

# Safety data sheet

## according to 1907/2006/EC, Article 31

Printing date 13.09.2014

Revision: 13.09.2014

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

- **1.1 Product identifier**
- **Trade name: Antifreeze 2 year**
- **Registration number**  
Mixture
  - Ethanediol: 01-2119490790-32
  - Disodium tetraborate pentahydrate: 01-2119490790-32
- **1.2 Relevant identified uses of the substance or mixture and uses advised against**  
No further relevant information available.
- **Application of the substance / the mixture** Antifreeze
- **1.3 Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
Gem Oils Limited  
Regaskin  
Cavan  
Ireland  
  
Tel: +353 (0) 49 4331077  
Fax: +353 (0) 49 4368329  
e-mail: productsafety@gemoils.ie
- **Further information obtainable from:** Product safety department.
- **1.4 Emergency telephone number:** Tel: +353 87 6867268

### SECTION 2: Hazards identification

- **2.1 Classification of the substance or mixture**
- **Classification according to Regulation (EC) No 1272/2008**



GHS08 health hazard

STOT RE 2 H373 May cause damage to organs through prolonged or repeated exposure.



GHS07

Acute Tox. 4 H302 Harmful if swallowed.

- **Classification according to Directive 67/548/EEC or Directive 1999/45/EC**



Xn; Harmful

R22: Harmful if swallowed.

- **Information concerning particular hazards for human and environment:**  
The product has to be labelled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version.
- **Classification system:**  
The classification is according to the latest editions of the EU-lists, and extended by company and literature data.

- **2.2 Label elements**
- **Labelling according to Regulation (EC) No 1272/2008**  
The product is classified and labelled according to the CLP regulation.
- **Hazard pictograms** GHS07, GHS08
- **Signal word** Warning
- **Hazard-determining components of labelling:**  
Ethanediol
- **Hazard statements**  
H302 Harmful if swallowed.  
H373 May cause damage to organs through prolonged or repeated exposure.

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### Precautionary statements

- P260 Do not breathe mist/vapours/spray.  
 P270 Do not eat, drink or smoke when using this product.  
 P301+P312 IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.  
 P314 Get medical advice/attention if you feel unwell.  
 P330 Rinse mouth.  
 P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

### 2.3 Other hazards

### Results of PBT and vPvB assessment

- **PBT:** Not applicable.
- **vPvB:** Not applicable.

## SECTION 3: Composition/information on ingredients

### 3.2 Chemical characterisation: Mixtures

- **Description:** Mixture of substances listed below with nonhazardous additions.

### Dangerous components:

CAS: 107-21-1 EINECS: 203-473-3	Ethanediol  Xn R22 	60 - 99%
CAS: 12179-04-3 EINECS: 215-540-4	disodium tetraborate pentahydrate  T Repr. Cat. 2 R60-61 	1 - 15%

### SVHC

12179-04-3	disodium tetraborate pentahydrate
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- **Additional information:** For the wording of the listed risk phrases refer to section 16.

## SECTION 4: First aid measures

### 4.1 Description of first aid measures

#### General information:

Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.

Immediately remove any clothing soiled by the product.

- **After inhalation:** Supply fresh air; consult doctor in case of complaints.

#### After skin contact:

Immediately rinse with water.

If skin irritation continues, consult a doctor.

#### After eye contact:

Check for and remove any contact lenses.

Rinse opened eye for several minutes under running water. Then consult a doctor.

#### After swallowing:

DO NOT DELAY!

Call for a doctor immediately.

Rinse out mouth and then drink plenty of water.

Do not induce vomiting; call for medical help immediately.

If vomiting occurs spontaneously, keep head below hips to prevent aspiration.

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

No further relevant information available.

- **Information for doctor:** Contains ethanediol - refer to section 11.

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

No further relevant information available.

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### SECTION 5: Firefighting measures

- **5.1 Extinguishing media**
- **Suitable extinguishing agents:**  
CO<sub>2</sub>, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **5.2 Special hazards arising from the substance or mixture**  
Formation of toxic gases is possible during heating or in case of fire.
- **5.3 Advice for firefighters**
- **Protective equipment:**  
Wear self-contained respiratory protective device.  
Wear fully protective suit.  
Do not inhale explosion gases or combustion gases.

### SECTION 6: Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures**  
Wear protective clothing.  
Ensure adequate ventilation
- **6.2 Environmental precautions:**  
Do not allow to enter sewers/ surface or ground water.  
Do not allow to penetrate the ground/soil.
- **6.3 Methods and material for containment and cleaning up:**  
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).  
Send for recovery or disposal in suitable receptacles.
- **6.4 Reference to other sections**  
See Section 7 for information on safe handling.  
See Section 8 for information on personal protection equipment.  
See Section 13 for disposal information.

### SECTION 7: Handling and storage

- **7.1 Precautions for safe handling**  
Ensure good ventilation/exhaustion at the workplace.  
Prevent formation of aerosols.  
Avoid direct contact (skin contact, ingestion and/or inhalation of fume/mist/dust) with the product.
- **Information about fire - and explosion protection:**  
Electrical devices must meet the specified temperature class.  
Temperature class: T2 (Autoignition temperature >300 °C).
- **7.2 Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:**  
Prevent any seepage into the ground.  
Suitable materials for containers: High density polyethylene (HDPE), High- Purity Polymer, Stainless steel 1.4404
- **Information about storage in one common storage facility:**  
Store away from foodstuffs.  
Store away from oxidising agents.
- **Further information about storage conditions:** Store in cool, dry conditions in well sealed receptacles.
- **7.3 Specific end use(s)** No further relevant information available.

### SECTION 8: Exposure controls/personal protection

- **Additional information about design of technical facilities:** No further data; see item 7.

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### · 8.1 Control parameters

#### · Ingredients with limit values that require monitoring at the workplace:

##### 107-21-1 Ethanediol

OEL	Short-term value: 104** mg/m <sup>3</sup> , 40** ppm Long-term value: 10* 52** mg/m <sup>3</sup> , 20** ppm Sk, IOELV; *particulate **vapour
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##### 12179-04-3 disodium tetraborate pentahydrate

OEL	Long-term value: 1 mg/m <sup>3</sup>
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· **Additional information:** The lists valid during the making were used as basis.

### · 8.2 Exposure controls

#### · Personal protective equipment:

#### · General protective and hygienic measures:

Immediately remove all soiled and contaminated clothing

Do not eat, drink, smoke or sniff while working.

Keep away from foodstuffs, beverages and feed.

Wash hands before breaks and at the end of work.

Avoid contact with the eyes.

Avoid close or long term contact with the skin.

Storing food in the working area is prohibited.

Do not inhale gases / fumes / aerosols.

Take note of assigned Workplace Exposure Limits.

#### · Respiratory protection:

Use suitable respiratory protective device in case of insufficient ventilation.

Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

If respiratory protection is required, institute a complete respiratory protection program including selection, fit testing, training, maintenance and inspection.

#### · Protection of hands:

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

#### · Material of gloves

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

Hand protection:

Full contact:

glove material: Nitrile rubber

glove thickness: 0,11 mm

break through time: > 480 min

Splash contact:

glove material: Nitrile rubber

glove thickness: 1,11 mm

break through time: > 480 min

The protective gloves to be used must comply with the specifications of EC Directive 89/686/EEC and the resultant standard EN 374, e.g. KCL 741 Dermatril (R) L (full contact), KCL 741 Dermatril (R) L (splash contact).

#### · Penetration time of glove material

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

#### · Eye protection:

Safety glasses

Goggles recommended during refilling

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- **Body protection:**  
Protective work clothing  
Body protection must be chosen depending on product properties, activity and possible exposure.

### SECTION 9: Physical and chemical properties

#### · 9.1 Information on basic physical and chemical properties

##### · General Information

##### · Appearance:

<b>Form:</b>	Fluid
<b>Colour:</b>	Clear
<b>Odour:</b>	Mild
<b>Odour threshold:</b>	Not determined.

· **pH-value:** Not determined.

##### · Change in condition

<b>Melting point/Melting range:</b>	-12 °C
<b>Boiling point/Boiling range:</b>	165 °C

· **Flash point:** > 100 °C

· **Flammability (solid, gaseous):** Not applicable.

· **Ignition temperature:** >250 °C

· **Decomposition temperature:** Not determined.

· **Self-igniting:** Product is not selfigniting.

· **Danger of explosion:** Product is not explosive. However, formation of explosive air/vapour mixtures are possible.

##### · Explosion limits:

<b>Lower:</b>	3.2 Vol %
<b>Upper:</b>	15.3 Vol %

· **Vapour pressure at 20 °C:** 0.08 hPa

<b>Density at 20 °C:</b>	1.13 g/cm <sup>3</sup>
<b>Relative density</b>	Not determined.
<b>Vapour density</b>	Not determined.
<b>Evaporation rate</b>	Not determined.

· **Solubility in / Miscibility with water:** Fully miscible.

· **Partition coefficient (n-octanol/water):** -1.36 log POW

##### · Viscosity:

<b>Dynamic:</b>	Not determined.
<b>Kinematic:</b>	Not determined.

· **9.2 Other information** No further relevant information available.

### SECTION 10: Stability and reactivity

#### · 10.1 Reactivity

#### · 10.2 Chemical stability

#### · Thermal decomposition / conditions to be avoided:

No decomposition if used and stored according to specifications.

#### · 10.3 Possibility of hazardous reactions

On combustion, forms toxic gases. Reacts with strong oxidants and strong bases.

Risk of explosion with: perchloric acid

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- Risk of ignition or formation of flammable gases or vapours with: chromyl chloride, strong oxidising agents, chlorates, peroxides, potassium permanganate
- Exothermic reaction with: chlorosulphonic acid, sodium hydroxide, oleum, sulphuric acid
- **10.4 Conditions to avoid** No further relevant information available.
- **10.5 Incompatible materials:**
  - Strong oxidising agents.
  - Strong bases.
- **10.6 Hazardous decomposition products:** Carbon monoxide and carbon dioxide

### SECTION 11: Toxicological information

- **11.1 Information on toxicological effects**
- **Acute toxicity:**

- **LD/LC50 values relevant for classification:**

#### 107-21-1 Ethanediol

Oral	LD50	7712 mg/kg (rat)
Dermal	LD50	>5000 mg/kg (rabbit)

- **Primary irritant effect:**
  - **on the skin:** No irritant effect.
  - **on the eye:** No irritating effect.
- **Sensitisation:** No sensitising effects known.
- **Subacute to chronic toxicity:**
  - Long term excessive exposure to ethanediol may have effects on the central nervous system, resulting in abnormal eye movements (nystagmus).
- **Additional toxicological information:**
  - The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:  
Harmful
  - If ethanediol is ingested, early diagnosis and treatment is essential. The substance may cause effects on the kidneys and central nervous system, resulting in renal failure and brain injury. Exposure could cause lowering of consciousness.
  - Treatment: Treat according to symptoms (decontamination, vital functions), no known specific antidote.

**ROUTES OF EXPOSURE:** Ethanediol can be absorbed into the body by ingestion, by inhalation (mist and vapour) and through the skin.

### SECTION 12: Ecological information

- **12.1 Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **12.2 Persistence and degradability** biodegradable
- **12.3 Bioaccumulative potential** Product is not expected to bioaccumulate.
- **12.4 Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:**
  - Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water
  - Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
- **12.5 Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **12.6 Other adverse effects** No further relevant information available.

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### SECTION 15: Regulatory information

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

· **National regulations:**

Class	Share in %
NK	97.0

· **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

### SECTION 16: Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Relevant phrases**

H302 Harmful if swallowed.

H360FD May damage fertility. May damage the unborn child.

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

R22 Harmful if swallowed.

R60 May impair fertility.

R61 May cause harm to the unborn child.

· **Department issuing MSDS:** Product safety department.

· **Contact:**

· **Abbreviations and acronyms:**

Acute Tox. 4: Acute toxicity, Hazard Category 4

Repr. 1B: Reproductive toxicity, Hazard Category 1B

STOT RE 2: Specific target organ toxicity - Repeated exposure, Hazard Category 2