



**Safety data sheet
Antifreeze Napgel S2230**

1. Identification of the substance/preparation and the company

Identification of the substance or preparation

Synonyms	Antifreeze Napgel S 2230
CAS no.:	N.A.
EC index no.:	N.A.
EINECS no.:	N.A.
RTECS no.:	N.A.
NFPA code:	N.A.
Molecular weight:	N.A.
Formula:	N.A.

**Company/undertaking
identification:**

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emergency**

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2. Hazards identification

Harmful if swallowed.

3. Composition/information on ingredients

Hazardous ingredients	S2230: ethylene glycol
CAS no.	000107-21-1
ConC in %	95
Hazard class.	Xn
Risks (R-phrases)	22



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4. First aid measures

Eye contact	Rinse immediately with plenty of water for 15 minutes. Do not apply neutralizing agents. Consult a doctor/medical service if irritation persists.
Skin contact	wash immediately with lots of water and soap for 15 minutes. Remove clothing before washing. Consult a doctor/medical service if irritation persists.
After inhalation	Remove the victim into fresh air. Unconscious: maintain adequate airway and respiration. Consult a doctor/medical service if breathing problems develop.
After ingestion	Immediately give lots of water to drink. Never give water to an unconscious person. Victim is fully conscious immediately induce vomiting. Consult a doctor/medical service if you feel unwell.

5. Fire-fighting measures

Suitable extinguishing media	Water spray. Polyvalent foam. Alcohol foam. Polymer foam. BC powder.
Unsuitable extinguishing media	Container may slop over if solid jet is applied.
Special exposure hazards	On burning: release of carbon monoxide – carbon dioxide. Combustible.
Instructions	Cool tanks/drums with water spray/remove them into safety.
Special protective equipment for firefighters	Heat/fire exposure: compressed air/oxygen apparatus. Large spills/in enclosed spaces: compressed air apparatus.

6. Accidental release measures

Environmental precautions	Collect/pump leaking substance into suitable containers. Plug the leak, cut off the supply. Prevent soil and water pollution. Do not discharge into the sewer.
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Clean-up	Take up liquid spill into a noncombustible material e.g.: sand, earth, vermiculite or powdered limestone. Scoop absorbed into closing containers. Clean contaminated surfaces with an excess of water. Wash clothing and equipment after handling.
7. Handling and storage	
Handling	Observe normal hygiene standards. Use earthed equipment. Remove contaminated clothing immediately. Clean contaminated clothing. Comply with the legal requirements.
Storage	Keep container tightly closed. Store in a dry area. Ventilation at floor level. Meet the legal requirements. If water content is critical, store under a nitrogen blanket or fit a desiccant unit in the tank vent line. Keep away from: heat sources, oxidizing agents, acids, bases.
Storage temperature	N.D. °C
Materials for packaging	Suitable: stainless steel, polyethylene, polypropylene, glass To avoid: aluminium, zinc.

8. Exposure controls/Personal protection	
Recommended engineering controls	Measure the concentration in the air regularly. Work under local exhaust/ventilation.
Sampling methods	Ethylene Glycol (NIOSH 5523). Ethylene Glycol (OSHA CSI).
Exposure limits (ACGIH-USA: 1997)	Ethylene Glycol: TLV-ceiling value: 39,4 ppm, 100 mg/m ³ , (mist).
Personal protection	
Eye protection	Safety glasses
Hand protection	Gloves
Skin protection	Protective clothing
Materials for protective clothing	Butyl rubber. Chlorosulfonated polyethylene. Natural rubber.
Respiratory protection	Gas mask with filter type A



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9. Physical and chemical properties

Appearance (at 20 °C)	Liquid
Odour	Almost odourless
Colour	Colourless
pH value (33% in water)	8
Boiling point/boiling range	> 165 °C
Melting point (33% in water)	-17 °C
Flashpoint	125 °C
Auto-ignition point	> 432 °C
Explosion limits	3.2/15.3 vol % (°C)
Vapour pressure (at 20 °C)	0.08 hPa
Relative density (at 20 °C)	1.125
Water solubility	COMPLETELY
Soluble in	Ethanol, acetone, acetic acid, glycerol, pyridine
Relative vapour density	2.1
Saturation concentration	0.31 g/m ³
Viscosity (20 °C)	0.021 Pa.s

10. Stability and reactivity

Stability	Hygroscopic
Reactivity/hazardous decomposition products	-On burning: release of carbon monoxide – carbon dioxide. Reacts violently with (strong) oxidizers: (increased) risk of fire/explosion. Violent to explosive reaction with (some) acids e.g. nitric acid, sulphuric acid, chlorosulphonic acid,... Reacts with (some) metals on exposure to water and heat. Reacts with (some) bases in exposure to temperature rise.
Conditions/materials to avoid	Heat sources, oxidizing agents, acids, bases.

11. Toxicological information

Acute toxicity	Ethylene glycol: LD50 oral rat: >5000 mg/kg. LD50 Dermal rat: N.D. mg/kg. LD50 dermal rabbit: 10483 mg/kg. LC50 inhalation rat: N.D. mg/1/4h.
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Chronic toxicity	EC carc. cat.: not listed. EC muta. cat.: not listed. EC repr. cat.: not listed. Carcinogenicity (TLV): A4. IARC classification: not listed.
Routes of exposure: swallowed, inhalation, eyes and skin	
Acute effects/symptoms	Harmful if swallowed. Substance is absorbed through the skin. Non-toxic in contact with skin. Practically non-toxic by inhalation. Not irritant to skin. Slightly irritant to respiratory organs and eyes. Produces effects on the central nervous system.
EXPOSURE TO HIGH CONCENTRATIONS	Irritation of the respiratory tract, dry/sore throat, irritation of the nasal mucous membranes.
AFTER ABSORPTION OF HIGH QUANTITIES	Feeling of weakness. CNS depression. Nausea vomiting. Gastrointestinal complaints. Difficulty in swallowing. Headache, dizziness, narcosis, drunkenness. Disturbed tactile sensibility. Disturbed motor response. Visual disturbance. Disturbances of consciousness. Brain affection. Accelerated heart action. Low arterial pressure. Change in the haemogramme/blood composition. Rapid respiration. Cramps/uncontrolled muscular contractions.
FOLLOWING SYMPTOMS MAY APPEAR LATER	Blue/grey discolouration of the skin. Decreased renal function, change in urine composition and in urine output.
ON CONTINUOUS EXPOSURE/CONTACT	Irritation of the eye tissue, redness of the eye tissue, lacrimation.
Chronis effects	No data available.

12. Ecological information

Mobility Soluble in water, slightly volatile.

Ecological information for ethylene glycol
Biodegradation



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Soil	T _{1/2} ; 5/14 days. BOD ₅ ; 0.47 g O ₂ /g substance. COD; 1.24 g O ₂ /g substance.
Water	Ground water pollutant. Readily biodegradable in water.
Bioaccumulation	log p _{ow} : -1.34/-1.93. BCF: (chronic) 0.21/0.6 (PROCAMBARUS SP.). Slightly bioaccumulative.
Aquatic toxicity	LC50 (96 h): 40761 mg/l (SALMO GAIARDNERI/ONCORHYNCHUS MYKISS). EC50 (48 h): 41100 mg/l (DAPHNIA MAGNA). EC50 (96 h): 6.5/13g/l (SELNASTRUM CAPRICORNUTUM).
Other informations	WGK: 0. Effect on the ozone layer: N.D. Waste water purifications: Sludge digestion is inhibited at 220g/l, 50%.

13. Waste disposal considerations

Waste disposal considerations for Ethylene Glycol

Provisions relating to waste	Waste code (EC): 07 01 04
Disposal methods	Recycle by distillation. Remove to an authorized incinerator equipped with an afterburner and flue gas scrubber. Obtain the consent of pollution control authorities before discharging to wastewater treatment plants. Do not discharge into surface water.

14. Transport information

Proper shipping name	N.A.
Transport by road/rail (ADR/RID)	N.A.
Danger code	-
Danger labels on tanks	-
Danger labels on packages	-
Substance identification number (UN number):	N.A.
Packing	-



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Maritime transport (IMDG code)	N.A.
EMS	-
MFAG	-
Marine pollutant	-
Inland navigation (ADNR)	N.A.
Air freight (ICAO)	N.A.
Instruction passenger	-
Instruction cargo	-
Other information	Not restricted for any mode of international transport.

15. Regulatory information

Labelling in accordance with EC directives 67/548/EEC and 88/379/EEC



Contains	Ethylene Glycol
R22	Harmful if swallowed
S (02)	Keep out of reach of children
S20	When using do not eat or drink
S46	If swallowed, seek medical advice immediately and show this container or label.

16. Other information

The information provided on this MSDS is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

N.A. = NOT APPLICABLE

N.D. = NOT DETERMINED



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* = INTERNAL CLASSIFICATION

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