

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

Supersedes date 19-Apr-2022

Revision date 18-Sep-2025

Revision Number 2

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

1.1. Product identifier

Product Code(s) 10946
Safety data sheet number 10946
Product Name THERMOCAL C
Pure substance/mixture Mixture

Contains ETHANEDIOL; DISODIUM TETRABORATE PENTAHYDRATE

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

Recommended use Heat transfer medium
Restricted to professional users

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

Acute toxicity - Oral	Category 4 - (H302)
Reproductive toxicity	Category 1B - (H360FD)
Specific target organ toxicity — repeated exposure	Category 2 - (H373)

2.2. Label elements

Contains ETHANEDIOL; DISODIUM TETRABORATE PENTAHYDRATE



Signal word

Danger

Hazard statements

H302 - Harmful if swallowed

H360FD - May damage fertility. May damage the unborn child

H373 - May cause damage to organs through prolonged or repeated exposure

Restricted to professional users

Precautionary statements

P201 - Obtain special instructions before use

P260 - Do not breathe vapours/spray

P280 - Wear protective gloves/protective clothing/eye protection/face protection

P301 + P312 - IF SWALLOWED: Call a POISON CENTER or doctor if you feel unwell

P308 + P313 - IF exposed or concerned: Get medical advice/attention

P501 - Dispose of contents/container in accordance with local, regional, national, and international regulations as applicable

2.3. Other hazards

No information available.

SECTION 3: Composition/information on ingredients

3.1 Substances

Not applicable

3.2 Mixtures

Chemical name	Weight-%	EC No (EU Index No)	UK REACH registration number	Classification according to GB CLP (SI 2020/1567 as amended)	Specific concentration limit (SCL)	M-Factor	M-Factor (long-term)
ETHANEDIOL 107-21-1	80 - 90%	203-473-3 (603-027-00-1)	-	Acute Tox. 4 (H302) STOT RE 2 (H373)	-	-	-
SODIUM BENZOATE 532-32-1	1 - 5%	208-534-8	-	Eye Irrit. 2 (H319)	-	-	-
DISODIUM TETRABORATE PENTAHYDRATE 12179-04-3	1 - 5%	215-540-4 (005-011-00-4)	-	Repr. 1B (H360FD)	-	-	-
METHYL 1H BENZOTRIAZOLE	< 1%	249-596-6	-	Acute Tox. 4 (H302) Repr. 2 (H361d)	-	-	-

29385-43-1				Aquatic Chronic 2 (H411)			
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Full text of H- and EUH-phrases: see section 16

Chemical name	CAS No	SVHC candidates
DISODIUM TETRABORATE PENTAHYDRATE	12179-04-3	X

SECTION 4: First aid measures

4.1. Description of first aid measures

General advice	Show this safety data sheet to the doctor in attendance. Show this safety data sheet to the doctor in attendance. Never give anything by mouth to an unconscious person.
Inhalation	IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing. 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 immediate medical attention.
Skin contact	Wash off immediately with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
Ingestion	Rinse mouth thoroughly with water. Drink plenty of water. Do NOT induce vomiting. Get medical attention.

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

Ingestion	Harmful if swallowed Ingestion may cause: Nausea Vomiting Diarrhoea. May cause damage to the following organs through prolonged or repeated exposure: Kidneys
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4.3. Indication of any immediate medical attention and special treatment needed

Note to doctors	Treat symptomatically.
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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	Exposure to combustion products may be a hazard to health.
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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. Cool containers with flooding quantities of water until well after fire is out. Collect contaminated fire extinguishing water separately. Do not allow it to enter drains or surface water.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid contact with skin, eyes and inhalation of vapours. Use personal protection recommended in Section 8. Do not touch or walk through spilled material.

Other information Refer to protective measures listed in Sections 7 and 8.

For emergency responders Use personal protection recommended in Section 8.

6.2. Environmental precautions

Environmental precautions Prevent further leakage or spillage if safe to do so. Do not allow runoff to sewer, waterway or ground. Local authorities should be advised if significant spillages cannot be contained.

6.3. Methods and material for containment and cleaning up

Methods for containment Contain and collect spillage with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see Section 13).

Methods for cleaning up Clean contaminated objects and areas thoroughly observing environmental regulations. After cleaning, flush away traces with water.

Prevention of secondary hazards Observe good chemical hygiene practices.

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 Avoid the formation or spread of mists in the air. Ensure adequate ventilation. Avoid contact with skin and eyes. Use personal protection recommended in Section 8. Handle all packages and containers carefully to minimise spills.

General hygiene considerations Handle in accordance with good industrial hygiene and safety practice. Do not eat, drink or smoke when using the product. Remove contaminated clothing and protective equipment before entering eating areas. Wash hands before breaks and immediately after handling the product. Take off all contaminated clothing and wash it before reuse.

7.2. Conditions for safe storage, including any incompatibilities

Storage Conditions Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from food, drink and animal feedingstuffs. Store away from incompatible materials. Strong oxidising

agents.

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	United Kingdom
ETHANEDIOL 107-21-1	TWA: 10 mg/m ³ (particulate) TWA: 20 ppm TWA: 52 mg/m ³ STEL: 40 ppm STEL: 104 mg/m ³ (vapour) Sk*
DISODIUM TETRABORATE PENTAHYDRATE 12179-04-3	TWA: 1 mg/m ³ STEL: 3 mg/m ³

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
ETHANEDIOL 107-21-1		106 mg/kg bw/day [4] [6]	35 mg/m ³ [5] [6]
SODIUM BENZOATE 532-32-1		62.5 mg/kg bw/day [4] [6]	3 mg/m ³ [4] [6] 0.1 mg/m ³ [5] [6]
DISODIUM TETRABORATE PENTAHYDRATE 12179-04-3		458.2 mg/kg/day [4] [6]	17.04 mg/m ³ [5] [6]
METHYL 1H BENZOTRIAZOLE 29385-43-1		0.3 mg/kg bw/day [4] [6]	21.2 mg/m ³ [4] [6]

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

Derived No Effect Level (DNEL) - General Public

Chemical name	Oral	Dermal	Inhalation
ETHANEDIOL 107-21-1		53 mg/kg bw/day [4] [6]	7 mg/m ³ [5] [6]
SODIUM BENZOATE 532-32-1	16.6 mg/kg bw/day [4] [6]	31.25 mg/kg bw/day [4] [6]	1.5 mg/m ³ [4] [6] 0.06 mg/m ³ [5] [6]

Chemical name	Oral	Dermal	Inhalation
DISODIUM TETRABORATE PENTAHYDRATE 12179-04-3	1.15 mg/kg/day [4] [7]	231.8 mg/kg/day [4] [6]	17.04 mg/m ³ [5] [7]
METHYL 1H BENZOTRIAZOLE 29385-43-1	0.01 mg/kg bw/day [4] [6]	0.01 mg/kg bw/day [4] [6]	0.35 mg/m ³ [4] [6]

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

Predicted No Effect Concentration (PNEC)

Chemical name	Freshwater	Freshwater (intermittent release)	Marine water	Marine water (intermittent release)	Air
ETHANEDIOL 107-21-1	10 mg/L	10 mg/L	1 mg/L	10 mg/L	
SODIUM BENZOATE 532-32-1	0.13 mg/L	0.305 mg/l	0.013 mg/L		
METHYL 1H BENZOTRIAZOLE 29385-43-1	0.008 mg/L	0.086 mg/L	0.02 mg/l	0.053 mg/l	

Chemical name	Freshwater sediment	Marine sediment	Sewage treatment	Soil	Food chain
ETHANEDIOL 107-21-1	37 mg/kg sediment dw	3.7 mg/kg sediment dw	199.5 mg/L	1.53 mg/kg soil dw	
SODIUM BENZOATE 532-32-1	1.76 mg/kg sediment dw	0.176 mg/kg sediment dw	10 mg/L	0.06 mg/kg soil dw	300 mg/kg food
METHYL 1H BENZOTRIAZOLE 29385-43-1	0.117 mg/kg dry weight (d.w.)	0.292 mg/kg dry weight (d.w.)	39.4 mg/L	0.0187 mg/kg dry weight (d.w.)	

8.2. Exposure controls**Engineering controls**

Ensure adequate ventilation. Avoid breathing vapours. Ensure that eyewash stations and safety showers are close to the workstation location. Use engineering controls to keep exposures below the OEL or DNEL.

Personal protective equipment**Eyeface protection**

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

Hand protection

Chemical resistant gloves required for prolonged or repeated contact. Gloves must conform to standard EN 374. Ensure that the breakthrough time of the glove material is not exceeded. Refer to glove supplier for information on breakthrough time for specific gloves. Gloves should be removed and replaced if there are any signs of degradation or breakthrough.

Skin and body protection

Wear appropriate clothing to prevent reasonably probable skin contact. Rubber boots. Butyl rubber or Neoprene apron.

Respiratory protection	In case of inadequate ventilation wear respiratory protection. EN 136/140/141/145/143/149.
General hygiene considerations	Handle in accordance with good industrial hygiene and safety practice. Do not eat, drink or smoke when using the product. Remove contaminated clothing and protective equipment before entering eating areas. Wash hands before breaks and immediately after handling the product. Take off all contaminated clothing and wash it before reuse.
Environmental exposure controls	Avoid release to the environment.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	Liquid
Appearance	Liquid
Colour	red
Odour	Characteristic.
Odour threshold	No information available

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
Melting point / freezing point		No information available.
Initial boiling point and boiling range		No information available.
Flammability		No information available.
Flammability Limit in Air		No information available.
Upper flammability or explosive limits		
Lower flammability or explosive limits		
Flash point		No information available.
Autoignition temperature		No information available.
Decomposition temperature		No information available.
pH		No information available.
pH (as aqueous solution)		No information available.
Kinematic viscosity		No information available.
Dynamic viscosity		No information available.
Water solubility	No data available	No information available.
Solubility(ies)		No information available.
Partition coefficient		No information available.
Vapour pressure		No information available.
Relative density	1.12 - 1.124	@ 15 °C.
Bulk density		No information available
Liquid Density	No information available	No information available
Relative vapour density		No information available.
Particle characteristics		Not applicable.
Particle Size	.	
Particle Size Distribution	.	
Explosive properties	No information available	
Oxidising properties	No information available	

9.2. Other information

SECTION 10: Stability and reactivity

10.1. Reactivity

Reactivity	No reactive hazards known/expected.
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10.2. Chemical stability

Stability Stable under recommended storage 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.

10.4. Conditions to avoid

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

10.5. Incompatible materials

Incompatible materials Strong oxidising agents.

10.6. Hazardous decomposition products

Hazardous decomposition products Does not decompose when used and stored as recommended. Thermal decomposition may release:.. Carbon oxides. Oxides of sulphur.

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 temporary eye irritation.

Skin contact May cause slight irritation.

Ingestion Harmful if swallowed.

Symptoms related to the physical, chemical and toxicological characteristics

Symptoms May cause respiratory irritation. Coughing and/or wheezing. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhoea.

Acute toxicity**Numerical measures of toxicity**

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

ATEmix (oral) 595.30 mg/kg

Component Information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
ETHANEDIOL	7712 mg/kg (Rat)	> 3500 mg/kg (Mouse)	> 2.5 mg/L (Rat) 6 h
SODIUM BENZOATE	2100 - 3450 mg/kg (Rat)	-	-
DISODIUM TETRABORATE	= 2403 mg/kg (Rat)	-	-

PENTAHYDRATE			
METHYL 1H BENZOTRIAZOLE	= 720 mg/kg (Rat)	> 5000 mg/kg (Rabbit)	> 1.73 mg/L (Rat) 1 h

Delayed and immediate effects as well as chronic effects from short and long-term exposure**Skin corrosion/irritation**

Based on available data the classification criteria are not met.

ETHANEDIOL (107-21-1)

Method	Species	Exposure route	Effective dose	Exposure time	Results
					Brief contact is essentially non-irritating to skin. Prolonged contact may cause slight skin irritation with local redness

SODIUM BENZOATE (532-32-1)

Method	Species	Exposure route	Effective dose	Exposure time	Results
OECD 404	Rabbit	Dermal			Brief contact is essentially non-irritating to skin.

DISODIUM TETRABORATE PENTAHYDRATE (12179-04-3)

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

METHYL 1H BENZOTRIAZOLE (29385-43-1)

Method	Species	Exposure route	Effective dose	Exposure time	Results
					Brief contact is essentially non-irritating to skin.

Serious eye damage/eye irritation

Based on available data the classification criteria are not met.

ETHANEDIOL (107-21-1)

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

SODIUM BENZOATE (532-32-1)

Method	Species	Exposure route	Effective dose	Exposure time	Results
OECD 405	Rabbit	eye			Causes serious eye irritation

DISODIUM TETRABORATE PENTAHYDRATE (12179-04-3)

Method	Species	Exposure route	Effective dose	Exposure time	Results
	Rabbit	eye			Causes serious eye irritation Fully reversible within 14 days

METHYL 1H BENZOTRIAZOLE (29385-43-1)

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

					eye irritation
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Respiratory or skin sensitisation Based on available data the classification criteria are not met.

ETHANEDIOL (107-21-1)

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

SODIUM BENZOATE (532-32-1)

Method	Species	Exposure route	Results
			Skin contact may cause an allergic skin reaction in a small proportion of individuals

DISODIUM TETRABORATE PENTAHYDRATE (12179-04-3)

Method	Species	Exposure route	Results
Guinea pig maximisation test (GPMT)	Guinea pig	Dermal	Not a skin sensitiser

METHYL 1H BENZOTRIAZOLE (29385-43-1)

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

Germ cell mutagenicity Based on available data the classification criteria are not met.

Component Information
ETHANEDIOL (107-21-1)

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

SODIUM BENZOATE (532-32-1)

Method	Species	Results
Ames Test OECD Test No. 471: Bacterial Reverse Mutation Test	<i>S. typhimurium</i>	Negative
Ames Test OECD Test No. 471: Bacterial Reverse Mutation Test	<i>Escherichia coli</i>	Negative
OECD Test No. 473: In vitro Mammalian Chromosome Aberration Test	Chinese hamster cells	Positive
OECD 479 sister chromatid exchange assay	Human lymphocytes	Positive
OECD 487: In Vitro Mammalian Cell Micronucleus Test	Human lymphocytes	Positive
OECD Test No. 475: Mammalian Bone Marrow Chromosome Aberration Test	Rat	Negative
OECD Test No. 478: Rodent Dominant Lethal Test	Rat	Negative

DISODIUM TETRABORATE PENTAHYDRATE (12179-04-3)

Method	Species	Results
OECD Test No. 471: Bacterial Reverse Mutation Test	in vitro	Negative Read-across

METHYL 1H BENZOTRIAZOLE (29385-43-1)

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

Carcinogenicity

Based on available data the classification criteria are not met.

Component Information
ETHANEDIOL (107-21-1)

Method	Species	Results
		Did not cause cancer in laboratory animals.

SODIUM BENZOATE (532-32-1)

Method	Species	Results
	Rat	Did not cause cancer in laboratory animals. NOAEL $\geq$ 20,000 ppm

DISODIUM TETRABORATE PENTAHYDRATE (12179-04-3)

Method	Species	Results
	Mouse	Negative Read-across

Reproductive toxicity

Contains a known or suspected reproductive toxin. Classification based on data available for ingredients. May damage fertility or the unborn child.

The table below indicates ingredients above the cut-off threshold considered as relevant which are listed as reproductive toxins.

Chemical name	United Kingdom
DISODIUM TETRABORATE PENTAHYDRATE	Repr. 1B

ETHANEDIOL (107-21-1)

Method	Species	Results
		Based on animal studies, ingestion of very large amounts of ethylene glycol appears to be the major and possibly only route of exposure to produce birth defects. Exposures by inhalation or skin contact, the primary routes of occupational exposure, had minimal effect on the fetus, in animal studies.

SODIUM BENZOATE (532-32-1)

Method	Species	Results
OECD Test No. 416: Two-Generation Reproduction Toxicity	Rat	No effects on fertility and early embryonic development were detected NOAEL $\geq$ 10,000 ppm
OECD Test No. 414: Pre-natal Development Toxicity Study	Rat	General Toxicity Maternal: NOAEL = 1.306 mg/kg bw/day
OECD Test No. 414: Pre-natal Development Toxicity Study	Rat	Developmental Toxicity: NOAEL = 1.306 mg/kg bw/day

DISODIUM TETRABORATE PENTAHYDRATE (12179-04-3)

Method	Species	Results
Fertility effects	Rat Oral	May damage fertility NOAEL 17.5 mg/kg
Developmental toxicity	Rat Oral	May damage the unborn child NOAEL 9.6 mg/kg
Maternal toxicity	Rat Oral	NOAEL 13.3 mg/kg

METHYL 1H BENZOTRIAZOLE (29385-43-1)

Method	Species	Results
		Suspected of damaging the unborn child.

STOT - single exposure

Based on available data the classification criteria are not met.

ETHANEDIOL (107-21-1)

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

DISODIUM TETRABORATE PENTAHYDRATE (12179-04-3)

Method	Species	Exposure route	Effective dose	Exposure time	Results
					Not classified

METHYL 1H BENZOTRIAZOLE (29385-43-1)

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

May cause damage to organs through prolonged or repeated exposure.

Component Information

ETHANEDIOL (107-21-1)

Method	Species	Exposure route	Effective dose	Exposure time	Results
					Observations in humans include: Nystagmus (involuntary eye movement). In animals, effects have been reported on the following organs: Kidney Liver

SODIUM BENZOATE (532-32-1)

Method	Species	Exposure route	Effective dose	Exposure time	Results
Chronic toxicity	Rat	Oral	10,000 - 20,000 ppm, 7 days/week	18 - 24 months	NOAEL >= 20,000 ppm
OECD Test No. 412: Sub-acute Inhalation Toxicity: 28-Day Study	Rat	Inhalation Dust/Mist	25; 250; 1200 mg/m ³ 6h/d, 5 days/week	4 weeks	NOAEC =250 mg/m ³ Systemic Toxicity Test results on an analogous product
OECD Test No. 412: Sub-acute Inhalation Toxicity: 28-Day Study	Rat	Inhalation Dust/Mist	25; 250; 1200 mg/m ³ , 6h/d, 5 days/week	4 weeks	LOAEC =25 mg/m ³ respiratory tract Test results on an analogous product
Subacute Toxicity	Rabbit	Dermal	100; 500; 2500,	3 weeks	NOAEL >2500

			mg/kg bw/day, 5h/d, 5 days/week		mg/kg Test results on an analogous product
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DISODIUM TETRABORATE PENTAHYDRATE (12179-04-3)

Method	Species	Exposure route	Effective dose	Exposure time	Results
	Rat	Oral	NOAEL: 17.5 mg/kg 7 days/week	24 months	Based on available data the classification criteria are not met.

METHYL 1H BENZOTRIAZOLE (29385-43-1)

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**

Based on available data, the classification criteria are not met.

ETHANEDIOL (107-21-1)

Method	Species	Endpoint type	Effective dose	Exposure time	Results
Acute toxicity	Pimephales promelas	LC50	72860 mg/L	96 hours	
OECD Test No. 202: Daphnia sp., Acute Immobilisation Test	Daphnia magna	EC50	> 100 mg/L	48 hours	

SODIUM BENZOATE (532-32-1)

Method	Species	Endpoint type	Effective dose	Exposure time	Results
Acute toxicity	Pimephales promelas	LC50	> 100 mg/L	96 hours	
Acute toxicity	Daphnia magna	EC50	> 100 mg/L	96 hours	
Acute toxicity	Pseudokirchneriella subcapitata	ErC50	> 100 mg/L	72 hours	

DISODIUM TETRABORATE PENTAHYDRATE (12179-04-3)

Method	Species	Endpoint type	Effective dose	Exposure time	Results
Acute toxicity	Pimephales promelas	LC50	79.7 mg/L	96 hours	Read-across
Chronic toxicity	Brachydanio rerio	NOEC	6.4 mg/L		Read-across
Chronic toxicity	Daphnia magna	NOEC	13.9 mg/L		Read-across
Acute toxicity	Ceriodaphnia dubia	LC50	91 mg/L	48 hours	Read-across
Acute toxicity	Pseudokirchneriella subcapitata	EC50	52.4 mg/L	72 hours	Read-across
Chronic toxicity	Pseudokirchneriella subcapitata	NOEC	17.5 mg/L	72 hours	Read-across

METHYL 1H BENZOTRIAZOLE (29385-43-1)

Method	Species	Endpoint type	Effective dose	Exposure time	Results
OECD Test No. 203: Fish, Acute Toxicity Test	Cyprinodon variegatus	LC50	55 mg/L	96 hours	
Acute toxicity	copepod Acartia tonsa	LC50	55 mg/L	48 hours	
Acute toxicity	Daphnia magna	EC50	8.58 mg/L	48 hours	
Acute toxicity	Daphnia magna	EC50	15.8 mg/L	48 hours	
Acute toxicity	Skeletonema costatum	EC50	53 mg/L	72 hours	
Acute toxicity	Skeletonema costatum	NOEC	30 mg/L	72 hours	
Acute toxicity	Desmodesmus subspicatus	EC10	2.86 mg/L	72 hours	
Acute toxicity	Desmodesmus subspicatus	NOEC	2.5 mg/L	72 hours	
Acute toxicity	Desmodesmus subspicatus	EC10	1.18 mg/L	72 hours	
Acute toxicity	Desmodesmus subspicatus	NOEC	1.2 mg/L	72 hours	
Chronic toxicity	Daphnia magna	NOEC	18.4 mg/L	21 days	
Chronic toxicity	Daphnia magna	EC10	0.4 mg/L	21 days	
Chronic toxicity	Daphnia magna	EC10	0.97 mg/L	21 days	

Chemical name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
ETHANEDIOL	EC50: 6500 - 13000mg/L (96h, Pseudokirchneriella subcapitata)	LC50: =41000mg/L (96h, Oncorhynchus mykiss) LC50: 14 - 18mL/L (96h, Oncorhynchus mykiss) LC50: =27540mg/L (96h, Lepomis macrochirus) LC50: =40761mg/L (96h, Oncorhynchus mykiss) LC50: 40000 - 60000mg/L (96h, Pimephales promelas) LC50: =16000mg/L (96h, Poecilia reticulata)	-	EC50: =46300mg/L (48h, Daphnia magna)

12.2. Persistence and degradability

Persistence and degradability The product contains substances which are biodegradable.

ETHANEDIOL (107-21-1)

Method	Exposure time	Value	Results
OECD Test No. 301A: Ready Biodegradability: DOC Die-Away Test (TG 301 A) or Equivalent.	10 days	Biodegradation 90 - 100 %	Readily biodegradable

SODIUM BENZOATE (532-32-1)

Method	Exposure time	Value	Results
OECD Test No. 301B: Ready Biodegradability: CO2 Evolution Test (TG 301 B) or Equivalent.	28 days	Biodegradation > 74 %	Readily biodegradable

DISODIUM TETRABORATE PENTAHYDRATE (12179-04-3)

Method	Exposure time	Value	Results
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			The methods for determining biodegradability are not applicable to inorganic substances.
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METHYL 1H BENZOTRIAZOLE (29385-43-1)

Method	Exposure time	Value	Results
	28 days	Biodegradation 4 %	Expected to biodegrade very slowly

12.3. Bioaccumulative potential

Bioaccumulation There is no data for this product.

Component Information

Chemical name	Partition coefficient
ETHANEDIOL	-1.36
SODIUM BENZOATE	1.88
METHYL 1H BENZOTRIAZOLE	1.71

12.4. Mobility in soil

Mobility in soil There is no data for this product.

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
ETHANEDIOL	The substance is not PBT / vPvB
SODIUM BENZOATE	The substance is not PBT / vPvB
DISODIUM TETRABORATE PENTAHYDRATE	Not applicable
METHYL 1H BENZOTRIAZOLE	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 Waste is classified as hazardous waste. Disposal to licensed waste disposal site in accordance with the local Waste Disposal Authority.

Contaminated packaging Do not reuse empty containers. Empty remaining contents. Empty containers should be taken to an approved waste handling site for recycling or disposal.

SECTION 14: Transport information**IATA**

- | | |
|-----------------------------------|----------------|
| 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 | Not applicable |
| 14.6 Special precautions for user | |

Special Provisions None

IMDG

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 Not applicable
 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 Not applicable
 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 Not applicable
 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 contains one or more substances subject to restriction (UK REACH - Annex XVII).

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

Product restricted per REACH Annex XVII: 3

Chemical name	Restricted substance per REACH Annex XVII	Substance subject to authorisation per REACH Annex XIV
SODIUM BENZOATE - 532-32-1	75	-
DISODIUM TETRABORATE PENTAHYDRATE - 12179-04-3	Use restricted. See item 30. Restricted Reproductive Toxin 1B	-

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)

Chemical name	The Biocidal Products Regulations 2001 (as amended)
SODIUM BENZOATE - 532-32-1	Simplified procedure - Category A
DISODIUM TETRABORATE PENTAHYDRATE - 12179-04-3	Product-type 8: Wood preservatives

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
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****Full text of H-Statements referred to under section 3**

H302 - Harmful if swallowed
H319 - Causes serious eye irritation
H360FD - May damage fertility. May damage the unborn child
H361d - Suspected of damaging the unborn child
H373 - May cause damage to organs through prolonged or repeated exposure
H411 - Toxic to aquatic life with long lasting effects

Legend

SVHC: Substances of Very High Concern for Authorisation:
PBT: Persistent, Bioaccumulative, and Toxic (PBT) Substances
vPvB: Very Persistent and very Bioaccumulative (vPvB) Substances

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 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
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 J Forth
Supersedes date 19-Apr-2022
Revision date 18-Sep-2025

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