

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

Supersedes date 03-Nov-2022

Revision date 19-Sep-2024

Revision Number 3

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

1.1. Product identifier

Product Code(s)	52404
Safety data sheet number	52404
Product Name	ISOBUTYRIC ACID, MONOESTER WITH 2,2,4-TRIMETHYLPENTANE-1,3-DIOL
EC Number	246-771-9
CAS No	25265-77-4
Synonyms	UCAR FILMER IBT
Pure substance/mixture	Substance
Molecular weight	216.32g/mol

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

Recommended use	Manufacture of substance Formulation & (re)packing of substances and mixtures. Distribution of substance Coatings Inks Intermediate Mining chemicals Cleaning agent plasticiser Additive for Agrochemicals Use in laboratories Industrial use Consumer use Professional 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

EUH210 - Safety data sheet available on request

2.3. Other hazards

No information available.

SECTION 3: Composition/information on ingredients

3.1 Substances

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)
ISOBUTYRIC ACID, MONOESTER WITH 2,2,4-TRIMETHYLPENTANE-1,3-DIOL 25265-77-4	>= 98.0 - <= 100.0 %	246-771-9	-	-	-	-	-
2,2,4-TRIMETHYLPENTANE-1,3-DIOL 144-19-4	<= 1.0 %	205-619-1	-	-	-	-	-
2,2,4 TRIMETHYL 1,3, PENTANEDIYL DIISOBUTYRATE 6846-50-0	<= 1.0 %	229-934-9	-	Aquatic Chronic 3 (H412) Repr. 2 (H361)	-	-	-

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

This product does not contain candidate substances of very high concern at a concentration >= 0.1% (UK REACH Article 59)

SECTION 4: First aid measures

4.1. Description of first aid measures

General advice	First aid personnel should wear appropriate protective equipment during any rescue. 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

Symptoms

Eyes	May cause slight eye irritation.
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4.3. Indication of any immediate medical attention and special treatment needed

Note to doctors	Treat symptomatically. Skin contact may aggravate preexisting dermatitis.
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SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable Extinguishing Media	Dry chemical, CO2, 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. Violent steam generation or eruption may occur upon application of direct water stream to hot liquids..
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.
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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
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contact with skin, eyes and inhalation of vapours. Evacuate area. Keep unnecessary and unprotected personnel from entering. Keep people away from and upwind of spill/leak.

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.

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

7.2. Conditions for safe storage, including any incompatibilities

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
ISOBUTYRIC ACID, MONOESTER WITH 2,2,4-TRIMETHYLPENTANE-1,3-DIOL 25265-77-4		13.9 mg/kg bw/day [4] [6]	49 mg/m ³ [4] [6]
2,2,4-TRIMETHYLPENTANE-1,3-DIOL 144-19-4		7.03 mg/kg bw/day [4] [6]	6.61 mg/m ³ [4] [6]
2,2,4 TRIMETHYL 1,3, PENTANEDIYL DIISOBUTYRATE 6846-50-0		5 mg/kg bw/day [4] [6]	17.62 mg/m ³ [4] [6]

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

Derived No Effect Level (DNEL) - General Public

Chemical name	Oral	Dermal	Inhalation
ISOBUTYRIC ACID, MONOESTER WITH 2,2,4-TRIMETHYLPENTANE-1,3-DIOL 25265-77-4	8.33 mg/kg bw/day [4] [6]		14.5 mg/m ³ [4] [6] 8.3 mg/kg bw/day [5] [6]
2,2,4-TRIMETHYLPENTANE-1,3-DIOL 144-19-4	6 mg/kg bw/day [4] [6] 18 mg/kg bw/day [4] [7]		2.6 mg/m ³ [4] [6]
2,2,4 TRIMETHYL 1,3, PENTANEDIYL DIISOBUTYRATE 6846-50-0	5 mg/kg bw/day [4] [6]		4.35 mg/m ³ [4] [6]

[4] Systemic 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
ISOBUTYRIC ACID, MONOESTER WITH 2,2,4-TRIMETHYLPENTA NE-1,3-DIOL 25265-77-4	0.015 mg/L	0.15 mg/L	0.0015 mg/L		
2,2,4-TRIMETHYLPENTA NE-1,3-DIOL 144-19-4	0.1091 mg/L	1.091 mg/L	0.01091 mg/L		
2,2,4 TRIMETHYL 1,3, PENTANEDIYL DIISOBUTYRATE 6846-50-0	0.014 mg/L		0.0014 mg/L		

Chemical name	Freshwater sediment	Marine sediment	Sewage treatment	Soil	Food chain
ISOBUTYRIC ACID,	0.17 mg/kg wet	0.017 mg/kg wet	7.5 mg/L	0.13 mg/kg wet	66.7 mg/kg food

Chemical name	Freshwater sediment	Marine sediment	Sewage treatment	Soil	Food chain
MONOESTER WITH 2,2,4-TRIMETHYLPENTA NE-1,3-DIOL 25265-77-4	weight	weight		weight	
2,2,4-TRIMETHYLPENTA NE-1,3-DIOL 144-19-4	0.903 mg/kg sediment dw	0.0903 mg/kg sediment dw	20 mg/L	0.117 mg/kg soil dw	
2,2,4 TRIMETHYL 1,3, PENTANEDIYL DIISOBUTYRATE 6846-50-0	5.29 mg/kg sediment dw	0.529 mg/kg sediment dw	3 mg/L	1.05 mg/kg soil dw	83.3 mg/kg food

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 Neoprene™ gloves	> 0.35 mm	> 120 minutes
	Polyethylene (PE)	> 0.35 mm	> 120 minutes
	Ethyl vinyl alcohol laminate ("EVAL")	> 0.35 mm	> 120 minutes
	Polyvinyl chloride (PVC)	> 0.35 mm	> 120 minutes
	Wear protective Viton™ 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 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

Property	Values	Remarks • Method
Melting point / freezing point	-50 °C	Read-across.
Initial boiling point and boiling range	255 °C	@ 760 mmHg. Read-across.
		No information available.

Flammability		
Flammability Limit in Air		Read-across.
Upper flammability or explosive limits	0.6 % vol	
Lower flammability or explosive limits	4.2 % vol	
Flash point	119 °C	Setaflash closed cup. ASTM D3828.
Autoignition temperature	388 °C	@ 98 kPa.
Decomposition temperature		No information available.
pH		Not applicable.
pH (as aqueous solution)		No information available.
Kinematic viscosity		No information available.
Dynamic viscosity	12.9 mPa s	@ 25 °C. Read-across.
Water solubility	1 g/L	
	slightly soluble	
Solubility(ies)		No information available.
Partition coefficient	log Pow: 3.00	Estimated.
Vapour pressure	< 0.001 kPa	@ 20 °C. Read-across.
Relative density	0.948	@ 20 °C / 20 °C.
Bulk density		No information available
Liquid Density	No information available	No information available
Relative vapour density	7	Read-across.
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 216.32g/mol 0.01 n-butyl acetate=1 Read-across

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 Product may decompose at elevated temperatures.

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 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.
Skin contact	May cause slight skin irritation. Redness.
Ingestion	May cause discomfort if swallowed.

Symptoms related to the physical, chemical and toxicological characteristics**Symptoms****Acute toxicity****Numerical measures of toxicity****Component Information**

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
ISOBUTYRIC ACID, MONOESTER WITH 2,2,4-TRIMETHYLPENTANE-1, 3-DIOL	> 6500 mg/kg (Rat)	> 15200 mg/kg (Rat)	> 3.55 mg/L (Rat) 6h
2,2,4-TRIMETHYLPENTANE-1, 3-DIOL	> 2000 mg/kg (Rat)	> 2000 mg/kg (Rabbit)	> 4.5 mg/L (Rat) 6h
2,2,4 TRIMETHYL 1,3, PENTANEDIYL DIISOBUTYRATE	> 3200 mg/kg (Rat)	> 2000 mg/kg (Rabbit)	> 6.67 mg/L (Rat) 4h

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

Skin corrosion/irritation May cause slight skin irritation. Redness. Dryness and/or cracking.

ISOBUTYRIC ACID, MONOESTER WITH 2,2,4-TRIMETHYLPENTANE-1,3-DIOL (25265-77-4)

Method	Species	Exposure route	Effective dose	Exposure time	Results
					May cause slight irritation Redness Dryness and/or cracking

2,2,4-TRIMETHYLPENTANE-1,3-DIOL (144-19-4)

Method	Species	Exposure route	Effective dose	Exposure time	Results
					non-irritant

2,2,4 TRIMETHYL 1,3, PENTANEDIYL DIISOBUTYRATE (6846-50-0)

Method	Species	Exposure route	Effective dose	Exposure time	Results
					non-irritant

Serious eye damage/eye irritation May cause slight eye irritation. Corneal injury is unlikely.

ISOBUTYRIC ACID, MONOESTER WITH 2,2,4-TRIMETHYLPENTANE-1,3-DIOL (25265-77-4)

Method	Species	Exposure route	Effective dose	Exposure time	Results
					May cause slight eye irritation Corneal injury is unlikely

2,2,4-TRIMETHYLPENTANE-1,3-DIOL (144-19-4)

Method	Species	Exposure route	Effective dose	Exposure time	Results
					May cause slight eye irritation Molten material may burn eyes

2,2,4 TRIMETHYL 1,3, PENTANEDIYL DIISOBUTYRATE (6846-50-0)

Method	Species	Exposure route	Effective dose	Exposure time	Results
					non-irritant

Respiratory or skin sensitisation Not a skin sensitiser.

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

ISOBUTYRIC ACID, MONOESTER WITH 2,2,4-TRIMETHYLPENTANE-1,3-DIOL (25265-77-4)

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

2,2,4-TRIMETHYLPENTANE-1,3-DIOL (144-19-4)

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

2,2,4 TRIMETHYL 1,3, PENTANEDIYL DIISOBUTYRATE (6846-50-0)

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

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

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

Component Information

ISOBUTYRIC ACID, MONOESTER WITH 2,2,4-TRIMETHYLPENTANE-1,3-DIOL (25265-77-4)

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

2,2,4-TRIMETHYLPENTANE-1,3-DIOL (144-19-4)

Method	Species	Results
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	in vitro	Negative
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2,2,4 TRIMETHYL 1,3, PENTANEDIYL DIISOBUTYRATE (6846-50-0)

Method	Species	Results
	in vitro	Negative

Carcinogenicity Available data suggest that the material is unlikely to cause cancer.

Component Information

ISOBUTYRIC ACID, MONOESTER WITH 2,2,4-TRIMETHYLPENTANE-1,3-DIOL (25265-77-4)

Method	Species	Results
		Available data suggest that the material is unlikely to cause cancer.

Reproductive toxicity Contains a known or suspected reproductive toxin.

STOT - single exposure Evaluation of available data suggests that this material is not an STOT-SE toxicant.

ISOBUTYRIC ACID, MONOESTER WITH 2,2,4-TRIMETHYLPENTANE-1,3-DIOL (25265-77-4)

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

2,2,4-TRIMETHYLPENTANE-1,3-DIOL (144-19-4)

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

2,2,4 TRIMETHYL 1,3, PENTANEDIYL DIISOBUTYRATE (6846-50-0)

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 Kidney effects and/or tumors have been observed in male rats. These effects are believed to be species specific and unlikely to occur in humans.

Component Information

ISOBUTYRIC ACID, MONOESTER WITH 2,2,4-TRIMETHYLPENTANE-1,3-DIOL (25265-77-4)

Method	Species	Exposure route	Effective dose	Exposure time	Results
					Kidney effects

					and/or tumors have been observed in male rats. These effects are believed to be species specific and unlikely to occur in humans.
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2,2,4-TRIMETHYLPENTANE-1,3-DIOL (144-19-4)

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

2,2,4 TRIMETHYL 1,3, PENTANEDIYL DIISOBUTYRATE (6846-50-0)

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

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.	Pimephales promelas	LC50	33 mg/L	96 hours	
OECD Test No. 202: Daphnia sp., Acute Immobilisation Test or Equivalent.	Daphnia magna	EC50	> 95 mg/L	48 hours	
OECD Test No. 201: Freshwater Algae and Cyanobacteria, Growth Inhibition Test or Equivalent.	Pseudokirchneriella subcapitata	EC50	> 57 mg/L	72 hours 72	

12.2. Persistence and degradability

Persistence and degradability

Readily biodegradable.

Method	Exposure time	Value	Results
OECD Test No. 301B: Ready Biodegradability: CO2 Evolution Test	28 days	Biodegradation 76 - 79 %	Readily biodegradable

(TG 301 B) or Equivalent.			
OECD Test No. 302B: Inherent Biodegradability: Zahn-Wellens/ EVPA Test or Equivalent.	15 days	Biodegradation 99.5 %	Readily biodegradable

12.3. Bioaccumulative potential

Bioaccumulation There is no data for this product.

Bioconcentration factor (BCF) 60 Fish

Chemical name	Partition coefficient
ISOBUTYRIC ACID, MONOESTER WITH 2,2,4-TRIMETHYLPENTANE-1,3-DIOL	3.00
2,2,4-TRIMETHYLPENTANE-1,3-DIOL	1.25

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
ISOBUTYRIC ACID, MONOESTER WITH 2,2,4-TRIMETHYLPENTANE-1,3-DIOL	The substance is not PBT / vPvB
2,2,4-TRIMETHYLPENTANE-1,3-DIOL	The substance is not PBT / vPvB
2,2,4 TRIMETHYL 1,3, PENTANEDIYL DIISOBUTYRATE	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/NDL	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/NDL - 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
KECI - 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

Full text of H-Statements referred to under section 3

H361 - Suspected of damaging fertility or the unborn child
H412 - Harmful 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		

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
Chronic aquatic toxicity
Aspiration hazard
Ozone

Calculation method
Calculation method
Calculation method
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

Supersedes date 03-Nov-2022

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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