SAFETY DATA SHEET

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

Revision date 05/02/2025 **Revision Number** 14

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

1.1. Product identifier

Product Name Crystal Violet Concentrate

Product Code(s) PL.8000, PL.8000/4, PL.8000/5

Pure substance/mixture Mixture

Contains Crystal Violet; methanol.

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

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

Non-Emergency Telephone Number +44 (0) 151 353 1613

1.4. Emergency telephone number

Emergency Telephone

United Kingdom	999

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

GB CLP (SI 2020/1567 as amended)

Flammable liquids	**Category 3 - (H226)**
Acute toxicity - Inhalation (Gases)	Category 4 - (H332)
Serious eye damage/eye irritation	Category 1 - (H318)
Carcinogenicity	Category 1B - (H350)
Specific target organ toxicity (single exposure)	Category 2 - (H371)

Hazardous to the aquatic environment - chronic	Category 2 - (H411)

2.2. Label elements

Contains Crystal Violet; methanol.

Signal word
Danger

Hazard statements
H226 - Flammable liquid and vapour.
H318 - Causes serious eye damage.
H332 - Harmful if inhaled.
H350 - May cause cancer.
H371 - May cause damage to organs.
H411 - Toxic to aquatic life with long lasting effects.

Precautionary statements
P201 - Obtain special instructions before use.
P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P260 - Do not breathe dust, fume, gas, mist, vapors and spray.
P273 - Avoid release to the environment.
P280 - Wear protective gloves, protective clothing, eye protection and face protection.
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310 - Immediately call a POISON CENTER or doctor.
P370 + P378 - In case of fire: Use dry chemical, CO2, water spray or alcohol-resistant foam to extinguish.
P391 - Collect spillage.
P403 + P235 - Store in a well-ventilated place. Keep cool.

Unknown acute toxicity
52.5 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas).

2.3. Other hazards

Other hazards Toxic 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	25 - <50%	200-578-6	-	Eye Irrit. 2 (H319) Flam. Liq. 2 (H225)	-	-	-
Crystal Violet 548-62-9	5 - <10%	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	2.5 - <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

This product contains one or more candidate substance(s) of very high concern (UK REACH)

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 Immediate medical attention is required. Show this safety data sheet to the doctor in attendance. IF exposed or concerned: Get medical advice/attention.

Inhalation Remove to fresh air. Get medical attention immediately if symptoms occur. IF exposed or concerned: Get medical advice/attention. If symptoms persist, call a doctor. If breathing has stopped, give artificial respiration. Get medical attention immediately.

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. Get immediate medical attention. Remove contact lenses, if present and easy to do. Continue rinsing.

Skin contact Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. If symptoms persist, call a doctor.

Ingestion Rinse mouth. Never give anything by mouth to an unconscious person. Do NOT induce vomiting. Get medical attention.

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. Avoid breathing vapours or mists.

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

Symptoms Burning sensation. Coughing and/ or wheezing. Difficulty in breathing.

Effects of Exposure May cause cancer. May cause damage to organs if inhaled. May cause damage to organs.

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 (CO2). Water spray. Alcohol resistant foam.

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. Avoid breathing vapours or mists.

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. In case of insufficient ventilation, wear suitable respiratory equipment.

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. Keep out of the reach of children.

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/m³ STEL: 3000 ppm STEL: 5760 mg/m³
methanol 67-56-1	TWA: 200 ppm TWA: 266 mg/m³ STEL: 250 ppm STEL: 333 mg/m³ 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/m³ [4] [6] 1900 mg/m³ [5] [7]
Crystal Violet		0.42 mg/kg bw/day [4] [6]	1.48 mg/m³ [4] [6]

Chemical name	Oral	Dermal	Inhalation
548-62-9			
methanol 67-56-1		20 mg/kg bw/day [4] [6] 20 mg/kg bw/day [4] [7]	130 mg/m³ [4] [6] 130 mg/m³ [4] [7] 130 mg/m³ [5] [6] 130 mg/m³ [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/m³ [4] [6] 950 mg/m³ [5] [7]
Crystal Violet 548-62-9	0.15 mg/kg bw/day [4] [6]		0.222 mg/m³ [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/m³ [4] [6] 26 mg/m³ [4] [7] 26 mg/m³ [5] [6] 26 mg/m³ [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

Showers
Eyewash stations
Ventilation systems.

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	Appropriate respiratory protection should be selected and used according to the chemical nature, hazards and use of this product and safety requirements of the local jurisdiction. 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	Alcoholic.
Odour threshold	No information available

Property	**Values**		**Remarks • Method**
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	~ 25 °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	No data available	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. Excessive heat.

10.5. Incompatible materials

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

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. Harmful by inhalation. (based on components).

Eye contact Specific test data for the substance or mixture is not available. Causes serious eye damage. May cause irreversible damage to eyes.

Skin contact Specific test data for the substance or mixture is not available. May cause 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 Redness. Burning. May cause blindness. Coughing and/ or wheezing.

Acute toxicity Harmful by inhalation.

Numerical measures of toxicity

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

ATEmix (oral)	2,396.50 mg/kg
ATEmix (dermal)	5,700.00 mg/kg
ATEmix (inhalation-gas)	13,300.00 ppm
ATEmix (inhalation-vapour)	57.00 mg/l
ATEmix (inhalation-dust/mist)	18.531 mg/l

Unknown acute toxicity

52.5 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas).

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 burns. Causes serious eye damage.

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. May cause 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 No information available.

STOT - single exposure May cause damage to organs if inhaled.

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 Toxic to aquatic life with long lasting effects.

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
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 The product does not contain any substance(s) classified as PBT or vPvB above the threshold of declaration.

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. Other adverse effects

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, (25°C c.c.)
14.5 Environmental hazards	Not applicable
14.6 Special precautions for user	
Special Provisions	223, 274 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 Annex XVII	Substance subject to authorisation per 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 (SI 2015/483 as amended)
E2 - Hazardous to the Aquatic Environment in Category Chronic 2
P5a - FLAMMABLE LIQUIDS
P5b - FLAMMABLE LIQUIDS
P5c - FLAMMABLE LIQUIDS

Named dangerous substances per COMAH (SI 2015/483 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	Product-type 2: Disinfectants and algaecides not intended for direct application to humans or animals Product-type 4: Food and feed area Product-type 1: Human hygiene

The Water Environment (Water Framework Directive) (England and Wales) Regulations 2017 (as amended)
Not applicable

Poisons and Explosive Precursors
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
TCSI	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 Chemicals Inventory
PICCS - Philippines Inventory of Chemicals and Chemical Substances
AIIC - Australian Inventory of Industrial Chemicals
NZIoC - New Zealand Inventory of Chemicals
TCSI - Taiwan Chemical Substance Inventory

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 any hazard and/or precautionary statements referred to under Sections 2-15

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
H319 - Causes serious eye irritation
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:
PBT: Persistent, Bioaccumulative, and Toxic (PBT) Substances
vPvB: Very Persistent and very Bioaccumulative (vPvB) Substances
STOT: Specific Target Organ Toxicity
ATE: Acute Toxicity Estimate
LC50: 50% Lethal Concentration
LD50: 50% Lethal Dose

Legend Section 8: Exposure controls/personal protection

TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
Ceiling	Maximum limit value	Sk*	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
Chronic aquatic toxicity	Calculation method
Acute 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

Revision date 05/02/2025

This SDS 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