P264 - Wash face, hands and any exposed skin thoroughly after handling

P270 - Do not eat, drink or smoke when using this product

P301 + P312 - IF SWALLOWED: Call a POISON CENTER or doctor if you feel unwell

P314 - Get medical advice/attention if you feel unwell

P501 - Dispose of contents/ container to an approved waste disposal plant

0 % of the mixture consists of ingredient(s) of unknown acute oral toxicity.

0 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity.

0 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas).

0 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapour).

0 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist).

UFI: XVD0-T07E-800T-M01G

Unknown aquatic toxicity Contains 0 % of components with unknown hazards to the aquatic environment.

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) |
|------------------------|--------------|-----------------------------|------------------------------|--|------------------------------------|----------|----------------------|
| ETHANEDIOL 107-21-1 | 90 - 100% | 203-473-3 (603-027-00-1) | - | STOT RE 2 (H373) Acute Tox. 4 (H302) | - | - | - |
| 2-ETHYL HEXANOIC | 0 - 10% | 243-283-8 | - | - | - | - | - |

| | | | | | | | |
|--|---------|-----------|---|---|---|---|---|
| ACID, SODIUM SALT 19766-89-3 | | | | | | | |
| METHYL 1H BENZOTRIAZOLE 29385-43-1 | 0 - 10% | 249-596-6 | - | Acute Tox. 4 (H302) Repr. 2 (H361d) Aquatic Chronic 2 (H411) | - | - | - |

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

| | |
|---------------------|--|
| Inhalation | Move to fresh air in case of accidental inhalation of vapours. Medical aid is necessary if symptoms appear to be an obvious consequence of inhalation. |
| Eye contact | Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a doctor. |
| Skin contact | Wash skin with soap and water. In the case of skin irritation or allergic reactions see a doctor. |
| Ingestion | Remove from exposure, lie down. Drink 1 or 2 glasses of water. Get medical attention. |

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

| | |
|------------------|----------------------|
| Ingestion | Harmful if swallowed |
|------------------|----------------------|

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

| | |
|------------------------|---|
| Note to doctors | <p>If several ounces (60 - 100 ml) of ethylene glycol have been ingested, early administration of ethanol may counter the toxic effects (metabolic acidosis, renal damage). Consider hemodialysis or peritoneal dialysis & thiamine 100 mg plus pyridoxine 50 mg intravenously every 6 hours. If ethanol is used, a therapeutically effective blood concentration in the range of 100 - 150 mg/dl may be achieved by a rapid loading dose followed by a continuous intravenous infusion. Consult standard literature for details of treatment. 4-Methyl pyrazole (Antizol®) is an effective blocker of alcohol dehydrogenase and should be used in the treatment of ethylene glycol (EG), di- or triethylene glycol (DEG, TEG), ethylene glycol butyl ether (EGBE), or methanol intoxication if available. Fomepizole protocol: loading dose 15 mg/kg intravenously, follow by bolus dose of 10 mg/kg every 12 hours; after 48 hours, increase bolus dose to 15 mg/kg every 12 hours. Continue fomepizole until serum methanol, EG, DEG, TEG or EGBE are undetectable. The signs and symptoms of poisoning include anion gap metabolic acidosis, CNS depression, renal tubular injury, and possible late stage cranial nerve involvement. Respiratory symptoms, including pulmonary edema, may be delayed. Persons receiving significant exposure should be observed 24-48 hours for signs of respiratory distress. In severe poisoning, respiratory support with mechanical ventilation and positive end expiratory pressure may be required. Maintain adequate ventilation and oxygenation of the patient. If lavage is performed, suggest endotracheal and/or esophageal control. Danger from lung aspiration must be weighed against toxicity when considering emptying the stomach. If burn is present, treat as any thermal burn, after decontamination. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient.</p> |
|------------------------|---|

SECTION 5: Firefighting measures**5.1. Extinguishing media**

| | |
|---------------------------------------|--|
| Suitable Extinguishing Media | CO2, dry chemical, dry sand, alcohol-resistant foam. |
| 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

| | |
|--------------------------------------|----------------|
| 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 and inhalation of vapours. Ensure adequate ventilation. |
| For emergency responders | Use personal protection recommended in Section 8. |

6.2. Environmental precautions

| | |
|----------------------------------|---|
| Environmental precautions | See Section 12 for additional Ecological Information. |
|----------------------------------|---|

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 | Cover liquid spill with sand, earth or other noncombustible absorbent material. Flush area with flooding quantities of water. Collect spillage in containers, seal securely and deliver for disposal according to local regulations. |
| 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 | Avoid contact with skin and eyes. Ensure adequate ventilation. |
| 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.

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 |
|------------------------|---|
| ETHANEDIOL 107-21-1 | TWA: 10 mg/m ³ TWA: 20 ppm TWA: 52 mg/m ³ STEL: 40 ppm STEL: 104 mg/m ³ STEL: 30 mg/m ³ 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 |
|--|------|--------------------------|-------------------------------|
| ETHANEDIOL 107-21-1 | | 106 mg/kg bw/day [4] [6] | 35 mg/m ³ [5] [6] |
| 2-ETHYLHEXANOIC ACID, SODIUM SALT 19766-89-3 | | 2 mg/kg bw/day [4] [6] | 14 mg/m ³ [4] [6] |
| METHYL 1H BENZOTRIAZOLE 29385-43-1 | | 0.5 mg/kg bw/day [4] [6] | 8.8 mg/m ³ [4] [6] |

[4] Systemic health effects.
[6] Long term.
[7] Short term.

Derived No Effect Level (DNEL) - General Public

| Chemical name | Oral | Dermal | Inhalation |
|--|--|--------|-------------------------------|
| ETHANEDIOL 107-21-1 | | | 7 mg/m ³ [5] [6] |
| 2-ETHYLHEXANOIC ACID, SODIUM SALT 19766-89-3 | 1 mg/kg bw/day [4] [6] | | 3.5 mg/m ³ [4] [6] |
| METHYL 1H BENZOTRIAZOLE 29385-43-1 | 0.25 mg/kg bw/day [4] [6] 0.25 mg/kg bw/day [4] [7] | | 4.4 mg/m ³ [4] [6] |

[4] Systemic health effects.
[6] Long term.

Predicted No Effect Concentration (PNEC)

| Chemical name | Freshwater | Freshwater (intermittent release) | Marine water | Marine water (intermittent release) | Air |
|--|------------|--------------------------------------|--------------|--|-----|
| ETHANEDIOL 107-21-1 | 10 mg/L | 10 mg/L | 1 mg/L | 10 mg/L | |
| 2-ETHYLHEXANOIC ACID, SODIUM SALT 19766-89-3 | 0.36 mg/L | 0.493 mg/L | 0.036 mg/L | | |
| METHYL 1H BENZOTRIAZOLE 29385-43-1 | 0.008 mg/L | 0.086 mg/L | 0.008 mg/L | | |

| Chemical name | Freshwater sediment | Marine sediment | Sewage treatment | Soil | Food chain |
|--|-----------------------------|-----------------------------|------------------|-------------------------|------------|
| ETHANEDIOL 107-21-1 | 37 mg/kg sediment dw | 3.7 mg/kg sediment dw | 199.5 mg/L | 1.53 mg/kg soil dw | |
| 2-ETHYLHEXANOIC ACID, SODIUM SALT 19766-89-3 | 0.301 mg/kg sediment dw | 0.0301 mg/kg sediment dw | 71.7 mg/L | 0.0579 mg/kg soil dw | |
| METHYL 1H BENZOTRIAZOLE 29385-43-1 | 0.0025 mg/kg sediment dw | 0.0025 mg/kg sediment dw | 39.4 mg/L | 0.0024 mg/kg soil dw | |

8.2. Exposure controls

Engineering controls No information available.

Personal protective equipment

Eye/face protection Use eye protection according to EN 166.

Hand protection 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 No special protective equipment required.

Respiratory protection No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.

SECTION 9: Physical and chemical properties
9.1. Information on basic physical and chemical properties

Physical state Liquid
Appearance Clear liquid

| | |
|-----------------|--------------------------|
| Colour | Red. |
| Odour | Mild. |
| Odour threshold | No information available |

| <u>Property</u> | <u>Values</u> | <u>Remarks • Method</u> |
|---|--------------------------|---------------------------|
| 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 | | No information available. |
| 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 | Soluble in water | |
| Solubility(ies) | | No information available. |
| Partition coefficient | | No information available. |
| Vapour pressure | | No information available. |
| Relative density | 1.06 - 1.14 | |
| 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

| | |
|------------|---------|
| Reactivity | Stable. |
|------------|---------|

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 | Extremes of temperature and direct sunlight. |
|---------------------|--|

10.5. Incompatible materials

Incompatible materials Acids. Alkali. 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 | May cause irritation of respiratory tract. |
| Eye contact | May cause temporary eye irritation. |
| Skin contact | Causes mild skin irritation. |
| Ingestion | Harmful if swallowed. |

Symptoms related to the physical, chemical and toxicological characteristics

Symptoms No information available.

Acute toxicity

Numerical measures of toxicity

No information available

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

ATEmix (oral) 549.50 mg/kg

0 % of the mixture consists of ingredient(s) of unknown acute oral toxicity.
0 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity.
0 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas).
0 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapour).
0 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist).

Component Information

| Chemical name | Oral LD50 | Dermal LD50 | Inhalation LC50 |
|-------------------------|----------------------|-------------------------|-------------------------|
| ETHANEDIOL | = 4700 mg/kg (Rat) | = 10600 mg/kg (Rat) | > 2.5 mg/L (Rat) 6 h |
| METHYL 1H BENZOTRIAZOLE | = 675 mg/kg (Rat) | > 4000 mg/kg (Rabbit) | > 1.73 mg/L (Rat) 1 h |

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

Skin corrosion/irritation No information available.

Serious eye damage/eye irritation No information available.

Respiratory or skin sensitisation No information available.

Germ cell mutagenicity No information available.

Carcinogenicity No information available.

Reproductive toxicity No information available.

STOT - single exposure No information available.

STOT - repeated exposure No information available.

H373 - May cause damage to the following organs through prolonged or repeated exposure: Kidneys.

Aspiration hazard No information available.

Other adverse effects If several ounces (60 - 100 ml) of ethylene glycol have been ingested, early administration of ethanol may counter the toxic effects (metabolic acidosis, renal damage). Consider hemodialysis or peritoneal dialysis & thiamine 100 mg plus pyridoxine 50 mg intravenously every 6 hours. If ethanol is used, a therapeutically effective blood concentration in the range of 100 - 150 mg/dl may be achieved by a rapid loading dose followed by a continuous intravenous infusion. Consult standard literature for details of treatment. 4-Methyl pyrazole (Antizol®) is an effective blocker of alcohol dehydrogenase and should be used in the treatment of ethylene glycol (EG), di- or triethylene glycol (DEG, TEG), ethylene glycol butyl ether (EGBE), or methanol intoxication if available. Fomepizole protocol: loading dose 15 mg/kg intravenously, follow by bolus dose of 10 mg/kg every 12 hours; after 48 hours, increase bolus dose to 15 mg/kg every 12 hours. Continue fomepizole until serum methanol, EG, DEG, TEG or EGBE are undetectable. The signs and symptoms of poisoning include anion gap metabolic acidosis, CNS depression, renal tubular injury, and possible late stage cranial nerve involvement. Respiratory symptoms, including pulmonary edema, may be delayed. Persons receiving significant exposure should be observed 24-48 hours for signs of respiratory distress. In severe poisoning, respiratory support with mechanical ventilation and positive end expiratory pressure may be required. Maintain adequate ventilation and oxygenation of the patient. If lavage is performed, suggest endotracheal and/or esophageal control. Danger from lung aspiration must be weighed against toxicity when considering emptying the stomach. If burn is present, treat as any thermal burn, after decontamination. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient.

SECTION 12: Ecological information

12.1. Toxicity

Ecotoxicity Not considered to be harmful to aquatic life.

Unknown aquatic toxicity Contains 0 % of components with unknown hazards to the aquatic environment.

METHYL 1H BENZOTRIAZOLE (29385-43-1)

| Method | Species | Endpoint type | Effective dose | Exposure time | Results |
|--------|---------------------------------|---------------|----------------|---------------|---------|
| | Pseudokirchneriella subcapitata | ErC50 | 75 mg/L | 72 hours | |
| | Crustacea | EC50 | 8.58 mg/L | 48 hours | |
| | copepod Acartia tonsa | LC50 | 55 mg/L | 48 hours | |
| | Brachydanio rerio | LC50 | 180 mg/L | 72 hours | |

| Chemical name | Algae/aquatic plants | Fish | Toxicity to microorganisms | Crustacea |
|-----------------------------------|---|--|----------------------------|---|
| ETHANEDIOL | EC50: 6500 - 13000mg/L (96h, <i>Pseudokirchneriella subcapitata</i>) | LC50: =41000mg/L (96h, <i>Oncorhynchus mykiss</i>) LC50: 14 - 18mL/L (96h, <i>Oncorhynchus mykiss</i>) LC50: =27540mg/L (96h, <i>Lepomis macrochirus</i>) LC50: =40761mg/L (96h, <i>Oncorhynchus mykiss</i>) LC50: 40000 - 60000mg/L (96h, <i>Pimephales promelas</i>) LC50: =16000mg/L (96h, <i>Poecilia reticulata</i>) | - | EC50: =46300mg/L (48h, <i>Daphnia magna</i>) |
| 2-ETHYLHEXANOIC ACID, SODIUM SALT | - | LC50: >100mg/L (96h, <i>Oryzias latipes</i>) | - | - |

12.2. Persistence and degradability

Persistence and degradability Readily biodegradable.

12.3. Bioaccumulative potential

Bioaccumulation MATERIAL DOES NOT BIOACCUMULATE.

Component Information

| Chemical name | Partition coefficient |
|-----------------------------------|-----------------------|
| ETHANEDIOL | -1.36 |
| 2-ETHYLHEXANOIC ACID, SODIUM SALT | 1.3 |
| METHYL 1H BENZOTRIAZOLE | 1.083 |

12.4. Mobility in soil

Mobility in soil Soluble in water.

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 |
|-----------------------------------|---------------------------------|
| ETHANEDIOL | The substance is not PBT / vPvB |
| 2-ETHYLHEXANOIC ACID, SODIUM SALT | The substance is not PBT / vPvB |
| METHYL 1H BENZOTRIAZOLE | 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 | |
| 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 |
| 14.3 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 does not contain substances subject to authorisation (UK REACH - Annex XIV).

This product does not contain substances subject to restriction (UK REACH - Annex XVII).

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

| | |
|----------------------|--|
| TSCA | Contact supplier for inventory compliance status |
| DSL/NDSL | Contact supplier for inventory compliance status |
| EINECS/ELINCS | Contact supplier for inventory compliance status |
| ENCS | Contact supplier for inventory compliance status |
| IECSC | Contact supplier for inventory compliance status |
| KECI | Contact supplier for inventory compliance status |
| PICCS | 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

Full text of H-Statements referred to under section 3

H302 - Harmful if swallowed
H361d - Suspected of damaging the unborn child
H373 - May cause damage to organs through prolonged or repeated exposure
H411 - Toxic 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 ***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 Jitendra Panchal

Supersedes date 04-Aug-2023

Revision date 20-Jun-2024

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