



SAFETY DATA SHEET

In compliance with EC Regulations No.: 1907/2006, 830/2015 and 1272/2008 (CLP).

Date last modified: 20 December 2017 - version 4.0

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY

1.1 Product Identifier

Product Name: ANTIFREEZE

Product Code: 833042 (30 lt)

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

Intended Use: Industrial applications; Water treatment.

Uses advised against: This product is not recommended for any industrial, professional or consumer use other than the Intended Uses above and the instructions written in this Safety Data Sheet.

1.3 Details of the supplier of the safety data sheet

Company/undertaking identification

Supplier/Manufacturer:

Company:

Marichem Marigases Hellas SA

Sfaktirias 64,

185 45 Piraeus,

Greece

Tel. No.: ++30 210 4148800

Fax No.: ++30 210 4133985

e-mail: mail@marichem-marigases.com

<http://www.marichem-marigases.com>

e-mail: mail@marichem-marigases.com

1.4 Emergency telephone number

Tel. No.: ++30 210 4148800 (including working hours)

Emergency Information:

Inside U.S. and Canada: (800)-424-9300 (CHEMTREC)

Outside U.S. and Canada: 1-703-527-3887 (CHEMTREC)

National Emergency Centre (Greece): ++30 210 7793777

2. HAZARDS IDENTIFICATION

2.1 Classification of the mixture

Classification under EC 1272/2008 regulation - GHS classification.

Acute toxicity: Cat. 4 (oral)

Specific target organ toxicity following repeat exposure (Kidney): Cat. 2

SIGNAL WORD: WARNING



GHS07



GHS08

Hazard Statement(s):

H302 Harmful if swallowed.

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

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

Hazard Statement(s):

H302 Harmful if swallowed.

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

Precautionary Statements

Prevention

P102: Keep out of reach of children.

P260i Do not breathe dust/gas/mist/vapours.

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

P264 Wash with plenty of water and soap thoroughly after handling.

Response

P311 Call a POISON CENTER or doctor/physician.

P301 + P330 IF SWALLOWED: rinse mouth.

Disposal

P501 Dispose of contents/container to hazardous or special waste collection point.

2.3 Other Hazards

Assessment PBT / vPvB:

According to Annex XIII of Regulation (EC) No.1907/2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH): Not fulfilling PBT (persistent/bioaccumulative/toxic) criteria. Self classification

According to Annex XIII of Regulation (EC) No.1907/2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH): Not fulfilling vPvB (very persistent/very bioaccumulative) criteria. Self classification

Product classification and labelling according to Directive 67/548/EEC, European [Dangerous Preparations Directive](#) (1999/45/EC), European Regulation 648/2004 and their amendments.

Symbol: Xn (Harmful), Contains: Ethylene Glycol



Xn (Harmful)

R-phrases: R22: Harmful if swallowed.
R63: Possible risk of harm to the unborn child.

S-phrases: S2: Keep out of the reach of children
S36/37: Wear suitable protective clothing and gloves.
S45: In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
S61: Avoid release to the environment. Refer to special instructions/Safety data sheets

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Chemical Composition:

Ingredients	CAS Number	Proportion	Hazard Code(s)*
Monoethylene Glycol	107-21-1	80% - 100%	H302; H373.
Ingredients that do not contribute to the classification of the mixture	-	1% - 20%	-

*See section 16 for the full text of the Hazard Code(s) declared above.

Occupational Exposure Limits, if available, are listed in section 8.

4. FIRST AID MEASURES

4.1 Description of first aid measures

Remove contaminated clothing.

If inhaled:

Keep patient calm, remove to fresh air, seek medical attention.

On skin contact:

Wash thoroughly with soap and water.

On contact with eyes:

Wash affected eyes for at least 15 minutes under running water with eyelids held open.

On ingestion:

Immediately rinse mouth and then drink 200-300 ml of water, seek medical attention.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms: The most important known symptoms and effects are described in the labelling (see section 2) and/or in section 11.

Hazards: Skin resorption hazard.

4.3 Indication of any immediate medical attention and special treatment needed

Treatment: Treat according to symptoms (decontamination, vital functions), no known specific antidote.

5. FIRE-FIGHTING MEASURES

Clear fire area of all non-emergency personnel.

5.1 Extinguishing Media

Suitable extinguishing media:

water spray, dry powder, alcohol-resistant foam, Carbon Dioxide.

5.2 Special hazards arising from the substance or mixture

During a fire, smoke may contain toxic or irritating compounds as Carbon Monoxide and Carbon Dioxide.

5.3 Advice for fire-fighters

Fire fighters should wear self contained breathing apparatus and full protective clothing. Keep unnecessary people away, isolate hazard area and deny entry. Dike area to prevent run off and contamination of water sources. Persons who have been exposed to contaminated smoke should be immediately examine by a physician and checked for symptoms of poisoning.

5.4 Further Information

Contaminated extinguishing water must be disposed of in accordance with official regulations.

6. ACCIDENTAL RELEASE MEASURES

Observe all relevant local and international regulations.

6.1 Personal Precautions, Protective Equipment and Emergency Procedures

Evacuate the area where concentrated fumes are present. Clean up personnel must wear proper protective equipment (see section 8).

6.2 Environmental Precautions

Product is dangerous for the environment, avoid release to the environment.

6.3 Methods and Material for Containment and Cleaning up

Collect leaking and spilled liquid in sealable containers using adsorbent material. Wash away spilled liquid with plenty of water.

7. HANDLING AND STORAGE

7.1. Precautions for safe handling

Ensure thorough ventilation of stores and work areas.

Prevent contact with air/oxygen (formation of peroxide).

Protection against fire and explosion:

Prevent electrostatic charge - sources of ignition should be kept well clear - fire extinguishers should be kept handy.

7.2. Conditions for safe storage, including any incompatibilities

Further information on storage conditions: Keep container tightly closed in a cool, well-ventilated place.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

Components with workplace control parameters: Monoethylene Glycol

PNEC

freshwater: 10 mg/l

marine water: 1 mg/l

intermittent release: 10 mg/l

STP: 199.5 mg/l

sediment (freshwater): 20.9 mg/kg

soil: 1.53 mg/kg

DNEL

worker

Long-term exposure- systemic effects, Inhalation: 35 mg/m³

worker

Long-term exposure- systemic effects, dermal: 106 mg/kg

consumer

Long-term exposure- systemic effects, Inhalation: 7 mg/m³

consumer

Long-term exposure- systemic effects, dermal: 53 mg/kg

8.2 Exposure controls

Personal protective equipment

Hand protection

Suitable chemical resistant safety gloves (EN 374) also with prolonged, direct contact (Recommended: Protective index 6, corresponding > 480 minutes of permeation time according to EN 374): E.g. nitrile rubber (0.4 mm), chloroprene rubber (0.5 mm), butyl rubber (0.7 mm) and other Manufacturer's directions for use should be observed because of great diversity of types.

Supplementary note

The specifications are based on tests, literature data and information of glove manufacturers or are derived from similar substances by analogy. Due to many conditions (e.g. temperature) it must be considered, that the practical usage of a chemical-protective glove in practice may be much shorter than the permeation time determined through testing.

Eye protection

Safety glasses with side-shields (frame goggles) (e.g. EN 166) General safety and hygiene measures Handle in accordance with good industrial hygiene and safety practice.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

9.1.1. Appearance

Physical State:	Liquid
Color:	Blue
Odor:	Characteristic ethereal odor

9.1.2. Basic data

Boiling Point:	>197°C
Flash Point:	>115°C
Autoignition Temperature:	Not Available
Lower Explosion Limit (vol %):	Not Available

Upper Explosion Limit (vol %):	Not Available
Vapour Pressure:	Not Available
Relative vapor density (air=1):	Not Available
Solubility in water:	Complete soluble.
Specific Gravity (gr/cm³):	1.10-1.12 (at 20°C)
pH value:	9.7 – 10.7
Viscosity:	Not Available.
9.2 Other Information:	No further relevant information available.

10. STABILITY AND REACTIVITY

10.1 Reactivity

Corrosion to metals: No corrosive effect on metal.

Formation of flammable gases:

Remarks: Forms no flammable gases in the presence of water.

10.2 Chemical stability

Product is stable under normal use conditions.

10.3 Possibility of hazardous reactions

None.

10.4 Conditions to avoid

> 40 °C

Avoid humidity. Avoid daylight. Disregard of the conditions mentioned may result in undesirable decomposition reactions.

10.5 Incompatible materials

Substances to avoid: strong oxidizing agents.

Hazardous decomposition products

Possible decomposition products:

Carbonyl compounds, Dioxolan derivatives.

11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Name of Substance: Monoethylene Glycol

Acute toxicity

Assessment of acute toxicity:

Harmful if swallowed. Virtually non-toxic after a single skin contact. The inhalation of a highly enriched/saturated vapor-air-mixture represents an unlikely acute hazard.

Experimental/calculated data:

LD50 rat (oral): 7,712 mg/kg

The European Union (EU) has classified this substance as 'harmful'.

LC50 rat (by inhalation): > 2.5 mg/l 6 h

An aerosol was tested.

LD50 mouse (dermal): > 3,500 mg/kg

Irritation

Assessment of irritating effects:

Not irritating to eyes and skin.

Experimental/calculated data:

Skin corrosion/irritation rabbit: non-irritant (BASF-Test)

Serious eye damage/irritation rabbit: non-irritant (BASF-Test)

Respiratory/Skin sensitization

Assessment of sensitization:

Skin sensitizing effects were not observed in animal studies. Human data do not fully exclude a skin sensitizing potential.

Experimental/calculated data:

Guinea pig maximization test guinea pig: Non-sensitizing.

Germ cell mutagenicity

Assessment of mutagenicity:

In the majority of tests performed (bacteria/microorganisms/cell cultures) a mutagenic effect was not found. A mutagenic effect was also not observed in in-vivo assays.

Carcinogenicity

Assessment of carcinogenicity:

In long-term studies in rats and mice in which the substance was given by feed, a carcinogenic effect was not observed.

Reproductive toxicity

Assessment of reproduction toxicity:

The results of animal studies gave no indication of a fertility impairing effect.

Developmental toxicity

Assessment of teratogenicity:

In animal studies the substance caused malformations when given at high doses.

Repeated dose toxicity and Specific target organ toxicity (repeated exposure)

Assessment of repeated dose toxicity:

Repeated exposure may affect certain organs. Damages the kidneys.

12. ECOLOGICAL INFORMATION

Name of Substance: Monoethylene Glycol

12.1 Toxicity

Assessment of aquatic toxicity:

There is a high probability that the product is not acutely harmful to aquatic organisms. The inhibition of the degradation activity of activated sludge is not anticipated when introduced to biological treatment plants in appropriate low concentrations.

Toxicity to fish:

LC50 (96 h) 72,860 mg/l, *Pimephales promelas* (EPA 72-1, static)

Aquatic invertebrates:

EC50 (48 h) > 100 mg/l, *Daphnia magna* (OECD Guideline 202, part 1, static)

Aquatic plants:

EC50 (96 h) 6,500 - 13,000 mg/l (growth rate), *Selenastrum capricornutum*

Microorganisms/Effect on activated sludge:

EC20 (30 min) > 1,995 mg/l, activated sludge, domestic (DIN EN ISO 8192, aerobic)

The product has not been tested. The statement has been derived from products of a similar structure or composition.

Chronic toxicity to fish:

No observed effect concentration (7 d) 15,380 mg/l, *Pimephales promelas*

Chronic toxicity to aquatic invertebrates:

No observed effect concentration (7 d), 8,590 mg/l, *Ceriodaphnia* sp.

Assessment of terrestrial toxicity:

Study scientifically not justified.

12.2 Persistence and degradability

Assessment biodegradation and elimination (H₂O):

Readily biodegradable (according to OECD criteria).

Elimination information: 90 - 100 % DOC reduction (10 d) (OECD 301 A (new version)) (aerobic, activated sludge, domestic)

Assessment of stability in water:

According to structural properties, hydrolysis is not expected/probable.

12.3 Bioaccumulative potential

No data available.

12.4 Mobility in soil (and other compartments if available)

Assessment transport between environmental compartments:

The substance will not evaporate into the atmosphere from the water surface.

Adsorption to solid soil phase is not expected.

12.5 Results of PBT and vPvB assessment

According to Annex XIII of Regulation (EC) No.1907/2006 concerning the Registration, Evaluation,

Authorisation and Restriction of Chemicals (REACH): Not fulfilling PBT (persistent/bioaccumulative/toxic) criteria.. Self classification According to Annex XIII of Regulation (EC) No.1907/2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH): Not fulfilling vPvB (very persistent/very bioaccumulative) criteria.. Self classification.

12.6 Other adverse effects

None known.

13. DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Must be disposed of or incinerated in accordance with local regulations.

Contaminated packaging:

Contaminated packaging should be emptied as far as possible; then it can be passed on for recycling after being thoroughly cleaned.

14. TRANSPORT INFORMATION

14.1 Not classified as dangerous material for the transportation according to UN, IMDG, ADR/RID, U.S. D.O.T. and IATA/ICAO transportation codes.

15. REGULATORY INFORMATION

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

If other regulatory information applies that is not already provided elsewhere in this safety data sheet, then it is described in this subsection.

15.2 Chemical Safety Assessment

A CSA has been carried out for the raw materials in this product, from the raw materials manufacturers (when needed to be carried out).

16. OTHER INFORMATION

16.1 Full text of Hazard Code(s) referred in Section 3

H302: Harmful if swallowed.

H373: May cause damage to organs (kidney) through prolonged or repeated exposure.

16.2 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).

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail).
IMDG: International Maritime Code for Dangerous Goods.
IATA: International Air Transport Association.
ICAO: International Civil Aviation Organization.
bw: Body weight.
Carc.: Carcinogenicity.
CAS number: Chemical Abstracts Service number.
CLP: Classification Labelling Packaging Regulation.
CSA: Chemical Safety Assessment.
CSR: Chemical Safety Report.
DNEL: Derived No Effect Level.
dw: Dry weight.
EC number: EINECS and ELINCS number.
EC: European Commission.
EC50: Half maximal effective concentration.
EINECS: European Inventory of Existing Commercial Chemical Substances.
ELINCS: European List of Notified Chemical Substances.
EmS: Emergency Schedule.
ERC: Environmental Release Category.
ES: Exposure scenario.
food: oral feed.
GHS: Globally Harmonized System of Classification and Labelling of Chemicals.
Irrit.: Irritation.
LC50: Lethal concentration, 50 %.
LD50: Median Lethal dose.
LOAEC: Lowest Observed Adverse Effect Concentration.
LOAEL: Lowest Observed Adverse Effect Level.
MK value: Maximum Concentration value.
NCO: An international corporation that provides customer service contracting.
NOAEC: No Observed Adverse Effect Concentration.
NOAEL: No Observed Adverse Effect Level.
NOEC: No Observed Effect Concentration.
OECD: Organisation for Economic Cooperation and Development.
PBT: Persistent, Bioaccumulative and Toxic.
PNEC: Predicted No Effect Concentration.
PROC: Process category.
REACH: The Registration, Evaluation, Authorisation and Restriction of Chemicals.
Resp.: Respiratory.
Sens.: Sensitization.
STEL value: Short Term Exposure Limit value.
STOT RE: Specific target organ toxicity — repeated exposure.
STOT SE: Specific target organ toxicity — single exposure.
STOT: Specific Target Organ Toxicity.
STP: Sewage Treatment Plant.
SU: Sector of use.
Tox.: Toxicity.
TWA value: Time Weighted Average value.
vPvB: Very Persistent and Very Bioaccumulative.

16.3 Notice to reader

All information, instructions and statements contained in this Material Safety Data Sheet are compiled in accordance with European Directives, corresponding national legislation and on the basis of information given by our suppliers.

The information disclosed in this Material Safety Data Sheet (which supersedes all previous versions) is believed to be correct, at the date of issue, to the best of our current knowledge and experience. It

only relates to the specific product designated herein and it may not be valid when said product is used in combination with any other products or in any processed form, unless specified in the text. This document aims to provide the necessary health and safety information of the product and is not to be considered a warranty or quality specification. It is the responsibility of the recipient of this Material Safety Data Sheet to ensure that information given here is read and understood by all who use, handle, dispose of or in any way come in contact with the product.

Also, it is the responsibility of the user to comply with local legislation relating to safety, health, environment and waste management. Data and information provided concerning the product are informative, exclusively presented to the customer.