



# Antifreeze Concentrate

## Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2020/878  
Issue date: 18-12-2019 Revision date: 23-7-2021 Supersedes: 3-11-2020 version: 2.11

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

#### 1.1. Product identifier

Product form : Mixture  
Product name : Antifreeze Concentrate  
UFI : VUVR-898N-WM7J-9F63  
Product code : 82000  
Type of product : Anti-freezing agents  
Product group : Mixture

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

##### 1.2.1. Relevant identified uses

Main use category : Professional use  
Use of the substance/mixture : Anti-freezing agents  
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

MPM International Oil Company  
Cyclotronweg 1  
2629 HN Delft Delft - Nederland  
T +31 (0)15 2514030  
[support@mpmoil.nl](mailto:support@mpmoil.nl) - [www.mpmoil.com](http://www.mpmoil.com)

#### 1.4. Emergency telephone number

Emergency number : +31 (0)15 2514030 (08.00 - 17.00 GMT+1)

Country	Official advisory body	Address	Emergency number	Comment
Ireland	National Poisons Information Centre Beaumont Hospital	PO Box 1297 Beaumont Road 9 Dublin	+353 1 809 2566 (Healthcare professionals-24/7) +353 1 809 2166 (public, 8am - 10pm, 7/7)	
United Kingdom	Guy's & St Thomas' Poisons Unit Medical Toxicology Unit, Guy's & St Thomas' Hospital Trust	Avonley Road SE14 5ER London	+44 20 7188 7188	

### 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  
Serious eye damage/eye irritation, Category 2 H319  
Specific target organ toxicity — Repeated exposure, Category 2 H373  
Full text of H-statements: see section 16

##### Adverse physicochemical, human health and environmental effects

No additional information available

#### 2.2. Label elements

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

Hazard pictograms (CLP) :



GHS07

GHS08

CLP Signal word

: Warning

Hazardous ingredients

: ethanediol; ethylene glycol

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Hazard statements (CLP)	: H302 - Harmful if swallowed. H319 - Causes serious eye irritation. H373 - May cause damage to organs (kidneys) through prolonged or repeated exposure (oral).
Precautionary statements (CLP)	: P264 - Wash hands, forearms and face thoroughly after handling. P280 - Wear protective gloves, face protection. P314 - Get medical advice/attention if you feel unwell. P337+P313 - If eye irritation persists: Get medical advice/attention. P501 - Dispose of container to an approved waste disposal plant.

### 2.3. Other hazards

No additional information available

## 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]
ethanediol; ethylene glycol	(CAS-No.) 107-21-1 (EC-No.) 203-473-3 (EC Index-No.) 603-027-00-1 (REACH-no) 01-2119456816-28	≥ 60 – ≤ 96	Acute Tox. 4 (Oral), H302 STOT RE 2, H373
Potassium 2-ethylhexanoate	(CAS-No.) 3164-85-0 (EC-No.) 221-625-7 (EC Index-No.) 221-625-7	≥ 1 – ≤ 2,99	Skin Irrit. 2, H315 Eye Dam. 1, H318 Repr. 2, H361d

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

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

General	: Remove to fresh air and keep at rest in a position comfortable for breathing.
After inhalation	: Allow affected person to breathe fresh air.
After skin contact	: Rinse with plenty of water. Take off immediately all contaminated clothing. If skin irritation occurs: Get medical advice/attention.
After eye contact	: Remove contact lenses, if present and easy to do. Continue rinsing. In case of eye contact, immediately rinse with clean water for 10-15 minutes.
After ingestion	: Do NOT induce vomiting. If the person is fully conscious, make him/her drink plenty of water. Never give an unconscious person anything to drink. Get immediate medical advice/attention.

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

Symptoms/effects	: Ethylene glycol is harmful if swallowed. Symptoms may be delayed. Can include nausea, vomiting, cramps, can affect the level of consciousness. Can give damage to kidney.
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### 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	: Dry chemical, CO <sub>2</sub> , dry sand, or alcohol-resistant foam. Water spray.
Unsuitable extinguishing media	: Do not use a heavy water stream.

### 5.2. Special hazards arising from the substance or mixture

Fire hazard	: On exposure to high temperature, may decompose, releasing toxic vapours.
Hazardous decomposition products in case of fire	: When exposed to high temperatures may produce hazardous decomposition products such as carbon monoxide and dioxide, smoke, nitrogen oxides (NO <sub>x</sub> ).

### 5.3. Advice for firefighters

Precautionary measures fire	: Do not enter fire area without proper protective equipment, including respiratory protection.
Protection during firefighting	: Self-contained breathing apparatus with an air line.
Other information	: Use a water spray to cool exposed surfaces and to protect fire-fighters. Do not allow run-off from fire-fighting to enter drains or water courses.

## SECTION 6: Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

General measures	: Absorb spillage to prevent material damage. Stop leak if safe to do so. Ventilate well.
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### 6.1.1. For non-emergency personnel

Protective equipment : Wear suitable protective clothing and eye/face protection.

### 6.1.2. For emergency responders

Protective equipment : Wear suitable protective clothing and eye/face protection.

## 6.2. Environmental precautions

Prevent liquid from entering sewers, watercourses, underground or low areas. Avoid release to the environment. Notify authorities if product enters sewers or public waters.

## 6.3. Methods and material for containment and cleaning up

For containment : Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams.

Methods for cleaning up : Small quantities of liquid spill: take up in non-combustible absorbent material and shovel into container for disposal.

## 6.4. Reference to other sections

Information on safe handling - see Section 7. Information on personal protective equipment - see Chapter 8. Information on disposal - see Section 13.

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

Precautions for safe handling : Provide good ventilation in process area to prevent formation of vapour. Avoid all eye and skin contact and do not breathe vapour and mist.

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 : Provide local exhaust or general room ventilation.

Incompatible products : Oxidizing agent.

Storage area : Keep in a cool, well-ventilated place. Store in a closed container.

### 7.3. Specific end use(s)

No additional information available

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

#### ethanediol; ethylene glycol (107-21-1)

EU	IOELV TWA (mg/m <sup>3</sup> )	52 mg/m <sup>3</sup>
EU	IOELV TWA (ppm)	20 ppm
EU	IOELV STEL (mg/m <sup>3</sup> )	104 mg/m <sup>3</sup>
EU	IOELV STEL (ppm)	40 ppm
EU	Notes	Skin
EU	Regulatory reference	Commission Directive 2000/39/EC
Germany	Notes	
Ireland	Local name	Ethane-1,2-diol [Ethylene glycol]
Ireland	OEL (8 hours ref) (mg/m <sup>3</sup> )	10 mg/m <sup>3</sup> particulate 52 mg/m <sup>3</sup> vapour
Ireland	OEL (8 hours ref) (ppm)	20 ppm vapour
Ireland	OEL (15 min ref) (mg/m <sup>3</sup> )	104 mg/m <sup>3</sup> vapour
Ireland	OEL (15 min ref) (ppm)	40 ppm vapour
Ireland	Notes (IE)	Sk (Substances which have the capacity to penetrate intact skin when they come in contact with it, and be absorbed into the body), IOELV (Indicative Occupational Exposure Limit Values)
Ireland	Regulatory reference	Chemical Agents Code of Practice 2020
United Kingdom	Local name	Ethane-1,2-diol
United Kingdom	WEL TWA (mg/m <sup>3</sup> )	10 mg/m <sup>3</sup> particulate 52 mg/m <sup>3</sup> vapour
United Kingdom	WEL TWA (ppm)	20 ppm vapour
United Kingdom	WEL STEL (mg/m <sup>3</sup> )	104 mg/m <sup>3</sup> vapour
United Kingdom	WEL STEL (OEL STEL) [ppm]	40 ppm vapour

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### ethanediol; ethylene glycol (107-21-1)

United Kingdom	Remark (WEL)	Sk (Can be absorbed through the skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity)
United Kingdom	Regulatory reference	EH40/2005 (Fourth edition, 2020). HSE

### 8.2. Exposure controls

#### Technical measures:

Ensure adequate ventilation of the storage area. Provide adequate ventilation.

#### Personal protective equipment:

Gloves. Protective goggles.

#### Hand protection:

protective gloves

Type	Material	Permeation	Thickness (mm)	Penetration	Standard
Gloves	Nitrile rubber (NBR)	6 (> 480 minutes)	> 0,35		EN ISO 374

#### Eye protection:

No special eye protection equipment recommended under normal conditions of use. Eye protection should only be necessary where hot liquid could be splashed or sprayed

#### Skin and body protection:

No special clothing/skin protection equipment is recommended under normal conditions of use

#### Respiratory protection:

If technical suction or ventilation measures are not possible or are insufficient, protective breathing apparatus must be worn.

#### Personal protective equipment symbol(s):



#### Environmental exposure controls:

Avoid release to the environment.

#### Other information:

Do not eat, drink or smoke when using this product. Avoid contact with skin.

## SECTION 9: Physical and chemical properties

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

Physical state	: Liquid
Appearance	: Hygroscopic.
Colour	: Blue.
Odour	: No data available
Odour threshold	: No data available
pH	: 7,5 – 9 (ASTM D 1287 (50 Vol.%))
Relative evaporation rate (butylacetate=1)	: No data available
Melting point	: -12 °C
Freezing point	: No data available
Boiling point	: 170 – 185 °C ASTM D 1120
Flash point	: 111 °C (CAS 107-21-1/closed cup)
Auto-ignition temperature	: 398 °C (CAS 107-21-1)
Decomposition temperature	: No data available
Flammability (solid, gas)	: No data available
Vapour pressure	: No data available
Relative vapour density at 20 °C	: No data available
Relative density	: No data available
Density	: 1112 (1,11 – 1,14) kg/m³ 20°C (ASTM D 4052)
Solubility	: Completely miscible.

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Log Pow	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive properties	: Product is not explosive.
Oxidising properties	: None.
Explosive limits	: No data available

### 9.2. Other information

No additional information available

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

No additional information available

### 10.2. Chemical stability

Stable under normal conditions.

### 10.3. Possibility of hazardous reactions

Stable under normal conditions of use.

### 10.4. Conditions to avoid

No naked flames, sparks, and do not smoke. Moisture.

### 10.5. Incompatible materials

Acids and bases. Oxidizing agent.

### 10.6. Hazardous decomposition products

None under normal conditions.

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

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

ATE CLP (oral)	520,833 mg/kg bodyweight
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### Potassium 2-ethylhexanoate (3164-85-0)

LD50 oral rat	2043 mg/kg OECD 401
LD50 dermal rat	> 2000 mg/kg OECD 402

### ethanediol; ethylene glycol (107-21-1)

LD50 oral rat	7712 mg/kg bodyweight
LD50 dermal rat	> 3500 mg/kg Mouse
LD50 dermal rabbit	10600 mg/kg
LC50 Inhalation - Rat	> 2,5 mg/l/6Hrs

Skin corrosion/irritation	: Not classified pH: 7,5 – 9 (ASTM D 1287 (50 Vol.%))
Serious eye damage/irritation	: Causes serious eye irritation. pH: 7,5 – 9 (ASTM D 1287 (50 Vol.%))
Respiratory or skin sensitisation	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified

### ethanediol; ethylene glycol (107-21-1)

NOAEL (chronic, oral, animal/male, 2 years)	1000 mg/kg bodyweight
NOAEL (chronic, oral, animal/female, 2 years)	1500 mg/kg bodyweight

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

### Potassium 2-ethylhexanoate (3164-85-0)

NOAEL (oral, rat, 90 days)	≈ 300 mg/kg bodyweight OECD 408
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### ethanediol; ethylene glycol (107-21-1)

NOAEL (oral, rat, 90 days)	200 mg/kg bodyweight/day
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Aspiration hazard	: Not classified
Potential adverse human health effects and symptoms	: This product contains ethylene glycol (EG). The toxicity of EG via inhalation or skin contact is expected to be slight at room temperature. The estimated oral lethal dose is about 100 cc (3.3 oz.) for an adult human. Ethylene glycol is oxidized to oxalic acid which results in the deposition of calcium oxalate crystals mainly in the brain and kidneys. Early signs and symptoms of EG poisoning may resemble those of alcohol intoxication. Later, the victim may experience nausea, vomiting, weakness, abdominal and muscle pain, difficulty in breathing and decreased urine output. When EG was heated above the boiling point of water, vapors formed which reportedly caused unconsciousness, increased lymphocyte count, and a rapid, jerky movement of the eyes in persons chronically exposed. When EG was administered orally to pregnant rats and mice, there was an increase in fetal deaths and birth defects. Some of these effects occurred at doses that had no toxic effects on the mothers. We are not aware of any reports that EG causes reproductive toxicity in human beings. 2-Ethylhexanoic acid (2-EXA) caused an increase in liver size and enzyme levels when repeatedly administered to rats via the diet. When administered to pregnant rats by gavage or in drinking water, 2-EXA caused teratogenicity (birth defects) and delayed postnatal development of the pups. Additionally, 2-EXA impaired female fertility in rats. Birth defects were seen in the offspring of mice who were administered sodium 2-ethylhexanoate via intraperitoneal injection during pregnancy.
Other information	: Contains small amount Bitrex. Bitterant agent is a general description for chemical additives that are added to hazardous products to give it a bitter taste, which creates a strong aversion and as such avoids accidental poisonings for especially young children and household pets. It is often used in household cleaners, pesticides and also engine coolants. There are a number of possible chemicals that can be used, however, most commonly known is the Denatonium benzoate (CAS 3734-33-6.).

## SECTION 12: Ecological information

### 12.1. Toxicity

General	: According to the criteria of the EC-classification and labelling "dangerous for the environment" (93/21/EEC) the material/product is not to be classified as dangerous to the environment.
Hazardous to the aquatic environment, short-term (acute)	: Not classified
Hazardous to the aquatic environment, long-term (chronic)	: Not classified

### Potassium 2-ethylhexanoate (3164-85-0)

LC50 fish 1	> 100 mg/l OECD 203 Oryzias latipes
EC50 Daphnia 1	910 mg/l OECD 202 Daphnia magna
EC50 Daphnia 2	112,1 mg/l static (bacteria) (DIN 38412, part 8, Pseudomonas putida
EC50 72h - Algae [1]	49,3 mg/l static read across CAS 149057-5 nominal
NOEC (chronic)	25 mg/l Daphnia magna @21d
NOEC chronic crustacea	25 mg/l Daphnia @OECD 211, Daphnia magna 21d

### ethanediol; ethylene glycol (107-21-1)

LC50 fish 1	72860 mg/l 96 hrs / Pimephales promelas
EC50 Daphnia 1	> 100 mg/l 48 hrs
EC50 other aquatic organisms 2	> 9600 mg/l 96 hrs / Selenastrum capricornutum
EC50 96h - Algae [1]	3536 mg/l greenn algae
EC50 96h - Algae [2]	6500 – 13000 mg/l Pseudokirchneriella subcapitata
NOEC (chronic)	15380 mg/l Fish Early Life Stage / Pimephales promelas / 7 days

### 12.2. Persistence and degradability

### Potassium 2-ethylhexanoate (3164-85-0)

Biodegradation	99 % OECD 301E
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### ethanediol; ethylene glycol (107-21-1)

Biodegradation	Readily biodegradable
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### 12.3. Bioaccumulative potential

### Potassium 2-ethylhexanoate (3164-85-0)

Log Pow	2,96 OECD 107
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### ethanediol; ethylene glycol (107-21-1)

Log Pow	-1,36
Bioaccumulative potential	There is no bioaccumulation.

### 12.4. Mobility in soil

### Antifreeze Concentrate

Soil	Avoid release to the environment.
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### ethanediol; ethylene glycol (107-21-1)

Soil	This material has low volatility and is water soluble hence the potential for mobility is high.
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### 12.5. Results of PBT and vPvB assessment

No additional information available

### 12.6. Other adverse effects

No additional information available

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

Regional legislation (waste)	: Disposal must be done according to official regulations.
Waste disposal recommendations	: Dispose as hazardous waste.
Waste materials	: Empty the packaging completely prior to disposal.
European List of Waste (LoW) code	: 07 01 04* - other organic solvents, washing liquids and mother liquors

## SECTION 14: Transport information

In accordance with ADR / IMDG

ADR	IMDG
<b>14.1. UN number</b>	
Not applicable	Not applicable
<b>14.2. UN proper shipping name</b>	
Not applicable	Not applicable
<b>14.3. Transport hazard class(es)</b>	
Not applicable	Not applicable
<b>14.4. Packing group</b>	
Not applicable	Not applicable
<b>14.5. Environmental hazards</b>	
Dangerous for the environment : No	Dangerous for the environment : No Marine pollutant : No
No supplementary information available	

### 14.6. Special precautions for user

#### Overland transport

No data available

#### Transport by sea

No data available

### 14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

Not applicable

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### SECTION 15: Regulatory information

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

##### 15.1.1. EU-Regulations

Contains no REACH substances with Annex XVII restrictions

Contains no substance on the REACH candidate list

Contains no REACH Annex XIV substances

Contains no substance subject to Regulation (EU) No 649/2012 of the European Parliament and of the Council of 4 July 2012 concerning the export and import of hazardous chemicals.

Contains no substance subject to Regulation (EU) No 2019/1021 of the European Parliament and of the Council of 20 June 2019 on persistent organic pollutants

##### 15.1.2. National regulations

No additional information available

#### 15.2. Chemical safety assessment

No additional information available

### SECTION 16: Other information

#### Indication of changes:

Section	Changed item	Change	Comments
	Supersedes	Modified	
	Revision date	Modified	

#### Full text of H- and EUH-statements:

Acute Tox. 4 (Oral)	Acute toxicity (oral), Category 4
Eye Dam. 1	Serious eye damage/eye irritation, Category 1
Eye Irrit. 2	Serious eye damage/eye irritation, Category 2
Repr. 2	Reproductive toxicity, Category 2
Skin Irrit. 2	Skin corrosion/irritation, Category 2
STOT RE 2	Specific target organ toxicity — Repeated exposure, Category 2
H302	Harmful if swallowed.
H315	Causes skin irritation.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H361d	Suspected of damaging the unborn child.
H373	May cause damage to organs through prolonged or repeated exposure.

#### SDS MPM REACH

*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.*