

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

1.1. Product identifier

| | |
|-----------------|------------------------|
| Product form | : Mixture |
| Trade name | : VatOil Antifreeze |
| UFI | : H450-493U-Y003-QS46 |
| Product code | : VC.10.07 |
| Type of product | : Heat Transfer Fluids |
| Product group | : Trade product |

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

1.2.1. Relevant identified uses

| | |
|------------------------------|--|
| Intended for general public | |
| Main use category | : Industrial use, Professional use, Consumer use |
| Use of the substance/mixture | : Antifreeze and coolant |
| Function or use category | : Anti-freezing agents |

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

VatOil
 Dollegoorweg 15
 NL 7602 EC Almelo
 Netherlands
 T 0031 (0)546 81 81 65
vib@vatoil.com

1.4. Emergency telephone number

| Country/Area | Organisation/Company | Address | Emergency number | Comment |
|----------------|---|-----------------------------------|--|--------------------------------------|
| Ireland | National Poisons Information Centre Beaumont Hospital | PO Box 1297 Beaumont Road 9 | +353 1 809 2566 (Healthcare professionals- 24/7) +353 1 809 2166 (public, 8am - 10pm, 7/7) | |
| United Kingdom | National Poisons Information Service (Cardiff Centre) University Hospital Llandough | Penlan Road CF64 2XX | 0344 892 0111 | Only for healthcare professionals |

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Acute toxicity (oral), Category 4 H302
 Specific target organ toxicity – Repeated exposure, Category 2 H373
 Full text of H- and EUH-statements: see section 16

Adverse physicochemical, human health and environmental effects

May cause damage to organs through prolonged or repeated exposure. Harmful if swallowed.

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according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

2.2. Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP) :



GHS07

GHS08

Signal word (CLP) :

Warning

Contains :

1,2-ethanediol

Hazard statements (CLP) :

H302 - Harmful if swallowed.

H373 - May cause damage to organs (kidneys) through prolonged or repeated exposure (if swallowed).

Precautionary statements (CLP) :

P101 - If medical advice is needed, have product container or label at hand.

P102 - Keep out of reach of children.

P264 - Wash hands thoroughly after handling.

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

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

P314 - Get medical advice/attention if you feel unwell.

P330 - Rinse mouth.

P501 - Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

2.3. Other hazards

Contains no PBT and/or vPvB substances $\geq 0.1\%$ assessed in accordance with REACH Annex XIII

The mixture does not contain substance(s) included in the list established in accordance with Article 59(1) of REACH for having endocrine disrupting properties, or substance(s) are not identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at a concentration equal to or greater than 0,1 %

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

| Name | Product identifier | % | Classification according to Regulation (EC) No. 1272/2008 [CLP] |
|----------------|--|---------|---|
| 1,2-ethanediol | CAS-No.: 107-21-1 EC-No.: 203-473-3 EC Index-No.: 603-027-00-1 REACH-no: 01-2119456816-28 | 0 – 100 | Acute Tox. 4 (Oral), H302 STOT RE 2, H373 |

Comments :

The product has a bitter taste for safety reasons, in case it is swallowed accidentally

Full text of H- and EUH-statements: see section 16

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general :

Call a poison center or a doctor if you feel unwell.

First-aid measures after inhalation :

Remove person to fresh air and keep comfortable for breathing.

First-aid measures after skin contact :

Wash skin with plenty of water.

First-aid measures after eye contact :

Rinse eyes with water as a precaution.

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First-aid measures after ingestion : Rinse mouth. Call a poison center or a doctor if you feel unwell.

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

Symptoms/effects after inhalation : Inhalation may affect the nervous system causing headache, possibly dizziness, nausea, weakness, loss of coordination and unconsciousness.
Symptoms/effects after skin contact : None under normal conditions.
Symptoms/effects after eye contact : None under normal conditions.
Symptoms/effects after ingestion : Ingestion may cause nausea, vomiting and diarrhea.

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

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Water spray. Dry powder. Foam. Carbon dioxide.
Unsuitable extinguishing media : Do not use a heavy water stream.

5.2. Special hazards arising from the substance or mixture

Fire hazard : No fire hazard.
Explosion hazard : No direct explosion hazard.
Hazardous decomposition products in case of fire : Toxic fumes may be released. Incomplete combustion releases dangerous carbon monoxide, carbon dioxide and other toxic gases.

5.3. Advice for firefighters

Firefighting instructions : Fight fire from safe distance and protected location. Do not enter fire area without proper protective equipment, including respiratory protection.
Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Stop leak if safe to do so. Notify authorities if product enters sewers or public waters. Absorb spillage to prevent material damage.

6.1.1. For non-emergency personnel

Protective equipment : Wear recommended personal protective equipment.
Emergency procedures : Ventilate spillage area. Do not breathe dust/fume/gas/mist/vapours/spray.

6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".
Emergency procedures : Evacuate unnecessary personnel. Stop leak if safe to do so.

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

For containment : Absorb spilled material with sand or earth. Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams. Stop leak without risks if possible.
Methods for cleaning up : Take up liquid spill into absorbent material.
Other information : Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

For further information refer to section 13.

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according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

SECTION 7: Handling and storage

7.1. Precautions for safe handling

| | |
|-----------------------------------|---|
| Additional hazards when processed | : Not expected to present a significant hazard under anticipated conditions of normal use. |
| Precautions for safe handling | : Ensure good ventilation of the work station. Wear personal protective equipment. Do not breathe dust/fume/gas/mist/vapours/spray. |
| Hygiene measures | : Do not eat, drink or smoke when using this product. Always wash hands after handling the product. |

7.2. Conditions for safe storage, including any incompatibilities

| | |
|---------------------|---|
| Technical measures | : Keep in a cool, well-ventilated place away from heat. |
| Storage conditions | : Keep cool. Protect from sunlight. |
| Packaging materials | : Store always product in container of same material as original container. |

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

8.1.1 National occupational exposure and biological limit values

| 1,2-ethanediol (107-21-1) | |
|---|-----------------------------|
| United Kingdom - Occupational Exposure Limits | |
| WEL TWA (OEL TWA) | 52 mg/m ³ vapour |

8.1.2. Recommended monitoring procedures

No additional information available

8.1.3. Air contaminants formed

No additional information available

8.1.4. DNEL and PNEC

No additional information available

8.1.5. Control banding

No additional information available

8.2. Exposure controls

8.2.1. Appropriate engineering controls

Appropriate engineering controls:

Ensure good ventilation of the work station.

8.2.2. Personal protection equipment

Personal protective equipment:

Wear recommended personal protective equipment.

Personal protective equipment symbol(s):



8.2.2.1. Eye and face protection

Eye protection:

Safety glasses

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| Eye protection | | | |
|----------------|----------------------|-----------------|----------|
| Type | Field of application | Characteristics | Standard |
| Safety glasses | Droplet | clear | EN 166 |

8.2.2.2. Skin protection

Skin and body protection:

Wear suitable protective clothing

Hand protection:

Protective gloves

| Hand protection | | | | | |
|-----------------|----------------------|-------------------|----------------|-------------|------------|
| Type | Material | Permeation | Thickness (mm) | Penetration | Standard |
| Reusable gloves | Nitrile rubber (NBR) | 6 (> 480 minutes) | ≥0.35 | | EN ISO 374 |

8.2.2.3. Respiratory protection

Respiratory protection:

In case of insufficient ventilation, wear suitable respiratory equipment

8.2.2.4. Thermal hazards

No additional information available

8.2.3. Environmental exposure controls

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 |
| Colour | : Blue. |
| Odour | : Mild odor. |
| Odour threshold | : Not available |
| Melting point | : Not applicable |
| Freezing point | : -18 °C |
| Boiling point | : 100 – 197 °C |
| Flammability | : Not applicable |
| Lower explosion limit | : Not available |
| Upper explosion limit | : Not available |
| Flash point | : 111 °C Derived from flash point MEG (CAS: 107-21-1). Because of the presence of water, a flashpoint cannot be measured. |
| Auto-ignition temperature | : Not available |
| Decomposition temperature | : Not available |
| pH | : 8,6 |
| Viscosity, kinematic | : 1 mm ² /s (40 °C) - ASTM D7042 |
| Solubility | : Water: Miscible in all proportions |
| Partition coefficient n-octanol/water (Log Kow) | : Not available |
| Partition coefficient n-octanol/water (Log Pow) | : -1,36 |
| Vapour pressure | : 7 Pa (20°C) |
| Vapour pressure at 50°C | : Not available |
| Density | : 1,1088 kg/l (15 °C) - ASTM D4052 |
| Relative density | : Not available |
| Relative vapour density at 20°C | : Not available |
| Particle characteristics | : Not applicable |

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9.2. Other information

9.2.1. Information with regard to physical hazard classes

No additional information available

9.2.2. Other safety characteristics

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport. Hydroscopic.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).

10.5. Incompatible materials

Acids. Oxidizing agent.

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Acute toxicity (oral) : Harmful if swallowed.
Acute toxicity (dermal) : Not classified
Acute toxicity (inhalation) : Not classified

| VatOil Antifreeze | |
|---------------------------|---|
| ATE CLP (oral) | 500 mg/kg bodyweight |
| 1,2-ethanediol (107-21-1) | |
| LD50 oral rat | 7712 mg/kg bodyweight |
| LD50 oral | There is a marked difference in acute oral toxicity between rodents and man, man being more susceptible than rodents. The estimated fatal dose for man is 30-100 milliliters. This material has also been shown to be toxic and potentially lethal by ingestion to cats and dogs. |
| LD50 dermal | 3500 mg/kg bodyweight mouse |
| LC50 Inhalation - Rat | > 2,5 mg/l |

Skin corrosion/irritation : Not classified
pH: 8,6
Serious eye damage/irritation : Not classified
pH: 8,6
Respiratory or skin sensitisation : Not classified
Germ cell mutagenicity : Not classified
Carcinogenicity : Not classified

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1,2-ethanediol (107-21-1)

| | |
|---|--|
| NOAEL (chronic, oral, animal/male, 2 years) | 1500 mg/kg bodyweight Animal: mouse, Animal sex: male, Remarks on results: other:Effect type: carcinogenicity (migrated information) |
|---|--|

| | |
|------------------------|---|
| Reproductive toxicity | : Not classified |
| STOT-single exposure | : Not classified |
| STOT-repeated exposure | : May cause damage to organs (kidneys) through prolonged or repeated exposure (if swallowed). |

1,2-ethanediol (107-21-1)

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

| | |
|-------------------|------------------|
| Aspiration hazard | : Not classified |
|-------------------|------------------|

VatOil Antifreeze

| | |
|----------------------|---|
| Viscosity, kinematic | 1 mm ² /s (40 °C) - ASTM D7042 |
|----------------------|---|

1,2-ethanediol (107-21-1)

| | |
|----------------------|---------------------------|
| Viscosity, kinematic | 14,505 mm ² /s |
|----------------------|---------------------------|

11.2. Information on other hazards

No additional information available

SECTION 12: Ecological information

12.1. Toxicity

| | |
|---|---|
| Ecology - general | : The product is not considered harmful to aquatic organisms nor to cause long-term adverse effects in the environment. |
| Hazardous to the aquatic environment, short-term (acute) | : Not classified |
| Hazardous to the aquatic environment, long-term (chronic) | : Not classified |

1,2-ethanediol (107-21-1)

| | |
|----------------------|---|
| LC50 - Fish [1] | 72860 mg/l Test organisms (species): Pimephales promelas |
| EC50 - Crustacea [1] | > 100 mg/l Test organisms (species): Daphnia magna |
| EC50 96h - Algae [1] | 3536 mg/l Test organisms (species): other:greenn algae |
| EC50 96h - Algae [2] | 6500 – 13000 mg/l Test organisms (species): Pseudokirchneriella subcapitata (previous names: Raphidocelis subcapitata, Selenastrum capricornutum) |
| NOEC (chronic) | ≥ 1000 mg/l Test organisms (species): Americamysis bahia (previous name: Mysidopsis bahia) Duration: '23 d' |

12.2. Persistence and degradability

VatOil Antifreeze

| | |
|-------------------------------|----------------|
| Persistence and degradability | Biodegradable. |
|-------------------------------|----------------|

1,2-ethanediol (107-21-1)

| | |
|-------------------------------|-------------------------------|
| Persistence and degradability | Rapidly degradable |
| Biodegradation | 90 % > 10d (OECD 301A method) |

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12.3. Bioaccumulative potential

VatOil Antifreeze

| | |
|---|-------|
| Partition coefficient n-octanol/water (Log Pow) | -1,36 |
|---|-------|

1,2-ethanediol (107-21-1)

| | |
|---|-------|
| Partition coefficient n-octanol/water (Log Kow) | -1,36 |
|---|-------|

12.4. Mobility in soil

1,2-ethanediol (107-21-1)

| | |
|--|---|
| Organic Carbon Normalized Adsorption Coefficient (Log Koc) | 1 |
|--|---|

12.5. Results of PBT and vPvB assessment

No additional information available

12.6. Endocrine disrupting properties

No additional information available

12.7. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

| | |
|--|---|
| Regional waste regulation | : Disposal must be done according to official regulations. |
| Waste treatment methods | : Dispose of contents/container in accordance with licensed collector's sorting instructions. |
| Sewage disposal recommendations | : Disposal must be done according to official regulations. |
| Product/Packaging disposal recommendations | : Disposal must be done according to official regulations. |
| Additional information | : Do not re-use empty containers. |
| European List of Waste (LoW, EC 2000/532) | : 16 01 14* - antifreeze fluids containing dangerous substances |
| HP Code | : HP5 - "Specific Target Organ Toxicity (STOT)/Aspiration Toxicity:" waste which can cause specific target organ toxicity either from a single or repeated exposure, or which cause acute toxic effects following aspiration. HP6 - "Acute Toxicity:" waste which can cause acute toxic effects following oral or dermal administration, or inhalation exposure. |

SECTION 14: Transport information

In accordance with ADR / IMDG / IATA / ADN / RID

| ADR | IMDG | IATA | ADN | RID |
|---|---------------|---------------|---------------|---------------|
| 14.1. UN number or ID number | | | | |
| Not regulated for transport | | | | |
| 14.2. UN proper shipping name | | | | |
| Not regulated | Not regulated | Not regulated | Not regulated | Not regulated |
| 14.3. Transport hazard class(es) | | | | |
| Not regulated | Not regulated | Not regulated | Not regulated | Not regulated |
| 14.4. Packing group | | | | |
| Not regulated | Not regulated | Not regulated | Not regulated | Not regulated |

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| ADR | IMDG | IATA | ADN | RID |
|--|---------------|---------------|---------------|---------------|
| 14.5. Environmental hazards | | | | |
| Not regulated | Not regulated | Not regulated | Not regulated | Not regulated |
| No supplementary information available | | | | |

14.6. Special precautions for user

Overland transport

Not regulated

Transport by sea

Not regulated

Air transport

Not regulated

Inland waterway transport

Not regulated

Rail transport

Not regulated

14.7. Maritime transport in bulk according to IMO instruments

Not applicable

SECTION 15: Regulatory information

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

15.1.1. EU-Regulations

REACH Annex XVII (Restriction List)

| EU restriction list (REACH Annex XVII) | | |
|--|------------------------------------|---|
| Reference code | Applicable on | Entry title or description |
| 3(b) | VatOil Antifreeze ; 1,2-ethanediol | Substances or mixtures fulfilling the criteria for any of the following hazard classes or categories set out in Annex I to Regulation (EC) No 1272/2008: Hazard classes 3.1 to 3.6, 3.7 adverse effects on sexual function and fertility or on development, 3.8 effects other than narcotic effects, 3.9 and 3.10 |

REACH Annex XIV (Authorisation List)

Contains no substance(s) listed on REACH Annex XIV (Authorisation List)

REACH Candidate List (SVHC)

Contains no substance(s) listed on the REACH Candidate List

PIC Regulation (Prior Informed Consent)

Contains no substance(s) listed on the PIC list (Regulation EU 649/2012 concerning the export and import of hazardous chemicals)

POP Regulation (Persistent Organic Pollutants)

Contains no substance(s) listed on the POP list (Regulation EU 2019/1021 on persistent organic pollutants)

Ozone Regulation (1005/2009)

Contains no substance(s) listed on the Ozone Depletion list (Regulation EU 1005/2009 on substances that deplete the ozone layer)

Dual-Use Regulation (428/2009)

Contains no substance subject to the COUNCIL REGULATION (EC) No 428/2009 of 5 May 2009 setting up a Community regime for the control of exports, transfer, brokering and transit of dual-use items.

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Biocide Regulation (528/2012)

Child-resistant fastening : Not applicable
Tactile warning : Applicable

Explosives Precursors Regulation (2019/1148)

Contains no substance(s) listed on the Explosives Precursors list (Regulation EU 2019/1148 on the marketing and use of explosives precursors)

Drug Precursors Regulation (273/2004)

Contains no substance(s) listed on the Drug Precursors list (Regulation EC 273/2004 on the manufacture and the placing on market of certain substances used in the illicit manufacture of narcotic drugs and psychotropic substances)

15.1.2. National regulations

No additional information available

15.2. Chemical safety assessment

No chemical safety assessment has been carried out

SECTION 16: Other information

| Indication of changes | | | |
|-----------------------|------------------------------|----------|----------|
| Section | Changed item | Change | Comments |
| | Revision date | Modified | |
| | Supersedes | Modified | |
| | Type of product | Added | |
| 1.2 | Use of the substance/mixture | Modified | |
| 9.1 | Flash point | Modified | |
| 13.1 | H code | Added | |

Abbreviations and acronyms:

| | |
|--------|---|
| CLP | Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008 |
| REACH | Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006 |
| ADN | European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways |
| ADR | European Agreement concerning the International Carriage of Dangerous Goods by Road |
| ATE | Acute Toxicity Estimate |
| BCF | Bioconcentration factor |
| BLV | Biological limit value |
| BOD | Biochemical oxygen demand (BOD) |
| COD | Chemical oxygen demand (COD) |
| DMEL | Derived Minimal Effect level |
| DNEL | Derived-No Effect Level |
| EC-No. | European Community number |
| EC50 | Median effective concentration |
| EN | European Standard |
| IARC | International Agency for Research on Cancer |
| IATA | International Air Transport Association |

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| Abbreviations and acronyms: | |
|-----------------------------|--|
| IMDG | International Maritime Dangerous Goods |
| LC50 | Median lethal concentration |
| LD50 | Median lethal dose |
| LOAEL | Lowest Observed Adverse Effect Level |
| NOAEC | No-Observed Adverse Effect Concentration |
| NOAEL | No-Observed Adverse Effect Level |
| NOEC | No-Observed Effect Concentration |
| OECD | Organisation for Economic Co-operation and Development |
| OEL | Occupational Exposure Limit |
| PBT | Persistent Bioaccumulative Toxic |
| PNEC | Predicted No-Effect Concentration |
| RID | Regulations concerning the International Carriage of Dangerous Goods by Rail |
| SDS | Safety Data Sheet |
| STP | Sewage treatment plant |
| ThOD | Theoretical oxygen demand (ThOD) |
| TLM | Median Tolerance Limit |
| VOC | Volatile Organic Compounds |
| CAS-No. | Chemical Abstract Service number |
| N.O.S. | Not Otherwise Specified |
| vPvB | Very Persistent and Very Bioaccumulative |
| ED | Endocrine disrupting properties |

| Full text of H- and EUH-statements: | |
|-------------------------------------|--|
| Acute Tox. 4 (Oral) | Acute toxicity (oral), Category 4 |
| H302 | Harmful if swallowed. |
| H373 | May cause damage to organs through prolonged or repeated exposure. |
| STOT RE 2 | Specific target organ toxicity – Repeated exposure, Category 2 |

Safety Data Sheet (SDS), EU

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.