



SAFETY DATA SHEET ANTIFREEZE 48/24 GREEN

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

1.1. Product identifier

Product name	ANTIFREEZE 48/24 GREEN
Product number	64094
Synonyms; trade names	ANTIFREEZE 48 GREEN, ANTIFREEZE 48, ANTIFREEZE 48 BLUE GREEN

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

Identified uses	Coolant
-----------------	---------

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.	64094

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.
-------------------	---

ANTIFREEZE 48/24 GREEN

Precautionary statements

P260 Do not breathe vapour/ spray.
 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.
 P501 Dispose of contents/ container in accordance with national regulations.

Contains ETHANEDIOL

2.3. Other hazards

This product does not contain any substances classified as PBT or vPvB.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

ETHANEDIOL >90%		
CAS number: 107-21-1	EC number: 203-473-3	REACH registration number: 01-2119456816-28-XXXX
Classification Acute Tox. 4 - H302 STOT RE 2 - H373		
2-ETHYLHEXANOIC ACID, SODIUM SALT >2 - <3%		
CAS number: 19766-89-3	EC number: 243-283-8	REACH registration number: 01-2119488942-23-XXXX
Classification Repr. 2 - H361d		
DISODIUM SEBACATE >=1 - <2%		
CAS number: 17265-14-4	EC number: 241-300-3	REACH registration number: 01-2120762063-61-XXXX
Classification Eye Irrit. 2 - H319		
DISODIUM TETRABORATE ANHYDROUS >=0.3 - <=1%		
CAS number: 1330-43-4	EC number: 215-540-4	REACH registration number: 01-2119490790-32-XXXX
Substance of very high concern (SVHC).		
Classification Eye Irrit. 2 - H319 Repr. 1B - H360FD		

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.

SECTION 4: First aid measures

4.1. Description of first aid measures

General information Take off immediately all contaminated clothing.

ANTIFREEZE 48/24 GREEN

Inhalation	Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing. Get medical attention if any discomfort continues.
Ingestion	Immediately rinse mouth and drink plenty of water (200-300 ml). Do not induce vomiting. Get medical attention immediately.
Skin contact	Remove contaminated clothing immediately and wash skin with soap and water. Get medical attention promptly if symptoms occur after washing.
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 if symptoms are severe or persist after washing.

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

Inhalation	Symptoms following overexposure may include the following: Central nervous system depression. Headache. Fatigue. Dizziness.
Ingestion	Harmful if swallowed. Ingestion of large amounts may cause unconsciousness. Lethal dose to humans 100ml 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.
-----------------------------	--

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	Take care as floors and other surfaces may become slippery.
-------------------------	---

ANTIFREEZE 48/24 GREEN

Hazardous combustion products	Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapours.
<u>5.3. Advice for firefighters</u>	
Protective actions during firefighting	Avoid the spillage or runoff entering drains, sewers or watercourses. Contain and collect extinguishing water.
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. Take care as floors and other surfaces may become slippery. Keep unnecessary and unprotected personnel away from the spillage. No action shall be taken without appropriate training or involving any personal risk.
-----------------------------	--

6.2. Environmental precautions

Environmental precautions	Avoid discharge into water courses or onto the ground. Spillages or uncontrolled discharges into watercourses must be reported immediately to the Environmental Agency or other appropriate regulatory body.
----------------------------------	--

6.3. Methods and material for containment and cleaning up

Methods for cleaning up	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.
--------------------------------	---

6.4. Reference to other sections

Reference to other sections	For personal protection, see Section 8. For waste disposal, see Section 13.
------------------------------------	---

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. The substance is hygroscopic and will absorb water by contact with the moisture in the air.
--------------------------	---

Advice on general occupational hygiene	Do not eat, drink or smoke when using this product. Wash after use and before eating, smoking and using the toilet.
---	---

7.2. Conditions for safe storage, including any incompatibilities

Storage precautions	Store in tightly-closed, original container in a dry, cool and well-ventilated place. The substance is hygroscopic and will absorb water by contact with the moisture in the air. Keep away from food, drink and animal feeding stuffs. Avoid contact with strong oxidising agents. Protect from moisture.
----------------------------	--

7.3. Specific end use(s)

Specific end use(s)	The identified uses for this product are detailed in Section 1.2.
----------------------------	---

SECTION 8: Exposure controls/Personal protection

8.1. Control parameters

Occupational exposure limits

ETHANEDIOL

ANTIFREEZE 48/24 GREEN

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

DISODIUM TETRABORATE ANHYDROUS

Long-term exposure limit (8-hour TWA): WEL 1 mg/m³

WEL = Workplace Exposure Limit.

Sk = Can be absorbed through the skin.

Ingredient comments

WEL = Workplace Exposure Limits

ETHANEDIOL (CAS: 107-21-1)

Ingredient comments

WEL = Workplace Exposure Limits

DNEL

Industry - Inhalation; Short term : 35 mg/m³

Industry - Dermal; Long term : 106 mg/kg/day

Consumer - Dermal; Long term : 53 mg/kg/day

Consumer - Inhalation; Long term : 7 mg/m³

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

DISODIUM TETRABORATE ANHYDROUS (CAS: 1330-43-4)

Ingredient comments

Observe any occupational exposure limits for the product or ingredients.

DNEL

Workers - Inhalation; Short term local effects: 11.72 mg/m³

Workers - Inhalation; Long term local effects: 11.72 mg/m³

Workers - Inhalation; Long term systemic effects: 6.74 mg/m³

Workers - Dermal; Long term systemic effects: 316.4 mg/kg/day

Consumer - Oral; Short term systemic effects: 0.79 mg/kg/day

Consumer - Oral; Long term systemic effects: 0.79 mg/kg/day

Consumer - Inhalation; Short term local effects: 11.72 mg/m³

Consumer - Inhalation; Long term local effects: 11.72 mg/m³

Consumer - Inhalation; Long term systemic effects: 3.4 mg/m³

Consumer - Dermal; Long term systemic effects: 159.5 mg/kg/day

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.

ANTIFREEZE 48/24 GREEN

Eye/face protection	Eyewear complying with an approved standard should be worn if a risk assessment indicates eye contact is possible. Unless the assessment indicates a higher degree of protection is required, the following protection should be worn: Chemical splash goggles. or Tight-fitting safety glasses. 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. Nitrile rubber. Thickness: > 0.4 mm To protect hands from chemicals, gloves should comply with European Standard EN374.
Other skin and body protection	Wear suitable protective clothing as protection against splashing or contamination.
Hygiene measures	Wash at the end of each work shift and before eating, smoking and using the toilet. Provide eyewash station and safety shower.
Respiratory protection	Respiratory protection must be used if the airborne contamination exceeds the recommended occupational exposure limit. Respiratory protection complying with an approved standard should be worn if a risk assessment indicates inhalation of contaminants is possible. If ventilation is inadequate, suitable respiratory protection must be worn. Combination filter, type A2/P2. EN 136/140/141/145/143/149 Ensure all respiratory protective equipment is suitable for its intended use and is 'CE'-marked.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance	Liquid.
Colour	Blue-green.
Odour	No information available.
Odour threshold	No information available.
pH	pH (concentrated solution): 7.1 - 7.3
Melting point	< -18°C
Initial boiling point and range	>165°C
Flash point	> 126.5°C
Evaporation rate	No information available.
Evaporation factor	No information available.
Flammability (solid, gas)	No information available.
Upper/lower flammability or explosive limits	Lower flammable/explosive limit: 4.9 % Upper flammable/explosive limit: 14.6 %
Other flammability	No information available.
Vapour pressure	0.2 hPa @ 20°C
Vapour density	No information available.
Relative density	1.122 @ 20°C
Bulk density	No information available.
Solubility(ies)	Miscible with water.

ANTIFREEZE 48/24 GREEN

Partition coefficient	Scientifically unjustified.
Auto-ignition temperature	> 440°C
Decomposition Temperature	No information available.
Viscosity	20 - 30 mm ² /s @ 20°C
Explosive properties	Not considered to be explosive.
Explosive under the influence of a flame	No information available.
Oxidising properties	Does not meet the criteria for classification as oxidising.

9.2. Other information

Other information	Not determined.
-------------------	-----------------

SECTION 10: Stability and reactivity

10.1. Reactivity

Reactivity	The following materials may react with the product: Strong oxidising agents.
------------	--

10.2. Chemical stability

Stability	Stable at normal ambient temperatures and when used as recommended.
-----------	---

10.3. Possibility of hazardous reactions

Possibility of hazardous reactions	There are no known reactivity hazards associated with this product.
------------------------------------	---

10.4. Conditions to avoid

Conditions to avoid	Avoid heat, flames and other sources of ignition. Protect from moisture.
---------------------	---

10.5. Incompatible materials

Materials to avoid	Avoid contact with strong oxidising agents.
--------------------	---

10.6. Hazardous decomposition products

Hazardous decomposition products	Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapours.
----------------------------------	--

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity - oral

ATE oral (mg/kg)	1,758.24
------------------	----------

Acute toxicity - dermal

Notes (dermal LD ₅₀)	LD ₅₀ >2000 mg/kg, Dermal, Rabbit Calculation method.
----------------------------------	--

Skin corrosion/irritation

Animal data	Rabbit Not irritating. Calculation method.
-------------	--

Serious eye damage/irritation

Serious eye damage/irritation	Rabbit Not irritating. Calculation method.
-------------------------------	--

Respiratory sensitisation

Respiratory sensitisation	Based on available data the classification criteria are not met.
---------------------------	--

ANTIFREEZE 48/24 GREEN

Skin sensitisation

Skin sensitisation Based on available data the classification criteria are not met.

Germ cell mutagenicity

Genotoxicity - in vitro Based on available data the classification criteria are not met.

Carcinogenicity

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

Reproductive toxicity

Reproductive toxicity - fertility No information available.

Reproductive toxicity - development Based on available data the classification criteria are not met.

Specific target organ toxicity - single exposure

STOT - single exposure No information available.

Specific target organ toxicity - repeated exposure

STOT - repeated exposure May cause damage to organs (Kidneys) through prolonged or repeated exposure if swallowed.

Aspiration hazard

Aspiration hazard Not anticipated to present an aspiration hazard, based on chemical structure.

Inhalation Symptoms following overexposure may include the following: Vapours may cause headache, fatigue, dizziness and nausea. Central nervous system depression.

Ingestion Harmful if swallowed. Lethal dose to humans 100ml May cause damage to organs (Kidneys) through prolonged or repeated exposure if swallowed.

Skin contact Skin irritation should not occur when used as recommended.

Eye contact May cause temporary eye irritation.

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

ANTIFREEZE 48/24 GREEN

Acute toxicity inhalation 2.5
(LC₅₀ vapours mg/l)

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

ATE inhalation (vapours 2.5
mg/l)

Skin corrosion/irritation

Animal data Not irritating.

Serious eye damage/irritation

Serious eye Not irritating.
damage/irritation

Respiratory sensitisation

Respiratory sensitisation Not sensitising.

Skin sensitisation

Skin sensitisation Not sensitising.

Germ cell mutagenicity

Genotoxicity - in vivo This substance has no evidence of mutagenic properties.

Carcinogenicity

Carcinogenicity There is no evidence that the product can cause cancer.

Reproductive toxicity

Reproductive toxicity - Symptoms following overexposure may include the following: Possible risk of
development adverse reproductive effects.

Specific target organ toxicity - single exposure

STOT - single exposure No information available.

Specific target organ toxicity - repeated exposure

STOT - repeated exposure May cause damage to organs (Kidneys) through prolonged or repeated exposure if swallowed.

Target organs Kidneys

Aspiration hazard

Aspiration hazard No information available.

Inhalation Vapour may irritate respiratory system/lungs.

Ingestion Harmful if swallowed. Lethal dose to humans 100ml

Skin contact Prolonged and frequent contact may cause redness and irritation.

Eye contact May cause temporary eye irritation.

Acute and chronic health May cause damage to organs (Kidneys) through prolonged or repeated exposure if
hazards swallowed.

Target organs Liver Kidneys

DISODIUM SEBACATE

ANTIFREEZE 48/24 GREEN

Skin corrosion/irritation

Skin corrosion/irritation No information available.

Serious eye damage/irritation

Serious eye damage/irritation No information available.

Respiratory sensitisation

Respiratory sensitisation No information available.

Skin sensitisation

Skin sensitisation No information available.

Germ cell mutagenicity

Genotoxicity - in vitro No information available.

Carcinogenicity

Carcinogenicity No information available.

Reproductive toxicity

Reproductive toxicity - fertility No information available.

Specific target organ toxicity - single exposure

STOT - single exposure No information available.

Specific target organ toxicity - repeated exposure

STOT - repeated exposure No information available.

Aspiration hazard

Aspiration hazard No information available.

Inhalation Dust in high concentrations may irritate the respiratory system.

Ingestion No harmful effects expected from quantities likely to be ingested by accident.

Skin contact Skin irritation should not occur when used as recommended.

Eye contact Particles in the eyes may cause irritation and smarting.

DISODIUM TETRABORATE ANHYDROUS

Other health effects Toxic to Reproduction Category 2.

Acute toxicity - oral

Notes (oral LD₅₀) No specific test data are available.

Acute toxicity - dermal

Notes (dermal LD₅₀) No specific test data are available.

Acute toxicity - inhalation

Notes (inhalation LC₅₀) No specific test data are available.

Skin corrosion/irritation

Animal data Not irritating.

ANTIFREEZE 48/24 GREEN

Serious eye damage/irritation

Serious eye damage/irritation Causes serious eye irritation.

Respiratory sensitisation

Respiratory sensitisation Based on available data the classification criteria are not met.

Skin sensitisation

Skin sensitisation Based on available data the classification criteria are not met.

Germ cell mutagenicity

Genotoxicity - in vitro Based on available data the classification criteria are not met.

Carcinogenicity

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

Reproductive toxicity

Reproductive toxicity - fertility Known reproductive toxicant based on animal evidence. May damage fertility.

Reproductive toxicity - development Known reproductive toxicant based on animal evidence. May damage fertility or the unborn child.

Specific target organ toxicity - single exposure

STOT - single exposure Based on available data the classification criteria are not met.

Specific target organ toxicity - repeated exposure

STOT - repeated exposure Based on available data the classification criteria are not met.

Aspiration hazard

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

Inhalation Dust in high concentrations may irritate the respiratory system.

Ingestion No harmful effects expected from quantities likely to be ingested by accident.

Skin contact Skin irritation should not occur when used as recommended.

Eye contact Causes serious eye irritation.

Acute and chronic health hazards May damage fertility. May damage the unborn child.

SECTION 12: Ecological information

Ecotoxicity The product components are not classified as environmentally hazardous. However, large or frequent spills may have hazardous effects on the environment.

Ecological information on ingredients.

ETHANEDIOL

Ecotoxicity The product components are not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

DISODIUM SEBACATE

ANTIFREEZE 48/24 GREEN

Ecotoxicity

The product components are not classified as environmentally hazardous.
However, large or frequent spills may have hazardous effects on the environment.

DISODIUM TETRABORATE ANHYDROUS

Ecotoxicity

The product components are not classified as environmentally hazardous.
However, large or frequent spills may have hazardous effects on the environment.

12.1. Toxicity

Acute aquatic toxicity

Acute toxicity - fish LC₅₀, 96 hours: >100 mg/l, Leuciscus idus (Golden orfe)

Acute toxicity - aquatic invertebrates EC₅₀, 48 hours: >100 mg/l, Daphnia magna

Acute toxicity - aquatic plants EC₅₀, 72 hours: >100 mg/l, Algae

Ecological information on ingredients.

ETHANEDIOL

Toxicity

Not considered toxic to fish.

Acute aquatic toxicity

Acute toxicity - fish LC₅₀, 96 hours: 72860 mg/l, Pimephales promelas (Fat-head Minnow)

Acute toxicity - aquatic invertebrates EC₅₀, 48 hours: > 100 mg/l, Daphnia magna

Acute toxicity - aquatic plants EC₅₀, 96 hours: 6500 - 13000 mg/l,

Acute toxicity - microorganisms EC₅₀, 30 minutes: 225 mg/l, Activated sludge

2-ETHYLHEXANOIC ACID, SODIUM SALT

Acute aquatic toxicity

Acute toxicity - fish LC₅₀, 96 hours: > 100 mg/l, Oryzias latipes (Red killifish)
OECD 203

Acute toxicity - aquatic invertebrates EC₅₀, 48 hours: 910 mg/l, Daphnia magna
OECD 202

Chronic aquatic toxicity

Chronic toxicity - aquatic invertebrates NOEC, 21 days: 18 mg/l, Daphnia magna
OECD 211

DISODIUM SEBACATE

Toxicity

Not considered toxic to fish.

DISODIUM TETRABORATE ANHYDROUS

Toxicity

Not considered toxic to fish.

Acute aquatic toxicity

Acute toxicity - fish LC₅₀, 96 hours: 74 mg/l, Fish

ANTIFREEZE 48/24 GREEN

12.2. Persistence and degradability

Persistence and degradability The substance is readily biodegradable.

Biodegradation - Degradation >70%: 28 days
OECD 301A

Ecological information on ingredients.

ETHANEDIOL

Persistence and degradability The substance is readily biodegradable.

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

DISODIUM SEBACATE

Persistence and degradability There are no data on the degradability of this product.

DISODIUM TETRABORATE ANHYDROUS

Persistence and degradability The product contains only inorganic substances which are not biodegradable.

12.3. Bioaccumulative potential

Bioaccumulative potential Bioaccumulation is unlikely.

Partition coefficient Scientifically unjustified.

Ecological information on ingredients.

ETHANEDIOL

Bioaccumulative potential The product is not bioaccumulating.

Partition coefficient log Kow: -1.36

DISODIUM SEBACATE

Bioaccumulative potential No data available on bioaccumulation.

Partition coefficient No information available.

DISODIUM TETRABORATE ANHYDROUS

Bioaccumulative potential No data available on bioaccumulation.

Partition coefficient log Pow: -0.7570

12.4. Mobility in soil

Mobility Miscible with water.

Ecological information on ingredients.

ETHANEDIOL

Mobility The product is soluble in water.

ANTIFREEZE 48/24 GREEN

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

DISODIUM SEBACATE

Mobility Not determined.

DISODIUM TETRABORATE ANHYDROUS

Mobility The product is 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.

2-ETHYLHEXANOIC ACID, SODIUM SALT

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

DISODIUM SEBACATE

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

DISODIUM TETRABORATE ANHYDROUS

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 None known.

Ecological information on ingredients.**ETHANEDIOL**

Cod 1.22

Other adverse effects None known.

DISODIUM SEBACATE

Other adverse effects Not determined.

DISODIUM TETRABORATE ANHYDROUS

Other adverse effects Not determined.

SECTION 13: Disposal considerations

ANTIFREEZE 48/24 GREEN

13.1. Waste treatment methods

General information	Waste is classified as hazardous waste.
Disposal methods	Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority.
Waste class	Waste codes should be assigned by the user, preferably in discussion with the waste disposal authorities.

SECTION 14: Transport information

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

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) No 2015/830 of 28 May 2015.
Restrictions (Annex XVII Regulation 1907/2006)	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, 30, 75

15.2. Chemical safety assessment

No chemical safety assessment has been carried out.

ANTIFREEZE 48/24 GREEN

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, STOT RE 2 - H373: Calculation method.
Revision comments	NOTE: Lines within the margin indicate significant changes from the previous revision.

ANTIFREEZE 48/24 GREEN

Revision date	08/07/2022
Version number	4.000
Supersedes date	27/06/2019
SDS number	64094
SDS status	Approved.
Hazard statements in full	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 (Kidneys) through prolonged or repeated exposure.
Signature	J Spenceley

This 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. Such information is, to the best of the company's knowledge and belief, accurate and reliable as of the date indicated. However, no warranty, guarantee or representation is made to its accuracy, reliability or completeness. It is the user's responsibility to satisfy himself as to the suitability of such information for his own particular use.