

# Safety data sheet

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

Printing date 06.12.2019

Revision: 06.12.2019

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

#### · 1.1 Product identifier

· **Trade name:** Antifreeze 5 year (pink)

· **CAS Number:**  
107-21-1

· **EC number:**  
203-473-3

· **Index number:**  
603-027-00-1

· **Registration number** Ethanediol: 01-2119456816-28

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

· **Product category** PC4 Anti-Freeze and de-icing products

· **Application of the substance / the mixture** Antifreeze

#### · **Uses advised against**

Any use involving aerosol formation or vapour or dust release in excess of the assigned workplace exposure limits where workers are exposed without suitable respiratory protective equipment (RPE).

Any use carrying a risk of direct contact with eyes/skin where workers are exposed without adequate personal protective equipment (PPE).

Processes involving the use of incompatible substances - refer to section 10.

Processes involving extreme heat use advised against.

Processes where workers who may be pregnant or breastfeeding could potentially come into direct contact with the undiluted product.

#### · 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.

#### · 2.2 Label elements

· **Labelling according to Regulation (EC) No 1272/2008**

The substance 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.

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

- **Precautionary statements**

P260 Do not breathe mist/vapours/spray.

P270 Do not eat, drink or smoke when using this product.

P280 Wear protective gloves / eye protection.

P301+P312 IF SWALLOWED: Call a POISON CENTER/doctor 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

- **3.1 Chemical characterisation: Substances**

- **CAS No. Description**

107-21-1 Ethanediol

- **Identification number(s)**

- **EC number:** 203-473-3

- **Index number:** 603-027-00-1

- **Dangerous components:**

CAS: 107-21-1	Ethanediol	☠ STOT RE 2, H373; ⚠ Acute Tox. 4, H302	50-100%
EINECS: 203-473-3			

### 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.

If ingested, early diagnosis and treatment is essential.

- **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/eye contact, ingestion and/or inhalation of fume/mist/dust) with the product in the undiluted form.
- **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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**· 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: &gt; 480 min

Splash contact:

glove material: Nitrile rubber

glove thickness: 1,11 mm

break through time: &gt; 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

**· Body protection:**

Protective work clothing

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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>	Light red
<b>Odour:</b>	Mild
<b>Odour threshold:</b>	Not determined.

<b>· pH-value (333 g/l) at 20 °C:</b>	8.1
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##### · Change in condition

<b>Melting point/freezing point:</b>	-5 °C
<b>Initial boiling point and boiling range:</b>	>150 °C

<b>· Flash point:</b>	> 100 °C
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<b>· Flammability (solid, gas):</b>	Not applicable.
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<b>· Ignition temperature:</b>	>250 °C
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<b>· Decomposition temperature:</b>	Not determined.
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<b>· Auto-ignition temperature:</b>	Not determined.
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<b>· Explosive properties:</b>	Product does not present an explosion hazard.
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##### · Explosion limits:

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

<b>· Vapour pressure at 20 °C:</b>	0.08 hPa
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<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.

<b>· Solubility in / Miscibility with water:</b>	Fully miscible.
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<b>· Partition coefficient: n-octanol/water:</b>	-1.36 log POW
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##### · Viscosity:

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

<b>· 9.2 Other information</b>	NOTE: The physical data presented above are typical values and should not be construed as a specification.
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### SECTION 10: Stability and reactivity

· **10.1 Reactivity** No further relevant information available.

#### · 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

Risk of ignition or formation of flammable gases or vapours with: chromyl chloride, strong oxidising agents, chlorates, peroxides, potassium permanganate

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- 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.
  - Substances specifically listed in section 10.3 as incompatible.
- **10.6 Hazardous decomposition products:** Carbon monoxide and carbon dioxide

### SECTION 11: Toxicological information

#### · 11.1 Information on toxicological effects

- **Acute toxicity**  
Harmful if swallowed.

#### · **LD/LC50 values relevant for classification:**

##### 107-21-1 Ethanediol

Dermal	LD50	>2000 mg/kg (rabbit)
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- **Primary irritant effect:**
- **Skin corrosion/irritation** Based on available data, the classification criteria are not met.
- **Serious eye damage/irritation** Based on available data, the classification criteria are not met.
- **Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.
- **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:**  
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.

- **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**
- **Germ cell mutagenicity** Based on available data, the classification criteria are not met.
- **Carcinogenicity** Based on available data, the classification criteria are not met.
- **Reproductive toxicity** Based on available data, the classification criteria are not met.
- **STOT-single exposure** Based on available data, the classification criteria are not met.
- **STOT-repeated exposure**  
May cause damage to organs through prolonged or repeated exposure.
- **Aspiration hazard** Based on available data, the classification criteria are not met.

### SECTION 12: Ecological information

#### · 12.1 Toxicity

##### · **Aquatic toxicity:**

##### 107-21-1 Ethanediol

EC50	>100 mg/kg (daphnia)
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- **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) (Assessment by list): 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.

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- **vPvB:** Not applicable.
- **12.6 Other adverse effects** No further relevant information available.

### SECTION 13: Disposal considerations

- **13.1 Waste treatment methods**

- **Recommendation**

Recommended Hierarchy of Controls:

- Minimise waste;
- Reuse if not contaminated;
- Recycle, if possible; or
- Safe disposal (if all else fails).

Must not be disposed together with household garbage. Do not allow product to reach sewage system.

Contact waste processors for recycling information.

Used, degraded or contaminated product may be classified as hazardous waste. Anyone classifying hazardous waste and determining its fate must be qualified in accordance with state and international legislation.

- **European waste catalogue**

Waste key numbers in accordance with the European Waste Catalogue (EWC) are origin-referred defined. Since this product is used in several industries, no waste key can be provided by the supplier. The waste key number should be determined in arrangement with your waste disposal partner or the responsible authority.

- **Uncleaned packaging:**

- **Recommendation:**

Disposal must be made according to official regulations.

Container remains hazardous when empty. Continue to observe all precautions.

Containers, even those that are "empty," may contain residues that can develop flammable and/or hazardous vapours upon heating. Do not cut, drill, grind, weld, or perform similar operations on or near empty containers.

- **Recommended cleansing agents:** Water, if necessary together with cleansing agents.

### SECTION 14: Transport information

- **14.1 UN-Number**

· **ADR, ADN, IMDG, IATA** Void

- **14.2 UN proper shipping name**

· **ADR, ADN, IMDG, IATA** Void

- **14.3 Transport hazard class(es)**

· **ADR, ADN, IMDG, IATA**

· **Class** Void

- **14.4 Packing group**

· **ADR, IMDG, IATA** Void

- **14.5 Environmental hazards:**

· **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**

Not applicable.

- **Transport/Additional information:**

Not dangerous according to the above specifications.

- **UN "Model Regulation":**

Void

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### SECTION 15: Regulatory information

- **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **REGULATION (EC) No 1907/2006 ANNEX XVII** Conditions of restriction: 3

- **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.

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

- **Department issuing SDS:** Product safety department.

- **Contact:**

- **Abbreviations and acronyms:**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

Acute Tox. 4: Acute toxicity - oral – Category 4

STOT RE 2: Specific target organ toxicity (repeated exposure) – Category 2