

SAFETY DATA SHEET

MANNOL Antifreeze AF12+ Longlife



Prepared according to Commission Regulation (EC) No. 453/2010

1. SECTION

IDENTIFICATION OF SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1 Product identifier: MANNOL Antifreeze AF12+ Longlife

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

Relevant identified uses: engine coolant

1.3 Details of the supplier of the safety data sheet: UAB "SCT Lubricants"

Adress: Šilutės pl. 119, 5800 Klaipėda, Lithuania

Telephone: +370 46 340345

E-mail: klaipeda@sct.lt

Fax: (37046) 341891

1.4 Emergency telephone number: Adress: Šiltnamiu 29, LT-2043 Vilnius, telephone 8-5236 20 52 or +370 687 53378 (day and night)

2. SECTION

HAZARD IDENTIFICATION

2.1 Classification of the substance or mixture:

According to Regulation (EC) No 1272/2008 [CLP]

Acute Tox. 4 (oral) H302

Skin. Irrit. 2, H315

Eye Irrit.2 H319

Repr.2, H361d

For the classifications not written out in full in this section the full text can be found in section 16

2.2 Label elements:

Globally Harmonized System, EU (GHS)

Pictogram:



GHS08

GHS07

Signal Word:
Warning

Hazard Statement:

H302 Harmful if swallowed.

H315-Causes skin irritation

H319-Causes serious eye irritation

H361d-Suspected of damaging the unborn child

Precautionary Statements (Prevention):

P201-Obtain special instructions before use

P308+P313-If exposed or concerned: Get medical advice/attention.

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

P280-Wear protective gloves and eye protection/face protection.

Precautionary Statements (Response):

P305+P351+P338-IF IN EYES: Rinse cautiously with water for several minutes.

Remove contact lenses, if present and easy to do. Continue rinsing.

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Precautionary Statements (Disposal):

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

According to Regulation (EC) No 1272/2008 [CLP]

Hazard determining component(s) for labelling: ETHANE-1,2-DIOL/ETHYLENEGLYCOL

2.3 Other hazards:

According to Regulation (EC) No 1272/2008 [CLP]

If applicable information is provided in this section on other hazards which do not result in classification but which may contribute to the overall hazards of the substance or mixture.

3. SECTION COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substance:

Not applicable

3.2 Mixtures:

EB Nr.	CAS Nr.	Reg. number	Name	Content %	Classification according to Regulation (EC) 1272/2008 (CLP)
203-473-3	107-21-1	01-2119456816-28-xx	Ethylene glycol	75-95 %	Acute Tox.4 (Oral), H302
203-872-2	111-46-6	-	Diethylene glycol	0-15 %	Acute Tox.4 (Oral), H302
205-743-6	149-57-5	01-2119488942-23-xxxx	2-ethylhexanoic acid	< 5%	Repr.2, H361d
215-181-3	1310-58-3	01-2119487136-33-xxxx	Potassium hydroxide	<2%	Acute Tox.4 (Oral), H302 Skin.Corr.1A, H314

For the classifications not written out in full in this section, including the indication of danger, the hazard symbols, the H phrases, and the hazard statements, the full text is listed in section 16.

4. SECTION FIRST AID MEASURES

4.1. Description of first aid measures

Remove contaminated clothing.

If inhaled:

If difficulties occur after vapour/aerosol has been inhaled, remove to fresh air and seek medical attention.

On skin contact:

Wash thoroughly with soap and water.

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On contact with eyes:

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

On ingestion:

Rinse mouth immediately and then drink plenty of water, seek medical attention. Administer 50 ml of pure ethanol in a drinkable concentration.

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.

Further important symptoms and effects are so far not known.

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. SECTION FIRE-FIGHTING MEASURES

5.1. Extinguishing media :

Suitable extinguishing media:
water spray, dry powder, foam

5.2. Special hazards arising from the substance or mixture:

harmful vapours

Evolution of fumes/fog. The substances/groups of substances mentioned can be released in case of fire.

5.3. Advice for fire-fighters :

Special protective equipment:
Wear a self-contained breathing apparatus.

Further information:

The degree of risk is governed by the burning substance and the fire conditions. Contaminated extinguishing water must be disposed of in accordance with official regulations.

6. SECTION ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures:

Use personal protective clothing. Breathing protection required.

6.2. Environmental precautions:

Contain contaminated water/firefighting water. Do not discharge into drains/surface waters/groundwater.

6.3. Methods and material for containment and cleaning up:

For large amounts: Pump off product.

For residues: Pick up with suitable absorbent material. Dispose of absorbed material in accordance with regulations.

6.4. Reference to other sections:

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Information regarding exposure controls/personal protection and disposal considerations can be found in section 8 and 13.

7. SECTION HANDLING AND STORAGE

7.1. Precautions for safe handling:

No special measures necessary provided product is used correctly.

Protection against fire and explosion:

Take precautionary measures against static discharges.

7.2. Conditions for safe storage, including any incompatibilities :

The product in undamaged packing need not be stored separately.

Further information on storage conditions: Keep container tightly closed and dry; store in a cool place.

7.3. Specific end use(s) :

For the relevant identified use(s) listed in Section 1 the advice mentioned in this section 7 is to be observed.

8. SECTION EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters:

Components with occupational exposure limits

107-21-1: ethanediol; ethylene glycol

TWA value 52 mg/m³ ; 20 ppm (OEL (EU))

indicative

STEL value 104 mg/m³ ; 40 ppm (OEL (EU))

indicative

Skin Designation (OEL (EU))

The substance can be absorbed through the skin.

8.2. Exposure controls:

Personal protective equipment

Respiratory protection:

Respiratory protection in case of vapour/aerosol release. Combination filter for gases/vapours of organic compounds and solid and liquid particles (f.e. EN 14387 Type A-P2)

Hand protection:

Chemical resistant protective gloves (EN 374)

Suitable materials short-term contact and/or splashes (recommended: At least protective index 2, corresponding > 30 minutes of permeation time according to EN 374)

butyl rubber (butyl) - 0.7 mm coating thickness

nitrile rubber (NBR) - 0.4 mm coating thickness

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.

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Manufacturer's directions for use should be observed because of great diversity of types.

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. Wearing of closed work clothing is recommended.

9. SECTION PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties:

Form: liquid

Colour: according to specification

Odour: product specific

Odour threshold:

No applicable information available.

pH value: approx. 8 (ASTM D1287)

(diluted with water 1:1 by volume)

Melting point: < -18 °C (DIN ISO 3016)

Boiling point: > 160 °C (ASTM D1120)

(1,013 hPa)

Flash point: > 124 °C (DIN EN 22719; ISO 2719)

Evaporation rate:

Value can be approximated from

Henry's Law Constant or vapor

pressure.

Flammability: not flammable

Lower explosion limit: 3.4 %(V) (DIN 51649-1, air)

(20 °C)

Upper explosion limit: 15.1 %(V) (DIN 51649-1, air)

(20 °C)

Ignition temperature: 420 °C (DIN 51794)

Vapour pressure: 0.2 hPa

(20 °C)

Density: 1.122 - 1.125 g/cm³ (DIN 51757)

(20 °C)

Solubility in water: readily soluble

Solubility (qualitative) solvent(s): polar solvents

soluble

Partitioning coefficient n-octanol/water (log Kow):

Study scientifically not justified.

Self ignition: not self-igniting

Thermal decomposition: No decomposition if correctly stored and handled.

Viscosity, kinematic: < 30 mm²/s (DIN 51562)

(20 °C)

Explosion hazard: not explosive

Fire promoting properties: not fire-propagating

9.2. Other information:

Self heating ability: It is not a substance capable of spontaneous heating.

Hygroscopy: hygroscopic

Other Information:

If necessary, information on other physical and chemical parameters is indicated in this section.

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10. SECTION STABILITY AND REACTIVITY

10.1. Reactivity:

No hazardous reactions if stored and handled as prescribed/indicated.
Corrosion to metals: No corrosive effect on metal.

10.2. Chemical stability:

The product is stable if stored and handled as prescribed/indicated.

10.3. Possibility of hazardous reactions:

No hazardous reactions when stored and handled according to instructions.

10.4. Conditions to avoid:

Avoid open flames.

10.5. Incompatible materials:

Substances to avoid:
strong oxidizing agents

10.6. Hazardous decomposition products :

Hazardous decomposition products:
No hazardous decomposition products known.

11. SECTION TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects:

Acute toxicity

Assessment of acute toxicity:
Of moderate toxicity after single ingestion. Of low toxicity after short-term skin contact.

Experimental/calculated data:
LD (human) (oral): approx. 1,600 mg/kg

Irritation

Experimental/calculated data:
Skin corrosion/irritation rabbit: non-irritant

Serious eye damage/irritation rabbit: non-irritant

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.

Carcinogenicity

Assessment of carcinogenicity:
The whole of the information assessable provides no indication of a carcinogenic effect.

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Developmental toxicity

Information on: ethanediol; ethylene glycol

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)

Information on: ethanediol; ethylene glycol

Assessment of repeated dose toxicity:

The substance may cause damage to the kidney after repeated ingestion. The substance may cause damage to the kidney after repeated skin contact with high doses.

Other relevant toxicity information

The product has not been tested. The statements on toxicology have been derived from the properties of the individual components.

12. SECTION ECOLOGICAL INFORMATION

12.1. Toxicity:

Toxicity to fish:

LC50 (96 h) > 100 mg/l, *Leuciscus idus*

Aquatic invertebrates:

EC50 (48 h) > 100 mg/l, *Daphnia magna*

Aquatic plants:

EC50 (72 h) > 100 mg/l, algae

Microorganisms/Effect on activated sludge:

Inhibition of degradation activity in activated sludge is not to be anticipated during correct introduction of low concentrations.

12.2. Persistence and degradability:

Elimination information:

> 70 % DOC reduction (28 d) (OECD 301 A (new version)) Readily biodegradable.

12.3. Bioaccumulative potential:

Bioaccumulation potential:

Accumulation in organisms is not to be expected.

12.4. Mobility in soil:

Assessment transport between environmental compartments:

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

12.5. Results of PBT and vPvB assessment:

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

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Authorisation and Restriction of Chemicals (REACH): The product does not contain a substance fulfilling the PBT (persistent/bioaccumulative/toxic) criteria or the vPvB (very persistent/very bioaccumulative) criteria.

12.6. Other adverse effects:

The product does not contain substances that are listed in Annex I of Regulation (EC) 2037/2000 on substances that deplete the ozone layer.

12.7. Additional information:

Other ecotoxicological advice:

The product has not been tested. The statement has been derived from the properties of the individual components.

Do not release untreated into natural waters.

13. SKIRSNIS | DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

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

The waste codes are manufacturer's recommendations based on the designated use of the product. Other use and special waste disposal treatment on customer's location may require different waste-code assignments.

Waste key:

16 01 14[⊕] antifreeze fluids containing dangerous substances

Contaminated packaging:

Uncontaminated packaging can be re-used.

Packs that cannot be cleaned should be disposed of in the same manner as the contents.

14. SECTION | TRANSPORT INFORMATION (RID/ADR)

Land transport

ADR

Not classified as a dangerous good under transport regulations

UN number: Not applicable

UN proper shipping name: Not applicable

Transport hazard class(es): Not applicable

Packing group: Not applicable

Environmental hazards: Not applicable

Special precautions for user: None known

RID

Not classified as a dangerous good under transport regulations

UN number: Not applicable

UN proper shipping name: Not applicable

Transport hazard class(es): Not applicable

Packing group: Not applicable

Environmental hazards: Not applicable

Special precautions for user: None known

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Inland waterway transport

ADN

Not classified as a dangerous good under transport regulations

UN number: Not applicable

UN proper shipping name: Not applicable

Transport hazard class(es): Not applicable

Packing group: Not applicable

Environmental hazards: Not applicable

Special precautions for user: None known

Transport in inland waterway vessel: Not evaluated

Sea transport

IMDG

Not classified as a dangerous good under transport regulations

UN number: Not applicable

UN proper shipping name: Not applicable

Transport hazard class(es): Not applicable

Packing group: Not applicable

Environmental hazards: Not applicable

Special precautions for user: None known

Air transport

IATA/ICAO

Not classified as a dangerous good under transport regulations

UN number: Not applicable

UN proper shipping name: Not applicable

Transport hazard class(es): Not applicable

Packing group: Not applicable

Environmental hazards: Not applicable

Special precautions for user: None known

14.1. UN number

See corresponding entries for “UN number” for the respective regulations in the tables above.

14.2. UN proper shipping name

See corresponding entries for “UN proper shipping name” for the respective regulations in the tables above.

14.3. Transport hazard class(es)

See corresponding entries for “Transport hazard class(es)” for the respective regulations in the tables above.

14.4. Packing group

See corresponding entries for “Packing group” for the respective regulations in the tables above.

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14.5. Environmental hazards

See corresponding entries for “Environmental hazards” for the respective regulations in the tables above.

14.6. Special precautions for user

See corresponding entries for “Special precautions for user” for the respective regulations in the tables above.

14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

Regulation:	Not evaluated
Shipment approved:	Not evaluated
Pollution name:	Not evaluated
Pollution category:	Not evaluated
Ship Type:	Not evaluated

15. SKIRSNIS REGULATORY INFORMATION

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

15.2. Chemical Safety Assessment

Chemical Safety Assessment not yet performed due to registration timelines

16. SECTION OTHER INFORMATION

Assessment of the hazard classes according to UN GHS criteria (most recent version):

Acute Tox. 4 (oral)
STOT RE (Kidney) 2

Full text of the classifications, including the indication of danger, the hazard symbols, the H phrases, and the hazard statements, if mentioned in section 2 or 3:

Acute Tox. 4 (Oral)-Acute toxicity Category 4
Eye Irrit. 2- Serious eye damage/eye irritation Category 2
Repr.2- Reproductive toxicity, hazard Category 2
Skin. Corr.1A-skin corrosion/irritation Category 1A
Skin Irrit.2- skin corrosion/irritation Category 2
STOT RE Specific target organ toxicity — repeated exposure
H302- Harmful if swallowed.
H314-causes severe skin burns and eye damage
H315-causes skin irritation
H319-causes serious eye irritation
H361d-suspected of damaging the unborn child

The data contained in this safety data sheet are based on our current knowledge and experience and describe the product only with regard to safety requirements. The data do not describe the product's

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properties (product specification). Neither should any agreed property nor the suitability of the product for any specific purpose be deduced from the data contained in the safety data sheet. It is the responsibility of the recipient of the product to ensure any proprietary rights and existing laws and legislation are observed.

Any abbreviations and acronyms used in this document:

AC Article Categories

acc., acc. to according, according to

ACGIH American Conference of Governmental Industrial Hygienists

ADR Accord européen relatif au transport international des marchandises Dangereuses par Route (= European Agreement concerning the International Carriage of Dangerous Goods by Road)

AOEL Acceptable Operator Exposure Level AOX Adsorbable organic halogen compounds approx. approximately

Art., Art. no. Article number

ATE Acute Toxicity Estimate according to Regulation (EC) 1272/2008 (CLP)

BAM Bundesanstalt für Materialforschung und -prüfung (Federal Institute for Materials Research and Testing, Germany) BAuA Bundesanstalt für Arbeitsschutz und Arbeitsmedizin (= Federal Institute for Occupational Health and Safety, Germany) BCF Bioconcentration factor

BGV Berufsgenossenschaftliche Vorschrift (= Accident Prevention Regulation) BHT Butylhydroxytoluol (= 2,6-Di-t-butyl-4-methyl-phenol)

BMGV Biological monitoring guidance value (EH40, UK) BOD Biochemical oxygen demand

BSEF Bromine Science and Environmental Forum bw body weight

CAS Chemical Abstracts Service

CEC Coordinating European Council for the Development of Performance Tests for Fuels, Lubricants and Other Fluids CESIO Comité Européen des Agents de Surface et de leurs Intermédiaires Organiques

CIPAC Collaborative International Pesticides Analytical Council

CLP Classification, Labelling and Packaging (REGULATION (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures)

CMR carcinogenic, mutagenic, reproductive toxic COD Chemical oxygen demand

CTFA Cosmetic, Toiletry, and Fragrance Association DMEL Derived Minimum Effect Level

DNEL Derived No Effect Level DOC Dissolved organic carbon

DT50 Dwell Time - 50% reduction of start concentration

DVS Deutscher Verband für Schweißen und verwandte Verfahren e.V. (= German Association for Welding and Allied Processes) dw dry weight

e.g. for example (abbreviation of Latin 'exempli gratia'), for instance

EC European Community

ECHA European Chemicals Agency EEA European Economic Area

EEC European Economic Community

EINECS European Inventory of Existing Commercial Chemical Substances ELINCS European List of Notified Chemical Substances

EN European Norms

EPA United States Environmental Protection Agency (United States of America) ERC Environmental Release Categories

ES Exposure scenario etc. et cetera

EU European Union

EWC European Waste Catalogue Fax. Fax number

gen. general

GHS Globally Harmonized System of Classification and Labelling of Chemicals GWP Global warming potential

HET-CAM Hen's Egg Test - Chorionallantoic Membrane HGWP Halocarbon Global Warming Potential

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IARC International Agency for Research on Cancer IATA International Air Transport Association

IBC Intermediate Bulk Container

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IBC (Code) International Bulk Chemical (Code) IC Inhibitory concentration
IMDG-code International Maritime Code for Dangerous Goods incl. including, inclusive
IUCILID International Uniform Chemical Information Database LC lethal concentration
LC50 lethal concentration 50 percent kill LCLo lowest published lethal concentration LD Lethal Dose of a chemical
LD50 Lethal Dose, 50% kill LDLo Lethal Dose Low
LOAEL Lowest Observed Adverse Effect Level LOEC Lowest Observed Effect Concentration LOEL Lowest Observed Effect Level
LQ Limited Quantities
MARPOL International Convention for the Prevention of Marine Pollution from Ships
n.a. not applicable n.av. not available
n.c. not checked
n.d.a. no data available
NIOSH National Institute of Occupational Safety and Health (United States of America) NOAEC No Observed Adverse Effective Concentration
NOAEL No Observed Adverse Effect Level NOEC No Observed Effect Concentration NOEL No Observed Effect Level
ODP Ozone Depletion Potential
OECD Organisation for Economic Co-operation and Development org. organic
PAH polycyclic aromatic hydrocarbon PBT persistent, bioaccumulative and toxic PC Chemical product category
PE Polyethylene
PNEC Predicted No Effect Concentration POCP Photochemical ozone creation potential ppm parts per million
PROC Process category PTFE Polytetrafluorethylene
REACH Registration, Evaluation, Authorisation and Restriction of Chemicals (REGULATION (EC) No 1907/2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals)
REACH-IT List-No. 9xx-xxx-x No. is automatically assigned, e.g. to pre-registrations without a CAS No. or other numerical identifier. List Numbers do not have any legal significance, rather they are purely technical identifiers for processing a submission via REACH-IT.
RID Règlement concernant le transport International ferroviaire de marchandises Dangereuses (= Regulation concerning the International Carriage of Dangerous Goods by Rail)

SADT Self-Accelerating Decomposition Temperature SAR Structure Activity Relationship
SU Sector of use
SVHC Substances of Very High Concern Tel. Telephone
ThOD Theoretical oxygen demand TOC Total organic carbon
TRGS Technische Regeln für Gefahrstoffe (=Technical Regulations for Hazardous Substances) UN RTDG
United Nations Recommendations on the Transport of Dangerous Goods
VbF Verordnung über brennbare Flüssigkeiten (= Regulation for flammable liquids (Austria))
VOC Volatile organic compounds
vPvB very persistent and very bioaccumulative
WEL-TWA, WEL-STEL WEL-TWA = Workplace Exposure Limit - Long-term exposure limit (8-hour TWA (= time weighted average) reference period), WEL-STEL = Workplace Exposure Limit - Short-term exposure limit (15-minute reference period) (EH40, UK).
WHO World Health Organization wwt wet weight

Information Sources: The Classification and Labeling of Petroleum Substances to the EU Dangerous Substance Directive. Information from raw material suppliers.

Disclaimer: This information is based on our current knowledge and is intended to describe the product for the purpose of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of product. Receiver of our product is responsible for that applicable laws and regulations are being followed.