

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

Supersedes date 28-Jan-2023

Revision date 17-Oct-2024

Revision Number 4

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

1.1. Product identifier

Product Code(s)	11413
Safety data sheet number	11413
Product Name	TRIPROPYLENE GLYCOL MONOBUTYL ETHER
EC Number	259-910-3
CAS No	55934-93-5
Synonyms	DOWANOL TPNB, DOWANOL TPNB GLYCOL ETHER
Pure substance/mixture	Substance
Molecular weight	248.36 g/mol, Calculation method

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

Recommended use	Manufacture of substance Intermediate Formulation & (re)packing of substances and mixtures. Coatings Cleaning agent Lubricant Mining chemicals Metal working fluids / rolling oils, Additive for Agrochemicals Industrial use Professional use Consumer use
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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)

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

Not classified

2.2. Label elements

Not classified

Hazard statements

Not classified

2.3. Other hazards

No information available.

SECTION 3: Composition/information on ingredients**3.1 Substances**

The product contains no substances which at their given concentration, are considered to be hazardous to health

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)
[(BUTOXYMETHYL ETHOXY) METHYLETHOXY] PROPAN-1-OL 55934-93-5	> 95.0 %	259-910-3	-	-	-	-	-
DIPROPYLENE GLYCOL N-BUTYLEETHER 29911-28-2	< 1.5 %	249-951-5	-	-	-	-	-

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

Use personal protection recommended in Section 8.

Inhalation	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.
Eye contact	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.
Skin contact	IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. Get medical attention if symptoms occur.
Ingestion	Rinse mouth thoroughly with water. Do not induce vomiting without medical advice. Get medical attention if symptoms occur.

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

Eyes May cause slight 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 ₂ , 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. Containers can burst violently when heated, due to excess pressure build-up. Violent steam generation or eruption may occur upon application of direct water stream to hot liquids..
Hazardous combustion products	Carbon oxides. Aldehydes. Ketone. Organic Acids.

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.
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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. 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 Ensure adequate ventilation. Use personal protection recommended in Section 8. Avoid contact with skin, eyes and inhalation of vapours. Wash skin thoroughly after handling. Spills of these organic materials on hot fibrous insulations may lead to lowering of the autoignition temperatures possibly resulting in spontaneous combustion.

General hygiene considerations Wash hands before breaks and immediately after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Storage Conditions Keep container tightly closed in a dry and well-ventilated place. See section 10 for more information.

Packaging materials Suitable container/equipment material: Carbon Steel. stainless steel. Phenolic lined steel drums.
Unsuitable container/equipment material. Aluminium. copper. Galvanized iron. Galvanized steel.

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 This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

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
[(BUTOXYMETHYLETHOXY) METHYLETHOXY] PROPAN-1-OL 55934-93-5		238 mg/kg bw/day [4] [6]	420 mg/m ³ [4] [6]
DIPROPYLENE GLYCOL N-BUTYLETHER 29911-28-2		134 mg/kg bw/day [4] [6]	189 mg/m ³ [4] [6]

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

Derived No Effect Level (DNEL) - General Public

Chemical name	Oral	Dermal	Inhalation
[(BUTOXYMETHYLETHOXY) METHYLETHOXY] PROPAN-1-OL 55934-93-5	36 mg/kg bw/day [4] [6]	143 mg/kg/day [4] [6]	124 mg/m ³ [4] [6]
DIPROPYLENE GLYCOL N-BUTYLETHER 29911-28-2	16 mg/kg bw/day [4] [6]	80 mg/kg bw/day [4] [6]	56 mg/m ³ [4] [6]

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

Predicted No Effect Concentration (PNEC)

Chemical name	Freshwater	Freshwater (intermittent release)	Marine water	Marine water (intermittent release)	Air
[(BUTOXYMETHYLETHOXY) METHYLETHOXY] PROPAN-1-OL 55934-93-5	0.564 mg/L	5.64 mg/L	0.0564 mg/L		
DIPROPYLENE GLYCOL N-BUTYLETHER 29911-28-2	0.519 mg/L	5.19 mg/L	0.0519 mg/L		

Chemical name	Freshwater sediment	Marine sediment	Sewage treatment	Soil	Food chain
[(BUTOXYMETHYLETHOXY) METHYLETHOXY] PROPAN-1-OL 55934-93-5	2.59 mg/kg sediment dw	0.259 mg/kg sediment dw	100 mg/L	0.188 mg/kg soil dw	
DIPROPYLENE GLYCOL N-BUTYLETHER 29911-28-2	2.96 mg/kg sediment dw	0.296 mg/kg sediment dw	100 mg/L	0.287 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
	Ethyl vinyl alcohol laminate ("EVAL")	> 0.35 mm	> 120 minutes
	Wear protective Neoprene™ gloves	> 0.35 mm	> 120 minutes
	Nitrile/butadiene rubber ("nitrile" or "NBR").	> 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 A.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state Liquid
Appearance Liquid
Colour Colourless
Odour Mild.
Odour threshold No information available

<u>Property</u>	<u>Values</u>
Melting point / freezing point	< -75 °C
Initial boiling point and boiling range	275 °C
Flammability	
Flammability Limit in Air	
Upper flammability or explosive limits	
Lower flammability or explosive limits	
Flash point	125.6 °C
Autoignition temperature	202 °C
Decomposition temperature	
pH	
pH (as aqueous solution)	
Kinematic viscosity	8.79 mm²/s
Dynamic viscosity	7.0 mPa s
Water solubility	slightly soluble 40.2 g/l @ 25 °C
Solubility(ies)	
Partition coefficient	log Pow: 1.9
Vapour pressure	0.0002 kPa

Remarks • Method

@ 760 mmHg.
No information available.
No information available.

Setaflash closed cup. ASTM D3828.
Estimated.
No information available.
No information available.
No information available.
@ 20 °C. Estimated.
@ 25 °C. ASTM D 445.
OECD 105.

No information available.
Estimated.
@ 20 °C. Read-across.

Relative density	0.930	@ 25 °C / 25 °C.
Bulk density		No information available
Liquid Density	0.9327 g/cm3	@ 20 °C Read-across
Relative vapour density	>6	Estimated value.
Particle characteristics		Not applicable. liquid.
Particle Size	No information available	
Particle Size Distribution	No information available	
Explosive properties	Not considered to be explosive.	
Oxidising properties	Does not meet the criteria for classification as oxidising	

9.2. Other information

Molecular weight 248.36 g/mol, Calculation method

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 None under normal processing.

Hazardous polymerisation Hazardous polymerisation does not occur.

10.4. Conditions to avoid

Conditions to avoid Do not distill to dryness. Product can oxidise at elevated temperatures. Generation of gas during decomposition can cause pressure in closed systems.

10.5. Incompatible materials

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

10.6. Hazardous decomposition products

Hazardous decomposition products Carbon oxides. Aldehydes. Ketone. Organic Acids.

SECTION 11: Toxicological information**11.1. Information on toxicological effects****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 slight eye irritation. May cause redness and tearing of the eyes.

Skin contact Prolonged contact may cause slight skin irritation with local redness.

Ingestion May cause discomfort if swallowed.

Symptoms related to the physical, chemical and toxicological characteristics

Symptoms

Acute toxicity

Numerical measures of toxicity

Oral LD50 Oral LD50 > 2000 mg/kg
Dermal LD50 Dermal LD50 > 2000 mg/kg

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
[(BUTOXYMETHYLETHOXY) METHYLETHOXY] PROPAN-1-OL	= 2800 mg/kg (Rat)	> 2000 mg/kg (Rat)	-
DIPROPYLENE GLYCOL N-BUTYLEETHER	= 3700 mg/kg (Rat)	> 2000 mg/kg (Rat)	> 2.04 mg/l (Rat) 4 h

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

Skin corrosion/irritation Prolonged contact may cause slight skin irritation with local redness.

[(BUTOXYMETHYLETHOXY) METHYLETHOXY] PROPAN-1-OL (55934-93-5)

Method	Species	Exposure route	Effective dose	Exposure time	Results
					Prolonged contact may cause slight skin irritation with local redness

DIPROPYLENE GLYCOL N-BUTYLEETHER (29911-28-2)

Method	Species	Exposure route	Effective dose	Exposure time	Results
					Prolonged contact may cause slight skin irritation with local redness

Serious eye damage/eye irritation May cause slight eye irritation. May cause redness and tearing of the eyes.

[(BUTOXYMETHYLETHOXY) METHYLETHOXY] PROPAN-1-OL (55934-93-5)

Method	Species	Exposure route	Effective dose	Exposure time	Results
					May cause slight eye irritation May cause redness and tearing of the eyes

DIPROPYLENE GLYCOL N-BUTYLEETHER (29911-28-2)

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

Respiratory or skin sensitisation Not a skin sensitiser.

[(BUTOXYMETHYLETHOXY) METHYLETHOXY] PROPAN-1-OL (55934-93-5)

Method	Species	Exposure route	Results
	Guinea pig	Dermal	Not a skin sensitiser

DIPROPYLENE GLYCOL N-BUTYLETHER (29911-28-2)

Method	Species	Exposure route	Results
	Human evidence	Dermal	Not a skin sensitiser
	Guinea pig	Dermal	Not a skin sensitiser

Germ cell mutagenicity No information available.

Component Information

[(BUTOXYMETHYLETHOXY) METHYLETHOXY] PROPAN-1-OL (55934-93-5)

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

DIPROPYLENE GLYCOL N-BUTYLETHER (29911-28-2)

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

Carcinogenicity No information available.

Component Information

[(BUTOXYMETHYLETHOXY) METHYLETHOXY] PROPAN-1-OL (55934-93-5)

Method	Species	Results
		Did not cause cancer in laboratory animals.

DIPROPYLENE GLYCOL N-BUTYLETHER (29911-28-2)

Method	Species	Results
		Did not cause cancer in laboratory animals.

Reproductive toxicity No information available.

[(BUTOXYMETHYLETHOXY) METHYLETHOXY] PROPAN-1-OL (55934-93-5)

Method	Species	Results
		In laboratory animal studies, effects on reproduction have been seen only at doses that produced significant toxicity to the parent animals.

DIPROPYLENE GLYCOL N-BUTYLETHER (29911-28-2)

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

STOT - single exposure No information available.

[(BUTOXYMETHYLETHOXY) METHYLETHOXY] PROPAN-1-OL (55934-93-5)

Method	Species	Exposure route	Effective dose	Exposure time	Results
					Evaluation of available data suggests that this material is not an STOT-SE toxicant

DIPROPYLENE GLYCOL N-BUTYLETHER (29911-28-2)

Method	Species	Exposure route	Effective dose	Exposure time	Results
					Evaluation of available data suggests that this material is not an STOT-SE toxicant

STOT - repeated exposure No information available.

Component Information

[(BUTOXYMETHYLETHOXY) METHYLETHOXY] PROPAN-1-OL (55934-93-5)

Method	Species	Exposure route	Effective dose	Exposure time	Results
					Based on available data, repeated exposures are not anticipated to cause additional significant adverse effects.

DIPROPYLENE GLYCOL N-BUTYLETHER (29911-28-2)

Method	Species	Exposure route	Effective dose	Exposure time	Results
					In animals, effects have been reported on the following organs: Kidney effects have been observed in male rats. These effects are believed to be species specific and unlikely to occur in humans.

Aspiration hazard Based on available data the classification criteria are not met.**Other adverse effects** No information available.**SECTION 12: Ecological information****12.1. Toxicity****Ecotoxicity** The environmental impact of this product has not been fully investigated.

Method	Species	Endpoint type	Effective dose	Exposure time	Results
OECD Test No. 203: Fish, Acute Toxicity Test or Equivalent.	Poecilia reticulata	LC50	564 mg/L	96 hours	
OECD Test No. 202: Daphnia sp., Acute Immobilisation Test or Equivalent.	Daphnia magna	LC50	> 1000 mg/L	48 hours	
OECD Test No. 201: Freshwater Algae and Cyanobacteria, Growth Inhibition Test or Equivalent.	Pseudokirchneriella subcapitata	ErC50	592 mg/L	5 days	

[(BUTOXYMETHYLETHOXY) METHYLETHOXY] PROPAN-1-OL (55934-93-5)

Method	Species	Endpoint type	Effective dose	Exposure time	Results
OECD Test No. 203: Fish, Acute Toxicity Test or Equivalent.	Poecilia reticulata	LC50	564 mg/L	96 hours	
OECD Test No. 202: Daphnia sp., Acute Immobilisation Test or Equivalent.	Daphnia magna	LC50	> 1000 mg/L	48 hours	
OECD Test No. 201: Freshwater Algae and Cyanobacteria, Growth Inhibition Test or Equivalent.	Pseudokirchneriella subcapitata	ErC50	592 mg/L	5 days	

DIPROPYLENE GLYCOL N-BUTYLETHER (29911-28-2)

Method	Species	Endpoint type	Effective dose	Exposure time	Results
OECD Test No. 203: Fish, Acute Toxicity Test	Poecilia reticulata	LC50	841 mg/L	96 hours	
OECD Test No. 202: Daphnia sp., Acute Immobilisation Test	Daphnia magna	LC50	> 1000 mg/L	48 hours	

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) or Equivalent.	28 days	Biodegradation 72%	Readily biodegradable

[(BUTOXYMETHYLETHOXY) METHYLETHOXY] PROPAN-1-OL (55934-93-5)

Method	Exposure time	Value	Results
OECD Test No. 301F: Ready Biodegradability: Manometric Respirometry Test (TG 301 F) or Equivalent.	28 days	Biodegradation 72%	Readily biodegradable

DIPROPYLENE GLYCOL N-BUTYLETHER (29911-28-2)

Method	Exposure time	Value	Results
OECD Test No. 301E: Ready Biodegradability: Modified OECD	28 days	Biodegradation 91 %	Readily biodegradable

Screening Test (TG 301 E)			
OECD Test No. 301A: Ready Biodegradability: DOC Die-Away Test (TG 301 A)	21 days	Biodegradation 95 %	Readily biodegradable
OECD Test No. 301B: Ready Biodegradability: CO2 Evolution Test (TG 301 B)	28 days	Biodegradation 96 %	Readily biodegradable

12.3. Bioaccumulative potential

Bioaccumulation Not likely to bioaccumulate.

Chemical name	Partition coefficient
[(BUTOXYMETHYLETHOXY) METHYLETHOXY] PROPAN-1-OL	1.9
DIPROPYLENE GLYCOL N-BUTYLEETHER	1.523

12.4. Mobility in soil

Mobility in soil slightly soluble.

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
[(BUTOXYMETHYLETHOXY) METHYLETHOXY] PROPAN-1-OL	The substance is not PBT / vPvB
DIPROPYLENE GLYCOL N-BUTYLEETHER	The substance is not PBT / vPvB

12.6. Other adverse effects

No information available.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste from residues/unused products Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

Contaminated packaging Do not reuse empty containers.

SECTION 14: Transport information

IATA

14.1 UN number or ID number Not regulated

14.2

14.3 Transport hazard class(es) Not regulated

14.4 Packing group Not regulated

14.5 Environmental hazards No

14.6 Special precautions for user
Special Provisions None

IMDG

14.1 UN number or ID number Not regulated

14.3 Transport hazard class(es) Not regulated

14.4 Packing group Not regulated

14.5 Environmental hazards	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

ADR

14.1 UN number or ID number	Not regulated
14.2 UN proper shipping name	Not regulated
14.3 Transport hazard class(es)	Not regulated
14.4 Packing group	Not regulated
14.5 Environmental hazards	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****Authorisations and/or restrictions on use:**

This product does not contain substances subject to authorisation (UK REACH - Annex XIV).

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

Persistent Organic Pollutants

Not applicable

Export Notification requirements

Not applicable

Named dangerous substances per COMAH Regulations 2015 (as amended)

Not applicable

The Ozone-Depleting Substances Regulations 2015

Not applicable

The Biocidal Products Regulations 2001 (as amended)

Not applicable

The Water Environment (Water Framework Directive) (England and Wales) Regulations 2017 (as amended)

Not applicable

Poisons Act 1972 (Explosive Precursors) Regulations (as Amended)

Not applicable

International Inventories**TSCA**

Contact supplier for inventory compliance status

DSL/NDSL	Contact supplier for inventory compliance status
EINECS/ELINCS	Contact supplier for inventory compliance status
ENCS	Contact supplier for inventory compliance status
IECSC	Contact supplier for inventory compliance status
KECI	Contact supplier for inventory compliance status
PICCS	Contact supplier for inventory compliance status
AIIC	Contact supplier for inventory compliance status
NZIoC	Contact supplier for inventory compliance status

Legend:

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

15.2. Chemical safety assessment

Chemical Safety Report No Chemical Safety Assessment has been carried out for this substance/mixture

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 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16**

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
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**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