

Revision date 01/11/2023

Revision Number 9

SECTION 1: Identification of the substance/mixture and of the company/undertaking**1.1. Product identifier**

Product Code(s) PL.7073, PL.7074, PL.7075
Product Name Crystal Violet (Ammonium Oxalate)

Pure substance/mixture Mixture

Contains Crystal Violet

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

Recommended use Laboratory chemicals
Uses advised against No information available

1.3. Details of the supplier of the safety data sheet

| | |
|------------------------|--|
| Importer n/a | Manufacturer Pro-Lab Diagnostics 3 Bassendale Road Bromborough Wirral Merseyside CH62 3QL, U.K. |
|------------------------|--|

For further information, please contact

E-mail address uksupport@pro-lab.co.uk

1.4. Emergency telephone number

Emergency Telephone +44 (0) 151 353 1613

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

| | |
|--|----------------------|
| Serious eye damage/eye irritation | Category 2 - (H319) |
| Carcinogenicity | Category 1B - (H350) |
| Chronic aquatic toxicity | Category 3 - (H412) |
| Flammable liquids | Category 3 - (H226) |

2.2. Label elements

Contains Crystal Violet



Signal word

Danger

Hazard statements

H319 - Causes serious eye irritation
 H412 - Harmful to aquatic life with long lasting effects
 H350 - May cause cancer
 H226 - Flammable liquid and vapour

Precautionary statements

P201 - Obtain special instructions before use
 P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking
 P280 - Wear protective gloves/protective clothing/eye protection/face protection
 P308 + P313 - IF exposed or concerned: Get medical advice/attention
 P370 + P378 - In case of fire: Use dry chemical, CO₂, water spray or alcohol-resistant foam to extinguish
 P403 + P235 - Store in a well-ventilated place. Keep cool

Additional information

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

2.3. Other hazards

Harmful to aquatic life.

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) |
|----------------------------|--------------|---------------------|------------------------------|---|---|----------|----------------------|
| ethanol 64-17-5 | 5 - <10% | 200-578-6 | - | Flam. Liq. 2 (H225) | - | - | - |
| Crystal Violet 548-62-9 | 1 - <2.5% | 208-953-6 | - | Acute Tox. 4 (H302) Eye Dam. 1 (H318) Carc. 1B (H350) Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410) | - | - | - |
| methanol 67-56-1 | 0.25 - <0.5% | 200-659-6 | - | Flam. Liq. 2 (H225) Acute Tox. 3 (H301) Acute Tox. 3 (H311) Acute Tox. 3 (H331) STOT SE 1 (H370) | STOT SE 1 :: C>=10% STOT SE 2 :: 3%<=C<10% | - | - |

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

| Chemical name | CAS No | SVHC candidates |
|----------------|----------|-----------------|
| Crystal Violet | 548-62-9 | X |

SECTION 4: First aid measures

4.1. Description of first aid measures

| | |
|---|--|
| General advice | IF exposed or concerned: Get medical advice/attention. Show this safety data sheet to the doctor in attendance. |
| Inhalation | Remove to fresh air. |
| Eye contact | Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Keep eye wide open while rinsing. Do not rub affected area. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists. |
| Skin contact | Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. |
| Ingestion | Rinse mouth. Never give anything by mouth to an unconscious person. Do NOT induce vomiting. Call a doctor. |
| Self-protection of the first aider | Remove all sources of ignition. Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. Use personal protective equipment as required. See section 8 for more information. Avoid contact with skin, eyes or clothing. |

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

| | |
|-----------------|---|
| Symptoms | May cause redness and tearing of the eyes. Burning sensation. |
|-----------------|---|

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

| | |
|------------------------|------------------------|
| Note to doctors | Treat symptomatically. |
|------------------------|------------------------|

SECTION 5: Firefighting measures

5.1. Extinguishing media

| | |
|---------------------------------------|---|
| Suitable Extinguishing Media | Dry chemical. Carbon dioxide (CO ₂). Water spray. 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

| | |
|---|---|
| Specific hazards arising from the chemical | Risk of ignition. Keep product and empty container away from heat and sources of ignition. In the event of fire, cool tanks with water spray. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations. |
|---|---|

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 Evacuate personnel to safe areas. Use personal protective equipment as required. See section 8 for more information. Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Keep people away from and upwind of spill/leak. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Pay attention to flashback. Take precautionary measures against static discharges. All equipment used when handling the product must be grounded. Do not touch or walk through spilled material.

Other information Ventilate the area. 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 Refer to protective measures listed in Sections 7 and 8. Prevent further leakage or spillage if safe to do so. Prevent product from entering drains.

6.3. Methods and material for containment and cleaning up

Methods for containment Stop leak if you can do it without risk. Do not touch or walk through spilled material. A vapour suppressing foam may be used to reduce vapours. Dyke far ahead of spill to collect run-off water. Keep out of drains, sewers, ditches and waterways. Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal.

Methods for cleaning up Take precautionary measures against static discharges. Dam up. Soak up with inert absorbent material. Pick up and transfer to properly labelled containers.

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 Use personal protection equipment. Avoid breathing vapours or mists. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Use grounding and bonding connection when transferring this material to prevent static discharge, fire or explosion. Use with local exhaust ventilation. Use spark-proof tools and explosion-proof equipment. Keep in an area equipped with sprinklers. Use according to package label instructions. Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Do not eat, drink or smoke when using this product. Remove contaminated clothing and shoes.

General hygiene considerations Do not eat, drink or smoke when using this product. Contaminated work clothing should not be allowed out of the workplace. Regular cleaning of equipment, work area and clothing is recommended. Wash hands before breaks and immediately after handling the product. Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection.

7.2. Conditions for safe storage, including any incompatibilities

Storage Conditions

Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from heat, sparks, flame and other sources of ignition (i.e., pilot lights, electric motors and static electricity). Keep in properly labelled containers. Do not store near combustible materials. Keep in an area equipped with sprinklers. Store in accordance with the particular national regulations. Store in accordance with local regulations. Store locked up.

7.3. Specific end use(s)

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 |
|---------------------|---|
| ethanol 64-17-5 | TWA: 1000 ppm TWA: 1920 mg/m ³ STEL: 3000 ppm STEL: 5760 mg/m ³ |
| methanol 67-56-1 | TWA: 200 ppm TWA: 266 mg/m ³ STEL: 250 ppm STEL: 333 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 |
|----------------------------|------|--|--|
| ethanol 64-17-5 | | 343 mg/kg bw/day [4] [6] | 950 mg/m ³ [4] [6] 1900 mg/m ³ [5] [7] |
| Crystal Violet 548-62-9 | | 0.42 mg/kg bw/day [4] [6] | 1.48 mg/m ³ [4] [6] |
| methanol 67-56-1 | | 20 mg/kg bw/day [4] [6] 20 mg/kg bw/day [4] [7] | 130 mg/m ³ [4] [6] 130 mg/m ³ [4] [7] 130 mg/m ³ [5] [6] 130 mg/m ³ [5] [7] |

Notes

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

Derived No Effect Level (DNEL) - General Public

| Chemical name | Oral | Dermal | Inhalation |
|----------------------------|--|--|--|
| ethanol 64-17-5 | 87 mg/kg bw/day [4] [6] | | 114 mg/m ³ [4] [6] 950 mg/m ³ [5] [7] |
| Crystal Violet 548-62-9 | 0.15 mg/kg bw/day [4] [6] | | 0.222 mg/m ³ [4] [6] |
| methanol 67-56-1 | 4 mg/kg bw/day [4] [6] 4 mg/kg bw/day [4] [7] | 4 mg/kg bw/day [4] [6] 4 mg/kg bw/day [4] [7] | 26 mg/m ³ [4] [6] 26 mg/m ³ [4] [7] 26 mg/m ³ [5] [6] 26 mg/m ³ [5] [7] |

Notes

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

Predicted No Effect Concentration (PNEC)

| Chemical name | Freshwater | Freshwater (intermittent release) | Marine water | Marine water (intermittent release) | Air |
|----------------------------|-------------|--------------------------------------|--------------|--|-----|
| Crystal Violet 548-62-9 | 0.0024 mg/L | | | | |
| methanol 67-56-1 | 20.8 mg/L | 1540 mg/L | 2.08 mg/L | | |

| Chemical name | Freshwater sediment | Marine sediment | Sewage treatment | Soil | Food chain |
|---------------------|-------------------------|--------------------------|------------------|-------------------|------------|
| methanol 67-56-1 | 77 mg/kg sediment dw | 7.7 mg/kg sediment dw | 100 mg/L | 100 mg/kg soil dw | |

8.2. Exposure controls

Engineering controls No information available.

Personal protective equipment

Eye/face protection Tight sealing safety goggles.

Hand protection Wear suitable gloves. Impervious gloves.

Skin and body protection Wear suitable protective clothing. Long sleeved clothing. Chemical resistant apron. Antistatic boots.

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.

General hygiene considerations Do not eat, drink or smoke when using this product. Contaminated work clothing should not be allowed out of the workplace. Regular cleaning of equipment, work area and clothing is recommended. Wash hands before breaks and immediately after handling the product. Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

| | |
|-----------------|--------------------------|
| Physical state | Liquid |
| Appearance | Liquid |
| Colour | dark violet |
| Odour | Slight. Alcoholic. |
| Odour threshold | No information available |

| <u>Property</u> | <u>Values</u> | <u>Remarks</u> |
|---|--------------------------|----------------|
| Melting point / freezing point | No data available | None known |
| Initial boiling point and boiling range | No data available | None known |
| Flammability | No data available | None known |
| Flammability Limit in Air | | None known |
| Upper flammability or explosive limits | No data available | |
| Lower flammability or explosive limits | No data available | |
| Flash point | ~ 50 °C | None known |
| Autoignition temperature | No data available | None known |
| Decomposition temperature | | None known |
| pH | No data available | None known |
| pH (as aqueous solution) | No data available | None known |
| Kinematic viscosity | No data available | None known |
| Dynamic viscosity | No data available | None known |
| Water solubility | Soluble in water | None known |
| Solubility(ies) | No data available | None known |
| Partition coefficient | No data available | None known |
| Vapour pressure | No data available | None known |
| Relative density | No data available | None known |
| Bulk density | No data available | |
| Liquid Density | No data available | |
| Relative vapour density | No data available | None known |
| Particle characteristics | | |
| 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 No information available.

10.2. Chemical stability

Stability Stable under normal conditions.

Explosion data

Sensitivity to mechanical impact None.

Sensitivity to static discharge Yes.

10.3. Possibility of hazardous reactions

Possibility of hazardous reactions None under normal processing.

10.4. Conditions to avoid

Conditions to avoid Heat, flames and sparks.

10.5. Incompatible materials

Incompatible materials None known based on information supplied.

10.6. Hazardous decomposition products

Hazardous decomposition products None known based on information supplied.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Information on likely routes of exposure

Product Information

| | |
|---------------------|---|
| Inhalation | Specific test data for the substance or mixture is not available. May cause irritation of respiratory tract. |
| Eye contact | Specific test data for the substance or mixture is not available. Causes serious eye irritation. (based on components). May cause redness, itching, and pain. |
| Skin contact | Specific test data for the substance or mixture is not available. May cause irritation. Prolonged contact may cause redness and irritation. |
| Ingestion | Specific test data for the substance or mixture is not available. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhoea. |

Symptoms related to the physical, chemical and toxicological characteristics

Symptoms 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) | 12,968.60 mg/kg |
| ATEmix (dermal) | 66,668.10 mg/kg |
| ATEmix (inhalation-gas) | 155,559.00 ppm |
| ATEmix (inhalation-dust/mist) | 102.952 mg/l |
| ATEmix (inhalation-vapour) | 666.70 mg/l |

Component Information

| Chemical name | Oral LD50 | Dermal LD50 | Inhalation LC50 |
|----------------|----------------------|--------------------------|--|
| ethanol | = 7060 mg/kg (Rat) | - | = 116.9 mg/L (Rat) 4 h = 133.8 mg/L (Rat) 4 h |
| Crystal Violet | = 420 mg/kg (Rat) | - | - |
| methanol | = 6200 mg/kg (Rat) | = 15840 mg/kg (Rabbit) | = 22500 ppm (Rat) 8 h |

| | | | |
|--|--|--|--|
| | | | |
|--|--|--|--|

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

| | |
|--|--|
| Skin corrosion/irritation | May cause skin irritation. |
| Serious eye damage/eye irritation | Classification based on data available for ingredients. Causes serious eye irritation. |
| Respiratory or skin sensitisation | No information available. |
| Germ cell mutagenicity | No information available. |
| Carcinogenicity | Contains a known or suspected carcinogen. Classification based on data available for ingredients. Suspected of causing cancer. |

The table below indicates whether each agency has listed any ingredient as a carcinogen.

| Chemical name | United Kingdom |
|----------------|----------------|
| Crystal Violet | Carc. 2 |

| | |
|---------------------------------|---|
| Reproductive toxicity | Contains a known or suspected reproductive toxin. Classification based on data available for ingredients. |
| STOT - single exposure | No information available. |
| STOT - repeated exposure | No information available. |
| Aspiration hazard | No information available. |
| Other adverse effects | No information available. |

SECTION 12: Ecological information

12.1. Toxicity

| | |
|---------------------------------|---|
| Ecotoxicity | Harmful to aquatic life with long lasting effects. |
| Unknown aquatic toxicity | Contains 0 % of components with unknown hazards to the aquatic environment. |

| Chemical name | Algae/aquatic plants | Fish | Toxicity to microorganisms | Crustacea |
|---------------|----------------------|--|----------------------------|--|
| ethanol | - | LC50: 12.0 - 16.0mL/L (96h, Oncorhynchus mykiss) LC50: >100mg/L (96h, Pimephales promelas) LC50: 13400 - 15100mg/L (96h, Pimephales) | - | LC50: 9268 - 14221mg/L (48h, Daphnia magna) EC50: =2mg/L (48h, Daphnia magna) |

| | | | | |
|----------|---|--|---|---|
| | | promelas) | | |
| methanol | - | LC50: =28200mg/L (96h, Pimephales promelas) LC50: >100mg/L (96h, Pimephales promelas) LC50: 19500 - 20700mg/L (96h, Oncorhynchus mykiss) LC50: 18 - 20mL/L (96h, Oncorhynchus mykiss) LC50: 13500 - 17600mg/L (96h, Lepomis macrochirus) | - | - |

12.2. Persistence and degradability

Persistence and degradability No information available.

12.3. Bioaccumulative potential

Bioaccumulation

Component Information

| Chemical name | Partition coefficient |
|----------------|-----------------------|
| ethanol | -0.35 |
| Crystal Violet | 1.172 |
| methanol | -0.77 |

12.4. Mobility in soil

Mobility in soil No information available.

12.5. Results of PBT and vPvB assessment

PBT and vPvB assessment No information available.

| Chemical name | PBT and vPvB assessment |
|----------------|---------------------------------|
| ethanol | The substance is not PBT / vPvB |
| Crystal Violet | The substance is not PBT / vPvB |
| methanol | The substance is not PBT / vPvB |

12.6. Endocrine disrupting properties

No information available.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste from residues/unused products Should not be released into the environment. Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

Contaminated packaging Empty containers pose a potential fire and explosion hazard. Do not cut, puncture or weld containers.

SECTION 14: Transport information

IATA

| | |
|-----------------------------------|----------------------------------|
| 14.1 UN number or ID number | UN1987 |
| 14.2 UN proper shipping name | Alcohols, n.o.s. |
| 14.3 Transport hazard class(es) | 3 |
| 14.4 Packing group | III |
| Description | UN1987, Alcohols, n.o.s., 3, III |
| 14.5 Environmental hazards | Not applicable |
| 14.6 Special precautions for user | |
| Special Provisions | A3, A180 |
| ERG Code | 3L |

IMDG

| | |
|--|---|
| 14.1 UN number or ID number | UN1987 |
| 14.2 UN proper shipping name | Alcohols, n.o.s. |
| 14.3 Transport hazard class(es) | 3 |
| 14.4 Packing group | III |
| Description | UN1987, Alcohols, n.o.s., 3, III, (50°C c.c.) |
| 14.5 Environmental hazards | Not applicable |
| 14.6 Special precautions for user | |
| Special Provisions | 223, 274 |
| EmS-No | F-E, S-D |
| 14.7 Maritime transport in bulk according to IMO instruments | No information available |

RID

| | |
|-----------------------------------|----------------------------------|
| 14.1 UN number or ID number | UN1987 |
| 14.2 UN proper shipping name | Alcohols, n.o.s. |
| 14.3 Transport hazard class(es) | 3 |
| 14.4 Packing group | III |
| Description | UN1987, Alcohols, n.o.s., 3, III |
| 14.5 Environmental hazards | Not applicable |
| 14.6 Special precautions for user | |
| Special Provisions | 274, 601 |
| Classification code | F1 |

ADR

| | |
|-----------------------------------|---|
| 14.1 UN number or ID number | UN1987 |
| 14.2 UN proper shipping name | Alcohols, n.o.s. |
| 14.3 Transport hazard class(es) | 3 |
| 14.4 Packing group | III |
| Description | UN1987, Alcohols, n.o.s., 3, III, (D/E) |
| 14.5 Environmental hazards | Not applicable |
| 14.6 Special precautions for user | |
| Special Provisions | 274, 601 |
| Classification code | F1 |
| Tunnel restriction code | (D/E) |

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).

| Chemical name | Restricted substance per REACH | Substance subject to authorisation per |
|---------------|--------------------------------|--|
| | | |

| | Annex XVII | REACH Annex XIV |
|---------------------------|--|-----------------|
| Crystal Violet - 548-62-9 | Use restricted. See item 28. Use restricted. See item 72. Restricted Carcinogen 1B | - |
| methanol - 67-56-1 | Use restricted. See item 69. | - |

Persistent Organic Pollutants

Not applicable

Export Notification requirements

Not applicable

Dangerous substance category per COMAH Regulations 2015 (as amended)

P5a - FLAMMABLE LIQUIDS

P5b - FLAMMABLE LIQUIDS

P5c - FLAMMABLE LIQUIDS

Named dangerous substances per COMAH Regulations 2015 (as amended)

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

The Ozone-Depleting Substances Regulations 2015

Not applicable

The Biocidal Products Regulations 2001 (as amended)

| Chemical name | The Biocidal Products Regulations 2001 (as amended) |
|-------------------|---|
| ethanol - 64-17-5 | PT2 PT4 PT1 |

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 |
| KECL | 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

H225 - Highly flammable liquid and vapour
H301 - Toxic if swallowed
H302 - Harmful if swallowed
H311 - Toxic in contact with skin
H318 - Causes serious eye damage
H331 - Toxic if inhaled
H350 - May cause cancer
H370 - Causes damage to organs
H400 - Very toxic to aquatic life
H410 - Very 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 | | |

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

Revision date 01/11/2023

**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