SAFETY DATA SHEET

Antifreeze Coolant

OP1005

According to EC Directive (EC) No. 1907/2006 (No. 453/2010)

Preparation Date: 03-Jan-2017 **Revision Date:** Not applicable **Revision Number:**

1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. Product Identifier

Product Name Antifreeze Coolant
contains Propylene glycol; (> 99.8%)

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

Recommended use refrigerant
Uses advised against Restricted to professional users.

1.3. Details of the supplier of the safety data sheet

Contact Manufacturer
c/o DeLaval International AB
PO BOX 39
147 21 Tumba
Sweden
Tel + 46 08-530 66 000
Email MSDS.EU@delaval.com

Supplier
DeLaval Limited
Oak House, Pascal Close
St. Mellons
CARDIFF CF3 OLW
UK
Tel (29) 2077 5800

1.4. Emergency Telephone Number

Emergency Telephone Number 01865407333

2. HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

Classification according to REGULATION (EC) No 1272/2008
For the full text of the H phrases mentioned in this Section, see Section 16

Not applicable.

2.2. Label Elements

Labeling according to REGULATION (EC) No 1272/2008

Not applicable

Precautionary statements P102 - Keep out of reach of children

contains
Propylene glycol; (> 99.8%)

2.3. Other hazards

No information available

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Substances

Not applicable

3.2. Mixture

The product contains no substances classified as hazardous to health in concentrations which should be taken into account according to EC directives.

For the full text of the H phrases mentioned in this Section, see Section 16

4. FIRST AID MEASURES

4.1. Description of first-aid measures.

Eye contact	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists, get medical advice/attention.
Skin contact	Wash off immediately with plenty of water.
Ingestion	Never give anything by mouth to an unconscious person. Get medical attention if symptoms occur.
Inhalation	Move to fresh air. If symptoms persist, call a physician.

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

Acute Effects	According to our experience and to the information provided to us, the product does not have any harmful effects if it is used and handled as specified.
Delayed Effects	None known
Effects of overexposure	None known.

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

Notes to Physician	Treat symptomatically.

5. FIRE-FIGHTING MEASURES

5.1. Extinguishing media

Suitable Extinguishing Media	Water fog, Dry chemical, Carbon dioxide (CO2), Foam, alcohol-resistant foam
Extinguishing media which must not be used for safety reasons	Do not use a solid water stream as it may scatter and spread fire.

5.2. Special hazards arising from the substance or mixture

Specific hazards arising from the chemical	Thermal decomposition can lead to release of irritating gases and vapours. Heating or fire can release toxic gas. Carbon dioxide (CO2). Carbon monoxide. Heating of containers may cause pressure rise, with risk of bursting.

5.3. Advice for firefighters

Protective Equipment and Precautions for Firefighters	Evacuate personnel to safe areas. Standard procedure for chemical fires. Use personal protective equipment.
Special protective equipment for fire-fighters	As in any fire, wear self-contained breathing apparatus and full protective gear

6. ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions	Use personal protective equipment. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak. For personal protection see section 8.
Other Information	See Section 12 for more information

6.2. Environmental Precautions

Avoid dispersal of spilt material into waterways, drains, and sewers. Do not dispose used oil into drains, soil or water.

6.3. Methods and materials for containment and cleaning up

Soak up with inert absorbent material. Pick up and transfer to properly labelled containers. After cleaning, flush away traces with water.

6.4. Reference to other sections

See Section 12 for more information
For personal protection see section 8
Section 13. Disposal considerations

7. HANDLING AND STORAGE

7.1. Precautions for Safe Handling

Handling Ensure adequate ventilation.

General Hygiene Considerations Keep away from food, drink and animal feedingstuffs. Do not eat, drink or smoke when using this product. Wash hands before breaks and at the end of workday.

7.2. Conditions for safe storage, including any incompatibilities

Storage Keep away from direct sunlight. Keep tightly closed in a dry and cool place. Protect from moisture. Keep away from metals. Keep at temperatures below 40°C.

7.3. Specific End Use(s)

Exposure Scenario Not applicable

Other Guidelines Not applicable

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

Chemical Name	EU	United Kingdom	France	Spain	Germany
Propylene Glycol 57-55-6		TWA: 10 mg/m³ TWA: 150 ppm TWA: 474 mg/m³			
Chemical Name	**Austria**	**Switzerland**	**Poland**	**Norway**	**Ireland**
Propylene Glycol 57-55-6				TWA: 25 ppm TWA: 79 mg/m³	TWA: 150 ppm TWA: 470 mg/m³ TWA: 10 mg/m³ STEL: 450 ppm STEL: 1410 mg/m³ STEL: 30 mg/m³

Derived No Effect Level (DNEL)

Workers
Potential Health Effects Possible route(s) of exposure:
Acute - systemic effects Skin contact : Not available
Acute - systemic effects Inhalation : Not available
Acute - local effects Skin contact : Not available
Acute - local effects Inhalation : Not available
Long-term - systemic effects Skin Contact : Not available
Long-term - systemic effects Inhalation : 168 mg/m³
Long-term - local effects Skin Contact : Not available
Long-term - local effects Inhalation : 10 mg/m³
Consumers
Potential Health Effects Possible route(s) of exposure:
Acute - systemic effects Skin Contact : Not available
Acute - systemic effects Inhalation : Not available
Acute - local effects Skin contact : Not available
Acute - local effects Inhalation : Not available
Long-term - systemic effects Skin Contact : Not available
Long-term - systemic effects Inhalation : 50 mg/m³
Long-term - local effects Skin contact : Not available
Long-term - local effects Inhalation : 10 mg/m³

Predicted No Effect Concentration (PNEC)	Fresh water 260 mg/l Marine water 26 mg/l Intermittent releases 183 mg/l STP 20000 mg/l Fresh water sediment 572 mg/kg d.w. Marine sediment 57.2 mg/kg d.w. Soil 50 mg/kg d.w.

8.2. Exposure controls

Engineering Controls	Use only with adequate ventilation to keep exposures below recommended exposure limits. Use with ventilation, local exhaust ventilation or breathing protection.
Personal protective equipment	
Eye Protection	Safety glasses with side-shields. EN 166.
Skin Protection	Wear protective gloves/clothing.
Hand Protection	Protective gloves
Respiratory Protection	When workers are facing concentrations above the exposure limit they must use appropriate certified respirators. Breathing apparatus needed only when aerosol or mist is formed. Type AP2 (pre-filter).
Environmental exposure controls	No information available.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Physical state	Liquid
Appearance	Colorless
Odor	Odorless
Odor Threshold	No information available

Property	*Values*
pH	Not applicable
Melting Point/Range	-20 °C EU method A1
Boiling Point/Range	184 °C EU Method A.2 (Boiling temperature - 760 mmHg)
Flash Point	104 °C EC Method A9 (PMCC - closed cup)
Evaporation Rate	0.01 (estimated)
Upper flammability limit	12.5 % (V) Estimated
Lower flammability limit	2.6 % (V) Estimated
Vapor Pressure	20 Pa @ 25°C Method A4
Vapor Density	2.62 (Air = 1 ; Literature)
Relative Density	0,883 (at 15 C)
Specific Gravity	1.03 (H2O = 1; 20°C/20°C; EU Method A.3)
Water Solubility	100% @ 20°C (EU Method A.6)
Solubility in other solvents	No data available
Partition coefficient: n-octanol/water	-1.07 (EU Method A.8)
Autoignition Temperature	100.01 kPa > 400°C (EC Method A15)
Decomposition temperature	No data available
Viscosity	43.4 mPa.s @ 25 °C (Dynamic - Literature)
Pour Point	< -57 °C (Literature)
Explosive Properties	Not an explosive
Oxidizing Properties	No

9.2. Other Information

Density	1.03 g/cm³ @ 20°C (liquid density - Literature)
Further information	Henry's Law Constant (H) : 1.2E-08 atm*m3/mole (Measured)

10. STABILITY AND REACTIVITY

10.1. Reactivity

Stable under normal conditions.

10.2. Chemical Stability

Stability Stable under recommended storage conditions.

10.3. Possibility of hazardous reactions

Possibility of hazardous reactions Hazardous polymerisation does not occur.

10.4. Conditions to Avoid

Excessive heat. High energy sources of ignition. Store in a dry place and protect from moisture. Keep away from direct sunlight. Keep away from children.

10.5. Incompatible Materials

Incompatible Materials strong acids, strong bases, strong oxidizing agents

10.6. Hazardous decomposition products

aldehydes. Alcohols. Ethers, Organic acids.

11. TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

Acute Toxicity

Inhalation	May cause irritation of respiratory tract.
Eye contact	May cause slight irritation.
Skin contact	No information available.
Ingestion	No information available.

LD50 Oral:	> 20000 mg/kg; (rat)
LD50 Dermal:	> 5000 mg/kg; (rabbit)
LC50 Inhalation:	317.042 mg/l Aerosol; (rabbit)

Irritation	No information available.
Corrosivity	No information available.
Sensitization	None known.
Mutagenic effects	Contains no ingredient listed as a mutagen.
carcinogenic effects	None known.
Reproductive Effects	None known
Developmental Effects	None known
STOT - single exposure	No information available
STOT - repeated exposure	No information available
Aspiration Hazard	No information available

12. ECOLOGICAL INFORMATION

12.1. Toxicity

Ecotoxicity effects Not expected to be harmful to aquatic organisms. Fish Acute and Prolonged Toxicity : LC50, Oncorhynchus mykiss (rainbow trout), static test, 96 h: 40,613 mg/l
Aquatic Invertebrate Acute Toxicity : LC50, Ceriodaphnia Dubia (water flea), static test, 48 h: 18,340 mg/l
Aquatic Plant Toxicity : ErC50, Pseudokirchneriella subcapitata (green algae), Growth rate inhibition, 96 h: 19,000 mg/l
Toxicity to Micro-organisms : NOEC, no data available; Pseudomonas putida, 18 h: > 20,000 mg/l
Aquatic Invertebrates Chronic Toxicity Value : Ceriodaphnia Dubia (water flea), semi-static test, 7 d, reproduction, NOEC: 13020 mg/l.

12.2. Persistence and degradability

Readily biodegradable, according to appropriate OECD test
81% Biodegradation 28 d - OECD 301F; 10 Day window: passed

96 % Biodegradation 64 d - OECD 306; 10 Day window: not applicable

12.3. Bioaccumulative potential.
Low
Low: BCF < 100 or Log Pow < 3.
Partition coefficient, n-octanol/water (log Pow): -1.07 EU Method A.8 (Partition Coefficient)
Bioconcentration Factor (BCF): 0.09; Estimated.

12.4. Mobility in soil
Mobility in soil: Given its very low Henry's constant, volatilization from natural bodies of water or moist soil is not expected to be an important fate process., Potential for mobility in soil is very high (Koc between 0 and 50).
Partition coefficient, soil organic carbon/water (Koc): < 1 Estimated.
Henry's Law Constant (H): 1.2E-08 atm*m3/mole Measured

12.5. Results of PBT and vPvB assessment
Not classified

12.6. Other adverse effects
None known.

Endocrine Disruptor Information
Dispose of contents/container to industrial incineration plant

13. DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Waste from Residues / Unused Products	Dispose of in accordance with local regulations
Contaminated Packaging	Dispose of in accordance with local regulations.

14. TRANSPORT INFORMATION

IMDG/IMO

14.1. UN-No	Not regulated
14.2. Proper shipping name	Not regulated
14.3. Hazard Class	Not regulated
14.4. Packing Group	Not regulated
14.5. Environmental hazard	None
14.6. Special Provisions	None
14.7. Transport in bulk according to Annex II of MARPOL and the IBC Code	No information available

ADR/RID

14.1. UN-No	Not regulated
14.2. Proper shipping name	Not regulated
14.3. Hazard Class	Not regulated
14.4. Packing Group	Not regulated
14.5. Environmental hazard	None
14.6. Special Provisions	None
14.7. Transport in bulk according to Annex II of MARPOL and the IBC Code	No information available

IATA/ICAO

14.1. UN-No	Not regulated
14.2. Proper Shipping Name	Not regulated
14.3. Hazard Class	Not regulated
14.4. Packing Group	Not regulated
14.5. Environmental hazard	None
14.6. Special Provisions	None

14.7. Transport in bulk according to Annex II of MARPOL and the IBC Code No information available

15. REGULATORY INFORMATION

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

EU Legislations
Reg.1907/2006-REACH
Reg.453/2010 That modify REACH
Reg.1272/2008 On classification, packaging and labeling of dangerous substances and preparations
Dir. 2000/39/CE

International Inventories

EINECS/ELINCS All components are listed or exempted

Legend
EINECS/ELINCS - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances

15.2. Chemical Safety Assessment
No data available

16. OTHER INFORMATION

Key literature references and sources for data
www.ChemADVISOR.com/

Preparation Date: 03-Jan-2017

Revision Note:

Disclaimer
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End of Safety Data Sheet