

Revision date 01/11/2023

Revision Number 10

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

Product Code(s) PL.7030, PL.7030/25, PL.7030/100, PL.7031, PL.7032

Product Name Malachite Green

Pure substance/mixture Mixture

**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)
Chronic aquatic toxicity	Category 3 - (H412)
Flammable liquids	Category 3 - (H226)

**2.2. Label elements**



**Signal word**

Warning

**Hazard statements**

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

**Precautionary statements**

P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking  
 P273 - Avoid release to the environment  
 P337 + P313 - If eye irritation persists: Get medical advice/attention  
 P370 + P378 - In case of fire: Use dry chemical, CO<sub>2</sub>, water spray or alcohol-resistant foam to extinguish  
 P403 + P235 - Store in a well-ventilated place. Keep cool  
 P501 - Dispose of contents/ container to an approved waste disposal plant

**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	10 - <25%	200-578-6	-	Flam. Liq. 2 (H225)	-	-	-
methanol 67-56-1	0.5 - <1%	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%	-	-
malachite green oxalate 2437-29-8	0.25 - <0.5%	219-441-7	-	Acute Tox. 4 (H302) Eye Dam. 1 (H318) Repr. 2 (H361d) Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410)	-	-	-

**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>	Remove to fresh air.
<b>Eye contact</b>	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.
<b>Skin contact</b>	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes.
<b>Ingestion</b>	Rinse mouth. Never give anything by mouth to an unconscious person. Do NOT induce vomiting. Call a doctor.
<b>Self-protection of the first aider</b>	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

<b>Symptoms</b>	May cause redness and tearing of the eyes. Burning sensation.
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### 4.3. Indication of any immediate medical attention and special treatment needed

<b>Note to doctors</b>	Treat symptomatically.
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## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

<b>Suitable Extinguishing Media</b>	Dry chemical. Carbon dioxide (CO <sub>2</sub> ). Water spray. Alcohol resistant foam.
<b>Large Fire</b>	CAUTION: Use of water spray when fighting fire may be inefficient.
<b>Unsuitable extinguishing media</b>	Do not scatter spilled material with high pressure water streams.

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

<b>Specific hazards arising from the chemical</b>	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.
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### 5.3. Advice for firefighters

<b>Special protective equipment and precautions for fire-fighters</b>	Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.
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## SECTION 6: Accidental release measures

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

<b>Personal precautions</b>	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.
<b>Other information</b>	Ventilate the area. Refer to protective measures listed in Sections 7 and 8.
<b>For emergency responders</b>	Use personal protection recommended in Section 8.

### 6.2. Environmental precautions

<b>Environmental precautions</b>	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.
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### 6.3. Methods and material for containment and cleaning up

<b>Methods for containment</b>	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.
<b>Methods for cleaning up</b>	Take precautionary measures against static discharges. Dam up. Soak up with inert absorbent material. Pick up and transfer to properly labelled containers.
<b>Prevention of secondary hazards</b>	Clean contaminated objects and areas thoroughly observing environmental regulations.

### 6.4. Reference to other sections

<b>Reference to other sections</b>	See section 8 for more information. See section 13 for more information.
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## **SECTION 7: Handling and storage**

### 7.1. Precautions for safe handling

<b>Advice on safe handling</b>	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.
<b>General hygiene considerations</b>	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

<b>Storage Conditions</b>	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.
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Keep in an area equipped with sprinklers. Store in accordance with the particular national regulations. Store in accordance with local regulations.

**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 <sup>3</sup> STEL: 3000 ppm STEL: 5760 mg/m <sup>3</sup>
methanol 67-56-1	TWA: 200 ppm TWA: 266 mg/m <sup>3</sup> STEL: 250 ppm STEL: 333 mg/m <sup>3</sup> 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 <sup>3</sup> [4] [6] 1900 mg/m <sup>3</sup> [5] [7]
methanol 67-56-1		20 mg/kg bw/day [4] [6] 20 mg/kg bw/day [4] [7]	130 mg/m <sup>3</sup> [4] [6] 130 mg/m <sup>3</sup> [4] [7] 130 mg/m <sup>3</sup> [5] [6] 130 mg/m <sup>3</sup> [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 <sup>3</sup> [4] [6] 950 mg/m <sup>3</sup> [5] [7]
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 <sup>3</sup> [4] [6] 26 mg/m <sup>3</sup> [4] [7] 26 mg/m <sup>3</sup> [5] [6] 26 mg/m <sup>3</sup> [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
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** green
- Odour** 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	78 - 100 °C	78 - 100°C @ 1013 hPa
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	~ 45 °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**

<b>Inhalation</b>	Specific test data for the substance or mixture is not available. May cause irritation of respiratory tract.
<b>Eye contact</b>	Specific test data for the substance or mixture is not available. Causes serious eye irritation. (based on components). May cause redness, itching, and pain.
<b>Skin contact</b>	Specific test data for the substance or mixture is not available. May cause irritation. Prolonged contact may cause redness and irritation.
<b>Ingestion</b>	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

<b>ATEmix (oral)</b>	10,793.90 mg/kg
<b>ATEmix (dermal)</b>	35,396.40 mg/kg
<b>ATEmix (inhalation-gas)</b>	82,591.50 ppm
<b>ATEmix (inhalation-dust/mist)</b>	63.50 mg/l
<b>ATEmix (inhalation-vapour)</b>	354.00 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
methanol	= 6200 mg/kg ( Rat )	= 15840 mg/kg ( Rabbit )	= 22500 ppm ( Rat ) 8 h
malachite green oxalate	= 275 mg/kg ( Rat )	-	-

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

<b>Skin corrosion/irritation</b>	May cause skin irritation.
<b>Serious eye damage/eye irritation</b>	Classification based on data available for ingredients. Causes serious eye irritation.
<b>Respiratory or skin sensitisation</b>	No information available.



**Germ cell mutagenicity** No information available.

**Carcinogenicity** No information available.

**Reproductive toxicity** No information available.

The table below indicates ingredients above the cut-off threshold considered as relevant which are listed as reproductive toxins.

Chemical name	United Kingdom
malachite green oxalate	Repr. 2

**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 promelas)	-	LC50: 9268 - 14221mg/L (48h, Daphnia magna) EC50: =2mg/L (48h, Daphnia magna)
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
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
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 UN1993
- 14.2 UN proper shipping name Flammable liquid, n.o.s
- 14.3 Transport hazard class(es) 3
- 14.4 Packing group III
- Description UN1993, Flammable liquid, n.o.s, 3, III
- 14.5 Environmental hazards Not applicable
- 14.6 Special precautions for user
- Special Provisions A3
- ERG Code 3L

**IMDG**

- 14.1 UN number or ID number UN1993
- 14.2 UN proper shipping name Flammable liquid, n.o.s
- 14.3 Transport hazard class(es) 3
- 14.4 Packing group III

**Description** UN1993, Flammable liquid, n.o.s, 3, III, (45°C c.c.)  
**14.5 Environmental hazards** Not applicable  
**14.6 Special precautions for user**  
**Special Provisions** 223, 274, 955  
**EmS-No** F-E, S-E  
**14.7 Maritime transport in bulk according to IMO instruments** No information available

**RID**

**14.1 UN number or ID number** UN1993  
**14.2 UN proper shipping name** Flammable liquid, n.o.s  
**14.3 Transport hazard class(es)** 3  
**14.4 Packing group** III  
**Description** UN1993, Flammable liquid, 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** UN1993  
**14.2 UN proper shipping name** Flammable liquid, n.o.s  
**14.3 Transport hazard class(es)** 3  
**14.4 Packing group** III  
**Description** UN1993, Flammable liquid, 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 Annex XVII	Substance subject to authorisation per REACH Annex XIV
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**

<b>TSCA</b>	Contact supplier for inventory compliance status
<b>DSL/NDSL</b>	Contact supplier for inventory compliance status
<b>EINECS/ELINCS</b>	Contact supplier for inventory compliance status
<b>ENCS</b>	Contact supplier for inventory compliance status
<b>IECSC</b>	Contact supplier for inventory compliance status
<b>KECL</b>	Contact supplier for inventory compliance status
<b>PICCS</b>	Contact supplier for inventory compliance status
<b>AIIC</b>	Contact supplier for inventory compliance status
<b>NZIoC</b>	Contact supplier for inventory compliance status

**Legend:**

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

**15.2. Chemical safety assessment**

**Chemical Safety Report** No information available

**SECTION 16: Other information**

**Key or legend to abbreviations and acronyms used in the safety data sheet**

**Full text of H-Statements referred to under section 3**

- 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
- H361d - Suspected of damaging the unborn child

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**