



SAFETY DATA SHEET DOWCAL 100E HEAT TRANSFER FLUID

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

1.1. Product identifier

Product name DOWCAL 100E HEAT TRANSFER FLUID

Product number 65317

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

Identified uses Heat Carrier,

1.3. Details of the supplier of the safety data sheet

Supplier Univar Solutions UK Ltd
Aquarius House
6 Mid Point Business Park
Bradford
BD3 7AY
+44 1274 267300
+44 1274 267306
SDS.EMEA@univarsolutions.com

1.4. Emergency telephone number

Emergency telephone SGS - +32 (0)3 575 55 55 (24h)

Sds No. 65317

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (EC 1272/2008)

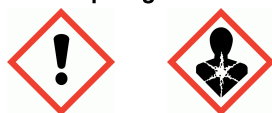
Physical hazards Not Classified

Health hazards Acute Tox. 4 - H302 STOT RE 2 - H373

Environmental hazards Not Classified

2.2. Label elements

Hazard pictograms



Signal word Warning

Hazard statements H302 Harmful if swallowed.
H373 May cause damage to organs (Kidneys) through prolonged or repeated exposure if swallowed.

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Precautionary statements	P260 Do not breathe vapour/ spray.
	P264 Wash contaminated skin thoroughly after handling.
	P270 Do not eat, drink or smoke when using this product.
	P301+P312 IF SWALLOWED: Call a POISON CENTRE/doctor if you feel unwell.
	P330 Rinse mouth.
	P314 Get medical advice/ attention if you feel unwell.
	P501 Dispose of contents/ container in accordance with local regulations.

Contains	ETHANEDIOL
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2.3. Other hazards

This product does not contain any substances classified as PBT or vPvB. The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

ETHANEDIOL			>= 94.0 - <= 96.0 %
CAS number: 107-21-1	EC number: 203-473-3	REACH registration number: 01-2119456816-28-XXXX	
Acute Toxicity Estimate (oral):1600 mg/kg			
Acute Toxicity Estimate (dermal):> 3500 mg/kg			
Acute Toxicity Estimate (inhalation):> 2.5 mg/l6 hours			
Classification			
Acute Tox. 4 - H302			
STOT RE 2 - H373			

METHYL 1H BENZOTRIAZOLE			>= 0.1 - <= 0.25 %
CAS number: 29385-43-1	EC number: 249-596-6	REACH registration number: 01-2119979081-35-XXXX	
Acute Toxicity Estimate (oral):720 mg/kg			
Acute Toxicity Estimate (dermal):> 5 000 mg/kg			
Classification			
Acute Tox. 4 - H302			
Repr. 2 - H361d			
Aquatic Chronic 2 - H411			

The full text for all hazard statements is displayed in Section 16.

Composition comments	The data shown are in accordance with the latest EC Directives.
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SECTION 4: First aid measures

4.1. Description of first aid measures

General information	First aid personnel should wear appropriate protective equipment during any rescue. Wear protective clothing as described in Section 8 of this safety data sheet.
Inhalation	Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing. Rinse nose and mouth with water. Get medical attention if any discomfort continues.

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Ingestion	Rinse mouth thoroughly with water. Do not induce vomiting. Give plenty of water to drink. Get medical attention immediately.
Skin contact	After contact with skin, take off immediately all contaminated clothing, and wash immediately with plenty of water. Get medical attention promptly if symptoms occur after washing. Provide shower facilities near the workplace.
Eye contact	Rinse immediately with plenty of water. Remove any contact lenses and open eyelids wide apart. Continue to rinse for at least 15 minutes. Get medical attention immediately. Continue to rinse.

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

Ingestion	Harmful if swallowed. May cause damage to organs (Kidneys) through prolonged or repeated exposure if swallowed.
Eye contact	May cause temporary eye irritation.

4.3. Indication of any immediate medical attention and special treatment needed

Notes for the doctor	If several ounces (60 - 100 ml) of ethylene glycol have been ingested, early administration of ethanol may counter the toxic effects (metabolic acidosis, renal damage). Consider hemodialysis or peritoneal dialysis & thiamine 100 mg plus pyridoxine 50 mg intravenously every 6 hours. If ethanol is used, a therapeutically effective blood concentration in the range of 100 - 150 mg/dl may be achieved by a rapid loading dose followed by a continuous intravenous infusion. Consult standard literature for details of treatment. 4-Methyl pyrazole (Antizol®) is an effective blocker of alcohol dehydrogenase and should be used in the treatment of ethylene glycol (EG), di- or triethylene glycol (DEG, TEG), ethylene glycol butyl ether (EGBE), or methanol intoxication if available. Fomepizole protocol: loading dose 15 mg/kg intravenously, follow by bolus dose of 10 mg/kg every 12 hours; after 48 hours, increase bolus dose to 15 mg/kg every 12 hours. Continue fomepizole until serum methanol, EG, DEG, TEG or EGBE are undetectable. The signs and symptoms of poisoning include anion gap metabolic acidosis, CNS depression, renal tubular injury, and possible late stage cranial nerve involvement. Respiratory symptoms, including pulmonary edema, may be delayed. Persons receiving significant exposure should be observed 24-48 hours for signs of respiratory distress. In severe poisoning, respiratory support with mechanical ventilation and positive end expiratory pressure may be required. Maintain adequate ventilation and oxygenation of the patient. If lavage is performed, suggest endotracheal and/or esophageal control. Danger from lung aspiration must be weighed against toxicity when considering emptying the stomach. If burn is present, treat as any thermal burn, after decontamination. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient.
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SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	Extinguish with alcohol-resistant foam, carbon dioxide, dry powder or water fog.
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.

5.2. Special hazards arising from the substance or mixture

Specific hazards	When heated and in case of fire, toxic vapours/gases may be formed. Containers can burst violently or explode when heated, due to excessive pressure build-up.
Hazardous combustion products	Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapours. Aldehydes. Alcohols. Ethers. Oxides of the following substances: Carbon.

5.3. Advice for firefighters

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Protective actions during firefighting	No action shall be taken without appropriate training or involving any personal risk. Cool containers exposed to heat with water spray and remove them from the fire area if it can be done without risk. Do not use water jet as an extinguisher, as this will spread the fire. Contain and collect extinguishing water. Avoid the spillage or runoff entering drains, sewers or watercourses. Evacuate area.
Special protective equipment for firefighters	Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions	Provide adequate ventilation. Wear protective clothing as described in Section 8 of this safety data sheet. Follow precautions for safe handling described in this safety data sheet. Avoid inhalation of vapours and contact with skin and eyes. Evacuate area. Keep unnecessary and unprotected personnel away from the spillage.
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6.2. Environmental precautions

Environmental precautions	Do not discharge into drains or watercourses or onto the ground. Spillages or uncontrolled discharges into watercourses must be reported immediately to the Environmental Agency or other appropriate regulatory body.
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6.3. Methods and material for containment and cleaning up

Methods for cleaning up	Stop leak if safe to do so. Absorb spillage with non-combustible, absorbent material. Collect and place in suitable waste disposal containers and seal securely. Label the containers containing waste and contaminated materials and remove from the area as soon as possible.
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6.4. Reference to other sections

Reference to other sections	For personal protection, see Section 8. For waste disposal, see Section 13.
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SECTION 7: Handling and storage

7.1. Precautions for safe handling

Usage precautions	Provide adequate ventilation. Wear protective clothing as described in Section 8 of this safety data sheet. Follow precautions for safe handling described in this safety data sheet. Avoid inhalation of vapours and contact with skin and eyes. Wash contaminated skin thoroughly after handling.
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7.2. Conditions for safe storage, including any incompatibilities

Storage precautions	Store in tightly-closed, original container in a well-ventilated place. Only store in correctly labelled containers. Avoid exposure to high temperatures or direct sunlight. Provide adequate ventilation. Store away from incompatible materials (see Section 10). Suitable container materials: Carbon steel. Stainless steel.
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7.3. Specific end use(s)

Specific end use(s)	The identified uses for this product are detailed in Section 1.2.
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SECTION 8: Exposure controls/Personal protection

8.1. Control parameters

Occupational exposure limits

ETHANEDIOL

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Long-term exposure limit (8-hour TWA): WEL 10 mg/m³ particulate

Sk

Long-term exposure limit (8-hour TWA): WEL 20 ppm 52 mg/m³ vapour

Short-term exposure limit (15-minute): WEL 40 ppm 104 mg/m³ vapour

Sk

WEL = Workplace Exposure Limit.

Sk = Can be absorbed through the skin.

Ingredient comments

Observe any occupational exposure limits for the product or ingredients.

ETHANEDIOL (CAS: 107-21-1)

Ingredient comments	WEL = Workplace Exposure Limits
DNEL	Industry - Inhalation; Short term : 35 mg/m ³ Industry - Dermal; Long term : 106 mg/kg/day Consumer - Dermal; Long term : 53 mg/kg/day Consumer - Inhalation; Long term : 7 mg/m ³
PNEC	- Fresh water; 10 mg/l - marine water; 1 mg/l - Soil; 1.53 mg/kg - STP; 199.5 mg/l - Sediment (Freshwater); 37 mg/kg - Sediment (Marinewater); 3.7 mg/kg - Intermittent release; 10 mg/l

METHYL 1H BENZOTRIAZOLE (CAS: 29385-43-1)

DNEL	Workers - Dermal; Long term systemic effects: 0.3 mg/kg/day Workers - Inhalation; Long term systemic effects: 21.2 mg/m ³ Consumer - Dermal; Long term systemic effects: 0.01 mg/kg/day Consumer - Inhalation; Long term systemic effects: 0.35 mg/m ³ Consumer - Oral; Long term systemic effects: 0.01 mg/kg/day
PNEC	- Fresh water; 0.008 mg/l - Intermittent release; 0.086 mg/l - marine water; 0.02 mg/l - Sediment (Freshwater); 0.117 mg/kg/day - Sediment (Marinewater); 0.292 mg/kg/day - Soil; 0.0187 mg/kg/day - STP; 39.4 mg/l

8.2. Exposure controls

Protective equipment



Appropriate engineering controls

Provide adequate ventilation. As this product contains ingredients with exposure limits, process enclosures, local exhaust ventilation or other engineering controls should be used to keep worker exposure below any statutory or recommended limits, if use generates dust, fumes, gas, vapour or mist.

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Eye/face protection	Eyewear complying with an approved standard should be worn if a risk assessment indicates eye contact is possible. The following protection should be worn: Chemical splash goggles or face shield. Personal protective equipment for eye and face protection should comply with European Standard EN166.
Hand protection	The most suitable glove should be chosen in consultation with the glove supplier/manufacturer, who can provide information about the breakthrough time of the glove material. The selected gloves should have a breakthrough time of at least 8 hours. Rubber (natural, latex). Nitrile rubber. Polyethylene. Polyvinyl alcohol (PVA). Polyvinyl chloride (PVC). Neoprene. Thickness: 0.35 mm To protect hands from chemicals, gloves should comply with European Standard EN374.
Other skin and body protection	Wear appropriate clothing to prevent any possibility of liquid contact and repeated or prolonged vapour contact.
Hygiene measures	When using do not eat, drink or smoke. Wash after use and before eating, smoking and using the toilet. Remove contaminated clothing and protective equipment before entering eating areas. Eye wash facilities and emergency shower must be available when handling this product.
Respiratory protection	Respiratory protection complying with an approved standard should be worn if a risk assessment indicates inhalation of contaminants is possible. Ensure all respiratory protective equipment is suitable for its intended use and is 'CE'-marked. If ventilation is inadequate, suitable respiratory protection must be worn. Organic vapour filter. Combination filter, type A2/P2. EN 136/140/141/145/143/149

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance	Liquid.
Colour	Various colours.
Odour	Characteristic.
Odour threshold	No information available.
pH	pH (diluted solution): 8.0 - 8.8 (50%) Read-across data.
Melting point	Not applicable. Liquid
Pour Point	No information available.
Freezing Point	(-51) - (-14)°C Read-across data.
Initial boiling point and range	170°C @ 760 mm Hg Read-across data.
Flash point	120°C Closed cup. Read-across data.
Evaporation rate	< 0.5 (butyl acetate = 1) Estimated value.
Evaporation factor	No information available.
Flammability (solid, gas)	Not applicable.
Upper/lower flammability or explosive limits	No information available.
Other flammability	No information available.
Vapour pressure	3 mbar @ 20°C Read-across data.
Vapour density	> 1 (Air = 1) Read-across data.
Relative density	1.116 - 1.119 @ 25°C Read-across data.

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Bulk density	No information available.
Solubility(ies)	Miscible with water.
Partition coefficient	Not determined.
Auto-ignition temperature	No information available.
Decomposition Temperature	No information available.
Viscosity	10 - 30 mm ² /s @ 20°C Read-across data.
Explosive properties	No information available.
Explosive under the influence of a flame	No information available.
Oxidising properties	No information available.

9.2. Other information

Other information	No information required.
Refractive index	No information available.
Particle size	Not applicable.
Molecular weight	No information available.
Volatility	No information available.
Saturation concentration	No information available.
Critical temperature	No information available.
Volatile organic compound	No information available.

SECTION 10: Stability and reactivity

10.1. Reactivity

Reactivity	There are no known reactivity hazards associated with this product.
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10.2. Chemical stability

Stability	Stable at normal ambient temperatures and when used as recommended.
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10.3. Possibility of hazardous reactions

Possibility of hazardous reactions	Will not polymerise.
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10.4. Conditions to avoid

Conditions to avoid	Avoid excessive heat for prolonged periods of time.
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10.5. Incompatible materials

Materials to avoid	Strong acids. Strong alkalis. Strong oxidising agents.
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10.6. Hazardous decomposition products

Hazardous decomposition products	Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapours. Aldehydes. Alcohols. Ethers. Oxides of the following substances: Carbon.
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SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity - oral

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Notes (oral LD₅₀)	Harmful if swallowed.
ATE oral (mg/kg)	1,684.21
<u>Acute toxicity - dermal</u>	
Notes (dermal LD₅₀)	Not determined. Information given is applicable to the major ingredient. LD ₅₀ > 5000 mg/kg, Dermal, Estimated value.
<u>Acute toxicity - inhalation</u>	
Notes (inhalation LC₅₀)	Not determined.
<u>Skin corrosion/irritation</u>	
Skin corrosion/irritation	Information given is applicable to the major ingredient. Prolonged and frequent contact may cause redness and irritation.
<u>Serious eye damage/irritation</u>	
Serious eye damage/irritation	Information given is applicable to the major ingredient. May be slightly irritating to eyes.
<u>Respiratory sensitisation</u>	
Respiratory sensitisation	No information available.
<u>Skin sensitisation</u>	
Skin sensitisation	Information given is applicable to the major ingredient. Not sensitising. Guinea pig
<u>Germ cell mutagenicity</u>	
Genotoxicity - in vitro	Information given is applicable to the major ingredient. Negative.
<u>Carcinogenicity</u>	
Carcinogenicity	Does not contain any substances known to be carcinogenic.
<u>Reproductive toxicity</u>	
Reproductive toxicity - fertility	No information available.
<u>Specific target organ toxicity - single exposure</u>	
STOT - single exposure	Not classified as a specific target organ toxicant after a single exposure.
<u>Specific target organ toxicity - repeated exposure</u>	
STOT - repeated exposure	May cause damage to organs (Kidneys) through prolonged or repeated exposure if swallowed.
Target organs	Kidneys
<u>Aspiration hazard</u>	
Aspiration hazard	Based on available data the classification criteria are not met.
<u>Toxicokinetics</u>	
	The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.
Inhalation	Gas or vapour in high concentrations may irritate the respiratory system.
Ingestion	Harmful if swallowed. May cause damage to organs (Kidneys) through prolonged or repeated exposure if swallowed. NB. Ethylene glycol: lethal dose, adult: 100 ml Overexposure may cause the following adverse effects: Central nervous system depression. Nausea, vomiting. May cause discomfort if swallowed.
Skin contact	Prolonged skin contact may cause redness and irritation.
Eye contact	May be slightly irritating to eyes.

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Medical considerations

If several ounces (60 - 100 ml) of ethylene glycol have been ingested, early administration of ethanol may counter the toxic effects (metabolic acidosis, renal damage). Consider hemodialysis or peritoneal dialysis & thiamine 100 mg plus pyridoxine 50 mg intravenously every 6 hours. If ethanol is used, a therapeutically effective blood concentration in the range of 100 - 150 mg/dl may be achieved by a rapid loading dose followed by a continuous intravenous infusion. Consult standard literature for details of treatment. 4-Methyl pyrazole (Antizol®) is an effective blocker of alcohol dehydrogenase and should be used in the treatment of ethylene glycol (EG), di- or triethylene glycol (DEG, TEG), ethylene glycol butyl ether (EGBE), or methanol intoxication if available. Fomepizole protocol: loading dose 15 mg/kg intravenously, follow by bolus dose of 10 mg/kg every 12 hours; after 48 hours, increase bolus dose to 15 mg/kg every 12 hours. Continue fomepizole until serum methanol, EG, DEG, TEG or EGBE are undetectable. The signs and symptoms of poisoning include anion gap metabolic acidosis, CNS depression, renal tubular injury, and possible late stage cranial nerve involvement. Respiratory symptoms, including pulmonary edema, may be delayed. Persons receiving significant exposure should be observed 24-48 hours for signs of respiratory distress. In severe poisoning, respiratory support with mechanical ventilation and positive end expiratory pressure may be required. Maintain adequate ventilation and oxygenation of the patient. If lavage is performed, suggest endotracheal and/or esophageal control. Danger from lung aspiration must be weighed against toxicity when considering emptying the stomach. If burn is present, treat as any thermal burn, after decontamination. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient.

Toxicological information on ingredients.

ETHANEDIOL

Acute toxicity - oral

Acute toxicity oral (LD₅₀ mg/kg) 1,600.0

Species Human

Notes (oral LD₅₀) Harmful if swallowed.
LD₅₀ 1600 mg/kg, Oral, Human

ATE oral (mg/kg) 1,600.0

Acute toxicity - dermal

Acute toxicity dermal (LD₅₀ mg/kg) 3,500.0

Species Mouse

Notes (dermal LD₅₀) LD₅₀ 3500 mg/kg, Dermal, Mouse

ATE dermal (mg/kg) 3,500.0

Acute toxicity - inhalation

Acute toxicity inhalation (LC₅₀ vapours mg/l) 2.5

Notes (inhalation LC₅₀) LD₅₀ > 2.5 mg/l, Inhalation, Rat

ATE inhalation (vapours mg/l) 2.5

Skin corrosion/irritation

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Animal data	Prolonged skin contact may cause redness and irritation.
<u>Serious eye damage/irritation</u>	
Serious eye damage/irritation	May cause temporary eye irritation.
<u>Respiratory sensitisation</u>	
Respiratory sensitisation	Not sensitising.
<u>Skin sensitisation</u>	
Skin sensitisation	Not sensitising. Guinea pig
<u>Germ cell mutagenicity</u>	
Genotoxicity - in vitro	Negative.
Genotoxicity - in vivo	Negative.
<u>Carcinogenicity</u>	
Carcinogenicity	No evidence of carcinogenicity in animal studies.
<u>Reproductive toxicity</u>	
Reproductive toxicity - development	Symptoms following overexposure may include the following: Possible risk of adverse reproductive effects.
<u>Specific target organ toxicity - single exposure</u>	
STOT - single exposure	Not classified as a specific target organ toxicant after a single exposure.
<u>Specific target organ toxicity - repeated exposure</u>	
STOT - repeated exposure	May cause damage to organs (Kidneys) through prolonged or repeated exposure if swallowed.
Target organs	Kidneys
<u>Aspiration hazard</u>	
Aspiration hazard	Based on available data the classification criteria are not met.
<u>Toxicokinetics</u>	
Toxicokinetics	The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.
Inhalation	Vapour may irritate respiratory system/lungs.
Ingestion	Harmful if swallowed. Lethal dose to humans 100ml
Skin contact	Prolonged skin contact may cause redness and irritation.
Eye contact	May cause temporary eye irritation.
Acute and chronic health hazards	May cause damage to organs (Kidneys) through prolonged or repeated exposure if swallowed.
Target organs	Liver Kidneys

METHYL 1H BENZOTRIAZOLE

Acute toxicity - oral

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Acute toxicity oral (LD₅₀ mg/kg)

720.0

Species

Rat

Notes (oral LD₅₀)

Harmful if swallowed. LD₅₀ 720 mg/kg, Oral, Rat OECD 401

ATE oral (mg/kg)

720.0

Acute toxicity - dermal

Notes (dermal LD₅₀)

LD₅₀ > 5000 mg/kg, Dermal, Rabbit

Acute toxicity - inhalation

Notes (inhalation LC₅₀)

Not determined.

Skin corrosion/irritation

Animal data

Not irritating. Rabbit

Serious eye damage/irritation

Serious eye damage/irritation

May cause temporary eye irritation. Rabbit

Respiratory sensitisation

Respiratory sensitisation

Based on available data the classification criteria are not met.

Skin sensitisation

Skin sensitisation

Not sensitising. Guinea pig

Germ cell mutagenicity

Genotoxicity - in vitro

Negative.

Genotoxicity - in vivo

Negative.

Carcinogenicity

Carcinogenicity

No information available.

Reproductive toxicity

Reproductive toxicity - fertility

No information available.

Reproductive toxicity - development

Suspected of damaging the unborn child if swallowed.

Specific target organ toxicity - single exposure

STOT - single exposure

Not classified as a specific target organ toxicant after a single exposure.

Specific target organ toxicity - repeated exposure

STOT - repeated exposure

Based on available data the classification criteria are not met. Not classified as a specific target organ toxicant after repeated exposure. NOAEL 150 mg/kg/day, Oral, Rat

Aspiration hazard

Aspiration hazard

Based on available data the classification criteria are not met.

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Toxicokinetics	The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.
Inhalation	Dust in high concentrations may irritate the respiratory system.
Ingestion	Harmful if swallowed. Suspected of damaging the unborn child if swallowed.
Skin contact	Skin irritation should not occur when used as recommended.
Eye contact	Solid particles trapped behind the eyelid may cause abrasive damage.

SECTION 12: Ecological information

Ecotoxicity	The product is not expected to be hazardous to the environment. However, large or frequent spills may have hazardous effects on the environment.
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Ecological information on ingredients.

ETHANEDIOL

Ecotoxicity	The product is not expected to be hazardous to the environment. However, large or frequent spills may have hazardous effects on the environment.
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METHYL 1H BENZOTRIAZOLE

Ecotoxicity	Toxic to aquatic life with long lasting effects.
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12.1. Toxicity

Toxicity	Not considered toxic to fish.
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Ecological information on ingredients.

ETHANEDIOL

Toxicity	Not considered toxic to fish.
<u>Acute aquatic toxicity</u>	
Acute toxicity - fish	LC ₅₀ , 96 hours: 72860 mg/l, Pimephales promelas (Fat-head Minnow)
Acute toxicity - aquatic invertebrates	EC ₅₀ , 48 hours: > 100 mg/l, Daphnia magna
Acute toxicity - aquatic plants	EC ₅₀ , 96 hours: 6500 - 13000 mg/l,
Acute toxicity - microorganisms	EC ₅₀ , 30 minutes: 225 mg/l, Activated sludge

METHYL 1H BENZOTRIAZOLE

Toxicity	Toxic to aquatic life with long lasting effects.
<u>Acute aquatic toxicity</u>	
Acute toxicity - fish	LC ₅₀ , 96 hours: 55 mg/l, Cyprinodon variegatus (Sheepshead minnow) OECD 203

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Acute toxicity - aquatic invertebrates

LC₅₀, 48 hours: 55 mg/l, Marinewater invertebrates
 This information is based on test data from similar products
 EC₅₀, 48 hours: 8.58 mg/l, Freshwater invertebrates
 This information is based on test data from similar products
 EC₅₀, 48 hours: 15.8 mg/l, Freshwater invertebrates

Acute toxicity - aquatic plants

EC₅₀, 72 hours: 53 mg/l, Marinewater algae
 NOEC, 72 hours: 30 mg/l, Marinewater algae
 This information is based on test data from similar products
 EC₁₀, 72 hours: 2.86 mg/l, Desmodesmus subspicatus
 This information is based on test data from similar products
 NOEC, 72 hours: 2.5 mg/l, Desmodesmus subspicatus
 This information is based on test data from similar products
 EC₁₀, 72 hours: 1.18 mg/l, Desmodesmus subspicatus
 This information is based on test data from similar products
 NOEC, 72 hours: 1.12 mg/l, Desmodesmus subspicatus

Chronic aquatic toxicity

Chronic toxicity - aquatic invertebrates

NOEC, 21 days: 18.4 mg/l, Daphnia magna
 This information is based on test data from similar products
 EC₁₀, 21 days: 0.4 mg/l, Freshwater invertebrates
 This information is based on test data from similar products
 EC₁₀, 21 days: 0.97 mg/l, Freshwater invertebrates

12.2. Persistence and degradability

Persistence and degradability The product is readily biodegradable.

Ecological information on ingredients.

ETHANEDIOL

Persistence and degradability

The substance is readily biodegradable.

Biodegradation

- Degradation (%) 90%: > 10 days
 OECD 301A

METHYL 1H BENZOTRIAZOLE

Persistence and degradability

The product is expected to be slowly biodegradable.

Biodegradation

Water - Degradation 4 %: 28 days

12.3. Bioaccumulative potential

Bioaccumulative potential No data available on bioaccumulation.

Partition coefficient Not determined.

Ecological information on ingredients.

ETHANEDIOL

Bioaccumulative potential

The product is not bioaccumulating.

Partition coefficient

log Kow: -1.36

METHYL 1H BENZOTRIAZOLE

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Bioaccumulative potential BCF: 4.17, Estimated value.

Partition coefficient log Pow: 1.71 Estimated value.

12.4. Mobility in soil

Mobility Miscible with water.

Ecological information on ingredients.

ETHANEDIOL

Mobility The product is soluble in water.

Adsorption/desorption coefficient Water - Koc: 1 @ °C

METHYL 1H BENZOTRIAZOLE

Mobility Slightly soluble in water.

12.5. Results of PBT and vPvB assessment

Results of PBT and vPvB assessment This product does not contain any substances classified as PBT or vPvB.

Ecological information on ingredients.

ETHANEDIOL

Results of PBT and vPvB assessment This substance is not classified as PBT or vPvB according to current EU criteria.

METHYL 1H BENZOTRIAZOLE

Results of PBT and vPvB assessment This substance is not classified as PBT or vPvB according to current EU criteria.

12.6. Other adverse effects

Other adverse effects The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

Ecological information on ingredients.

ETHANEDIOL

Cod 1.22

Other adverse effects The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

METHYL 1H BENZOTRIAZOLE

Other adverse effects The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

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SECTION 13: Disposal considerations

13.1. Waste treatment methods

General information	Waste is classified as hazardous waste. Do not puncture or incinerate, even when empty.
Disposal methods	Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority.

SECTION 14: Transport information

General	The product is not covered by international regulations on the transport of dangerous goods (IMDG, IATA, ADR/RID).
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14.1. UN number

Not applicable.

14.2. UN proper shipping name

Not applicable.

14.3. Transport hazard class(es)

No transport warning sign required.

14.4. Packing group

Not applicable.

14.5. Environmental hazards

Environmentally hazardous substance/marine pollutant
No.

14.6. Special precautions for user

Not applicable.

14.7. Transport in bulk according to Annex II of MARPOL and the IBC Code

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not applicable.

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

EU legislation	Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) (as amended). Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures (as amended). COMMISSION REGULATION (EU) 2020/878 of 18 June 2020
Restrictions (Annex XVII Regulation 1907/2006)	CAUTION - Chemical may be subject to REACH RESTRICTIONS - see Annex XVII. This product is/contains a substance that is included in REGULATION (EC) No 1907/2006 (REACH) ANNEX XVII - RESTRICTIONS ON THE MANUFACTURE, PLACING ON THE MARKET AND USE OF CERTAIN DANGEROUS SUBSTANCES, MIXTURES AND ARTICLES. Entry number: 3

15.2. Chemical safety assessment

No chemical safety assessment has been carried out.

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SECTION 16: Other information

Abbreviations and acronyms used in the safety data sheet	ATE: Acute Toxicity Estimate. ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road. ADN: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways. CAS: Chemical Abstracts Service. DNEL: Derived No Effect Level. IATA: International Air Transport Association. IMDG: International Maritime Dangerous Goods. Kow: Octanol-water partition coefficient. LC₅₀: Lethal Concentration to 50 % of a test population. LD₅₀: Lethal Dose to 50% of a test population (Median Lethal Dose). PBT: Persistent, Bioaccumulative and Toxic substance. PNEC: Predicted No Effect Concentration. REACH: Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006. RID: European Agreement concerning the International Carriage of Dangerous Goods by Rail. vPvB: Very Persistent and Very Bioaccumulative. IARC: International Agency for Research on Cancer. MARPOL 73/78: International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. cATpE: Converted Acute Toxicity Point Estimate. BCF: Bioconcentration Factor. BOD: Biochemical Oxygen Demand. EC₅₀: 50% of maximal Effective Concentration. LOAEC: Lowest Observed Adverse Effect Concentration. LOAEL: Lowest Observed Adverse Effect Level. NOAEC: No Observed Adverse Effect Concentration. NOAEL: No Observed Adverse Effect Level. NOEC: No Observed Effect Concentration. LOEC: Lowest Observed Effect Concentration. DMEL: Derived Minimal Effect Level. EL50: Exposure Limit 50 hPa: Hectopascal LL50: Lethal Loading fifty OECD: Organisation for Economic Co-operation and Development POW: Octanol-water partition coefficient SCBA: self-contained breathing apparatus STP: Sewage Treatment Plant VOC: Volatile Organic Compounds
Classification abbreviations and acronyms	Acute Tox. = Acute toxicity Aquatic Acute = Hazardous to the aquatic environment (acute) Aquatic Chronic = Hazardous to the aquatic environment (chronic)
Key literature references and sources for data	Supplier's information.
Classification procedures according to Regulation (EC) 1272/2008	Acute Tox. 4 - H302: Calculation method. STOT RE 2 - H373: Calculation method.
Revision comments	NOTE: Lines within the margin indicate significant changes from the previous revision.

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Revision date	11/03/2023
Version number	1.000
SDS number	65317
SDS status	Approved.
Hazard statements in full	H302 Harmful if swallowed. H361d Suspected of damaging the unborn child if swallowed. H373 May cause damage to organs (Kidneys) through prolonged or repeated exposure. H373 May cause damage to organs (Kidneys) through prolonged or repeated exposure if swallowed. H411 Toxic to aquatic life with long lasting effects.
Signature	Lisa Bland

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