

Supersedes date 14-Mar-2024

Revision date 28-Mar-2024

Revision Number 7.04

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

### 1.1. Product identifier

**Product Code(s)** 20317  
**Safety data sheet number** 20317  
**Product Name** MONOPROPYLENE GLYCOL

### Other means of identification

**REACH registration number** 01-2119456809-23  
**Reach Registration Notes** This product is not classified as hazardous, the information in this datasheet is given for guidance only.  
**EC No (EU Index No)** 200-338-0  
**CAS No** 57-55-6

### Synonyms

Propylene Glycol, PROPAN 1,2 DIOL, DOWCAL 20, 1,2 PROPYLENE GLYCOL CARE, PROPYLENE GLYCOL INDUSTRIAL GRADE, MONOPROPYLENE GLYCOL PH, MPG STANDARD, PROPYLENE GLYCOL USP GRADE, PROPYLENE GLYCOL TECHNICAL GRADE, PROPYLENE GLYCOL USP/EP, KOLLISOLV PG, MONOPROPYLENE GLYCOL USP FCC ED 7, MONOPROPYLENE GLYCOL T, MONOPROPYLENE GLYCOL DOW AGPH, MONOPROPYLENE GLYCOL DOW, MONOPROPYLENE GLYCOL HCS, MPG USP O&G, MPG USP, MONOPROPYLENE GLYCOL USP/EP, SOLV CORR MPG, MONOPROP GLYCOL USP/EP WUXI, MONOPROPYLENE GLYCOL BPC, MONOPROPYLENE GLYCOL BIO, MONOPROPYLENE GLYCOL TECHN, MONOPROP GLYCOL CIR-MB USP/EP

**Pure substance/mixture** Substance

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

**Recommended use** Manufacture of substance  
Industrial application  
Distribution of substance  
Formulation & (re)packing of substances and mixtures.  
Coatings  
Binding agent  
Releasing agent  
Functional fluids  
Laboratory reagent  
Polymer production  
Production of Rubber  
Water Treatment  
Mining chemicals  
Cleaning agent  
De-Icer  
Additive for Agrochemicals

Chemical intermediate  
 Heat transfer medium  
 Solvent  
 Pharmaceuticals  
 Food industry  
 Cosmetics  
 Professional use  
 Industrial use  
 Consumer use

### 1.3. Details of the supplier of the safety data sheet

#### **Supplier**

Univar Solutions UK Ltd  
 Aquarius House  
 6 Mid Point Business Park  
 Bradford  
 GBR

For further information, please contact

**E-mail address** SDS.EMEA@univarsolutions.com

Non-Emergency Telephone Number +44 1274 267300 / +44 1274 267306

### 1.4. Emergency telephone number

Emergency Telephone SGS - +32 (0)3 575 55 55 (24h)  
 National emergency telephone number

<b>Emergency Telephone - §45 - (EC)1272/2008</b>
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<b>Europe</b>	<b>112</b>
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## **SECTION 2: Hazards identification**

### 2.1. Classification of the substance or mixture

Regulation (EC) No 1272/2008  
 Not classified

### 2.2. Label elements

Not classified

### **Hazard statements**

Not classified

**EU Specific Hazard Statements** EUH210 - Safety data sheet available on request.

### 2.3. Other hazards

**PBT and vPvB assessment** The product does not contain any substance(s) classified as PBT or vPvB.

**Endocrine Disruptor Information** This product does not contain any known or suspected endocrine disruptors.

## **SECTION 3: Composition/information on ingredients**

**3.1 Substances**

Chemical name	Weight-%	REACH registration number	EC No (EU Index No)	Classification according to Regulation (EC) No. 1272/2008 [CLP]	Specific concentration limit (SCL)	M-Factor	M-Factor (long-term)
MONOPROPYLENE GLYCOL 57-55-6	99.5 - 100%	01-211945680 9-23	200-338-0	Not classified	-	-	-

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

**Acute Toxicity Estimate**

If LD50/LC50 data is not available or does not correspond to the classification category, then the appropriate conversion value from CLP Annex I, Table 3.1.2, is used to calculate the acute toxicity estimate (ATEmix) for classifying a mixture based on its components

Chemical name	Oral LD50 mg/kg	Dermal LD50 mg/kg	Inhalation LC50 - 4 hour - dust/mist - mg/L	Inhalation LC50 - 4 hour - vapour - mg/L	Inhalation LC50 - 4 hour - gas - ppm
MONOPROPYLENE GLYCOL 57-55-6	> 20000	> 2000	No data available	No data available	No data available

This product does not contain candidate substances of very high concern at a concentration  $\geq 0.1\%$  (Regulation (EC) No. 1907/2006 (REACH), Article 59)

**SECTION 4: First aid measures****4.1. Description of first aid measures**

<b>General advice</b>	Use personal protection recommended in Section 8.
<b>Inhalation</b>	IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing. Rinse mouth thoroughly with water. Get medical attention if symptoms occur.
<b>Eye contact</b>	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if symptoms occur.
<b>Skin contact</b>	IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. Get medical attention if symptoms occur.
<b>Ingestion</b>	Rinse mouth thoroughly with water. Do NOT induce vomiting. Get medical attention if symptoms occur.

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

Eyes May cause temporary eye irritation.

**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, CO<sub>2</sub>, alcohol-resistant foam or water spray.

**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** When heated and in case of fire, toxic vapours/gases may be formed.

**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** Ensure adequate ventilation. Use personal protection recommended in Section 8. Avoid contact with skin, eyes and inhalation of vapours.

**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** Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Take up mechanically, placing in appropriate containers for disposal.

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

### 6.4. Reference to other sections

**Reference to other sections** See section 8 for more information. See section 13 for more information.

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

**Advice on safe handling** Ensure adequate ventilation. Use personal protection recommended in Section 8. Avoid

contact with skin, eyes and inhalation of vapours. Avoid spilling. Avoid release to the environment. Handle in accordance with good industrial hygiene and safety practice.

**General hygiene considerations** Handle in accordance with good industrial hygiene and safety practice.

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

**Storage Conditions** Keep container tightly closed in a dry and well-ventilated place. Keep in properly labelled containers. Protect from moisture. Protect from sunlight. Store away from the following materials. Strong oxidising agents.

**Storage class (TRGS 510)** LGK 10.

### 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	European Union	United Kingdom
MONOPROPYLENE GLYCOL 57-55-6	-	TWA: 150 ppm TWA: 474 mg/m <sup>3</sup> TWA: 10 mg/m <sup>3</sup> STEL: 450 ppm STEL: 1422 mg/m <sup>3</sup> STEL: 30 mg/m <sup>3</sup>

**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
MONOPROPYLENE GLYCOL 57-55-6	-	-	168 mg/m <sup>3</sup> [4] [6] 10 mg/m <sup>3</sup> [5] [6]

#### **Notes**

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

**Derived Minimum Effect Level (DMEL) - Workers** No information available

#### **Notes**

#### **Derived No Effect Level (DNEL) - General Public**

Chemical name	Oral	Dermal	Inhalation
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Chemical name	Oral	Dermal	Inhalation
MONOPROPYLENE GLYCOL 57-55-6	-	-	50 mg/m <sup>3</sup> [4] [6] 10 mg/m <sup>3</sup> [5] [6]

**Notes**

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

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

**Predicted No Effect Concentration (PNEC)**

Chemical name	Freshwater	Freshwater (intermittent release)	Marine water	Marine water (intermittent release)	Air
MONOPROPYLENE GLYCOL 57-55-6	260 mg/L	183 mg/L	26 mg/L	-	-

Chemical name	Freshwater sediment	Marine sediment	Sewage treatment	Soil	Food chain
MONOPROPYLENE GLYCOL 57-55-6	572 mg/kg sediment dw	57.2 mg/kg sediment dw	20000 mg/L	50 mg/kg soil dw	-

**8.2. Exposure controls**

**Engineering controls** No information available.

**Personal protective equipment**

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

**Hand protection** Wear suitable gloves. Gloves must conform to standard EN 374.

Gloves			
Duration of contact	PPE - Glove material	Glove thickness	Break through time
	Wear protective butyl rubber gloves	> 0.35 mm	> 120 minutes
	Rubber (natural, latex)	> 0.35 mm	> 120 minutes
	Wear protective nitrile rubber gloves	> 0.35 mm	> 120 minutes
	Polyethylene (PE)	> 0.35 mm	> 120 minutes
	Ethyl vinyl alcohol laminate ("EVAL")	> 0.35 mm	> 120 minutes
	Polyvinyl alcohol (PVA)	> 0.35 mm	> 120 minutes
	Polyvinyl chloride (PVC)	> 0.35 mm	> 120 minutes
	Wear protective Neoprene™ gloves	> 0.35 mm	> 120 minutes

**Skin and body protection** Wear appropriate clothing to prevent reasonably probable skin contact.

**Respiratory protection** Use appropriate respiratory protection.  
Organic gases and vapours filter conforming to EN 14387. Type AP2.

**General hygiene considerations** Handle in accordance with good industrial hygiene and safety practice.

**Environmental exposure controls** No information available.

## SECTION 9: Physical and chemical properties

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

<b>Physical state</b>	Liquid
<b>Appearance</b>	Liquid
<b>Colour</b>	Colourless or Various colours
<b>Odour</b>	Odourless
<b>Odour threshold</b>	No information available

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
<b>Melting point / freezing point</b>	< -20 °C	
<b>Initial boiling point and boiling range</b>	184 °C	@ 760 mmHg. Read-across.
<b>Flammability</b>		No information available.
<b>Flammability Limit in Air</b>		No information available.
<b>Upper flammability or explosive limits</b>	12.5%	
<b>Lower flammability or explosive limits</b>	2.6%	
<b>Flash point</b>	104 °C	Pensky-Martens closed cup.
<b>Autoignition temperature</b>	> 370 °C	
<b>Decomposition temperature</b>		Not determined.
<b>pH</b>		No information available.
<b>pH (as aqueous solution)</b>		No information available.
<b>Kinematic viscosity</b>		No information available.
<b>Dynamic viscosity</b>	43.4 mPa s	@ 25 °C.
<b>Water solubility</b>	Soluble in water	
<b>Solubility(ies)</b>		No information available.
<b>Partition coefficient</b>	log Pow: -1.07	
<b>Vapour pressure</b>	20 Pa	@ 25 °C.
<b>Relative density</b>	1.03 - 1.05	20 °C. Read-across.
<b>Bulk density</b>		No information available
<b>Liquid Density</b>	No information available	No information available
<b>Relative vapour density</b>	2.62	Read-across.
<b>Particle characteristics</b>		Not applicable. liquid.
<b>Particle Size</b>	No information available	
<b>Particle Size Distribution</b>	No information available	

### 9.2. Other information

**Pour Point** < -57

9.2.1. Information with regards to physical hazard classes

Not applicable

Explosive properties Not considered to be explosive.

**Flammable liquids** Not expected to be a static-accumulating flammable liquid.

**Flammable solids** Not applicable liquid

**Oxidising properties** Does not meet the criteria for classification as oxidising

9.2.2. Other safety characteristics

No information available 0.01 (butyl acetate = 1), Estimated value

## 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** None.

**10.3. Possibility of hazardous reactions**

**Possibility of hazardous reactions** The following materials may react with the product.: Strong oxidising agents.

**10.4. Conditions to avoid**

**Conditions to avoid** Extremes of temperature and direct sunlight.

**10.5. Incompatible materials**

**Incompatible materials** Strong oxidising agents.

**10.6. Hazardous decomposition products**

**Hazardous decomposition products** Carbon oxides.

**SECTION 11: Toxicological information****11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008****Information on likely routes of exposure****Product Information**

**Inhalation** Inhalation of vapours in high concentration may cause irritation of respiratory system.

**Eye contact** May cause temporary eye irritation.

**Skin contact** Non-irritating during normal use. Dryness and/or cracking.

**Ingestion** May cause discomfort if swallowed.

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

**Symptoms** No information available.

**Acute toxicity****Numerical measures of toxicity****Component Information**

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
MONOPROPYLENE GLYCOL	> 20000 mg/kg ( Rat )	> 2000 mg/kg ( Rabbit )	317.042 mg/l ( Rat ) (2h)

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

**Skin corrosion/irritation** Non-irritating during normal use. Dryness and/or cracking.



## MONOPROPYLENE GLYCOL (57-55-6)

Method	Species	Exposure route	Effective dose	Exposure time	Results
					Non-irritating during normal use Repeated exposure may cause skin dryness or cracking

**Serious eye damage/eye irritation** May cause temporary eye irritation.

## MONOPROPYLENE GLYCOL (57-55-6)

Method	Species	Exposure route	Effective dose	Exposure time	Results
					May cause slight eye irritation

**Respiratory or skin sensitisation** Not a skin sensitiser.

## MONOPROPYLENE GLYCOL (57-55-6)

Method	Species	Exposure route	Results
	human data	Dermal	Not a skin sensitiser

**Germ cell mutagenicity** Did not show mutagenic effects in animal experiments.

## Component Information

## MONOPROPYLENE GLYCOL (57-55-6)

Method	Species	Results
	in vitro	Negative
		Negative Did not show mutagenic effects in animal experiments

**Carcinogenicity** Did not cause cancer in laboratory animals.

## Component Information

## MONOPROPYLENE GLYCOL (57-55-6)

Method	Species	Results
		Did not cause cancer in laboratory animals.

**Reproductive toxicity** This product does not contain any known or suspected reproductive hazards.

## MONOPROPYLENE GLYCOL (57-55-6)

Method	Species	Results
		This product does not contain any known or suspected reproductive hazards

**STOT - single exposure** Based on available data, specific target organ toxicity is not expected after single oral, single inhalation, or single dermal exposure.

## MONOPROPYLENE GLYCOL (57-55-6)

Method	Species	Exposure route	Effective dose	Exposure time	Results
					Not classified

**STOT - repeated exposure** No information available.

**Aspiration hazard** Based on available data the classification criteria are not met.

**11.2. Information on other hazards****11.2.1. Endocrine disrupting properties**

**Endocrine disrupting properties** This product does not contain any known or suspected endocrine disruptors.

**11.2.2. Other information**

**Other adverse effects** No information available.

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

**Ecotoxicity** Not considered to be harmful to aquatic life.

## MONOPROPYLENE GLYCOL (57-55-6)

Method	Species	Endpoint type	Effective dose	Exposure time	Results
OECD Test No. 203: Fish, Acute Toxicity Test	Oncorhynchus mykiss (rainbow trout)	LC50	40613 mg/L	96 hours	
OECD Test No. 202: Daphnia sp., Acute Immobilisation Test	Ceriodaphnia dubia	LC50	18340 mg/L	48 hours	
OECD Test No. 201: Freshwater Algae and Cyanobacteria, Growth Inhibition Test	Pseudokirchneriella subcapitata	ErC50	19000 mg/L	96 hours	
	Pseudomonas putida	NOEC	> 20000 mg/L	18 hours	
Chronic aquatic toxicity	Ceriodaphnia dubia	NOEC	13020 mg/L	7 days	

Chemical name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
MONOPROPYLENE GLYCOL	EC50: =19000mg/L (96h, Pseudokirchneriella subcapitata)	LC50: =51600mg/L (96h, Oncorhynchus mykiss) LC50: 41 - 47mL/L (96h, Oncorhynchus mykiss) LC50: =51400mg/L (96h, Pimephales promelas) LC50: =710mg/L (96h, Pimephales promelas)	-	EC50: >1000mg/L (48h, Daphnia magna)

**12.2. Persistence and degradability**

**Persistence and degradability** Readily biodegradable.

Method	Exposure time	Value	Results
OECD Test No. 301F: Ready Biodegradability: Manometric Respirometry Test (TG 301 F)	days 28	81%	Readily biodegradable

## MONOPROPYLENE GLYCOL (57-55-6)

Method	Exposure time	Value	Results
OECD Test No. 301F: Ready Biodegradability: Manometric Respirometry Test (TG 301 F) or Equivalent.	28 days	Biodegradation 81%	Readily biodegradable
OECD Test No. 306: Biodegradability in Seawater or Equivalent.	64 days	Biodegradation 96%	Readily biodegradable

**12.3. Bioaccumulative potential**

**Bioaccumulation** Not likely to bioaccumulate.

**Bioconcentration factor (BCF)** 0.09

**Component Information**

Chemical name	Partition coefficient
MONOPROPYLENE GLYCOL	-1.07

**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
MONOPROPYLENE GLYCOL	The substance is not PBT / vPvB

**12.6. Endocrine disrupting properties**

**Endocrine disrupting properties** This product does not contain any known or suspected endocrine disruptors.

**12.7. 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  
**14.3 Transport hazard class(es)** Not regulated  
**14.4 Packing group** Not regulated  
**14.5 Environmental hazards** No  
**14.6 Special precautions for user**  
**Special Provisions** None

**IMDG**

14.1 UN number or ID number	Not regulated
14.4 Packing group	Not regulated
14.5 Environmental hazards	No
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	No
14.6 Special precautions for user	
Special Provisions	None
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	No
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****France****Occupational Illnesses (R-463-3, France)**

Chemical name	French RG number
MONOPROPYLENE GLYCOL 57-55-6	RG 84

**Germany**

**Water hazard class (WGK)** slightly hazardous to water (WGK 1)

**European Union**

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.

**Authorisations and/or restrictions on use:**

This product does not contain substances subject to authorisation (Regulation (EC) No. 1907/2006 (REACH), Annex XIV).  
This product does not contain substances subject to restriction (Regulation (EC) No. 1907/2006 (REACH), Annex XVII).

**Persistent Organic Pollutants**

Not applicable

**Ozone-depleting substances (ODS) regulation (EC) 1005/2009**

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>KECI</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:**

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

**15.2. Chemical safety assessment**

**Chemical Safety Report** A Chemical Safety Assessment has been carried out for this substance

**SECTION 16: Other information****Key or legend to abbreviations and acronyms used in the safety data sheet****Legend**

SVHC: Substances of Very High Concern for Authorisation:

**Legend Section 8: Exposure controls/personal protection**

TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
Ceiling	Maximum limit value	*	Skin designation
+	Sensitisers		

Revision Note **SDS sections updated 7**

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** Lisa Bland  
**Prepared By**

**Supersedes date** 14-Mar-2024

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**Safety Data Sheet according to Regulation (EC) No. 1907/2006 (REACH)****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**