



EEC – SAFETY DATA SHEET

Acc. 91/155/EEC

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1. Identification of compound/preparation, and company

Trade name: EcoFROST

Producer: Environmental Process Systems Limited
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2. Composition/Information on ingredients

Chemical characterisation: Inhibited ethylene glycol solution
CAS No: 000107-21-1 EINECS No: 203-473-3

3. Possible dangers

R22 – harmful if swallowed

4. First aid measures

Contact with eyes Rinse thoroughly with plenty of water for at least 10 minutes, keeping eyes open

Contact with skin Wash affected parts thoroughly with soap and water

Inhalation Expose person to fresh air, consult a physician

Swallowing Wash out mouth cavity with water, do not try to induce vomiting. Call a physician

Advice for the physician Early administration of ethanol may prevent the toxic effects of ethylene glycol. Haemodialysis or peritoneal dialysis can be helpful, according to present experiences

5. Measures to be taken in the event of fire

Suitable extinguishing agents Water spray, carbon dioxide, alcohol resistant foam, and dry extinguishers

Dangerous combustion products Not known. In cases of complete water evaporation combustion will result in carbon dioxide and water

Special safety equipment Use respiratory protective device. Wear fire brigade clothing

Special dangers caused by the substance itself or during its production, by its combustion products or gases thus generated Ethylene glycol and its aqueous solutions may form flammable vapour-air mixtures upon heating

6. Accidental release measures

Personal protective measures	Avoid excessive contact with skin and eyes. In case of release of larger amounts remove contaminated clothing and wash body down thoroughly with water
Environmental protection measures	Do not discharge product into natural waters without pretreatment (biological treatment plant). Bind the liquid by using a suitable absorbent material (sawdust, sand, etc.) and dispose of in accordance with local regulations
Process of cleaning/absorption	Wash away spills thoroughly with large quantities of water. In case of release of larger quantities which might flow into the draining system or waters, contact the appropriate authorities.

7. Handling and storage

Handling	Ensure thorough ventilation of stores and work areas. When correctly used, no special measures required. Avoid contact with skin and eyes
Fire and explosion protection	If exposed to fire keep containers cool by spraying with water
Storage	Store in polyethylene or steel containers. Do not expose containers to direct sunlight. Earth all containers and equipment. Storage in galvanised containers is not recommended

8. Measures to restrict exposure and for personnel protection equipment

Additional comments regarding the design of the technical installations	see item 7
Workplace related limits to be controlled	MAK value (D-1993): 10 ppm/ 26 mg/m ³
Personal protection equipment	
Breathing protection	Not required
Eye protection	Not required
Hand protection	Rubber gloves
Body protection	Closed working clothing
General safety and hygiene measures	Handle in accordance with good industrial hygiene and safety practice. Females of childbearing age should not come into contact with the product

Physical and chemical characteristics

Form	Liquid
Colour	Colourless
Odour	Almost odourless
Boiling point	>155 °C
Freezing point	<-18 °C
Density at 20 °C	approx. 1.12 g/cm ³
Vapour pressure at 20 °C	2 mbar
Viscosity at 20 °C	20-30 mm ² /s
Solubility in water	completely soluble
pH value (500 g/l 20 °C)	7-9
Flash point	>100 °C
Ignition temperature	>200 °C
Lower explosion limit	3.0 vol%
Upper explosion limit	15.0 vol%

10. Stability and reactivity

Chemical stability Stable with usual handling and storage

Substances to be avoided Oxidising agents (e.g. reaction with HNO₃ leads to formation of nitric acid esters)

11. Toxicological data

Acute oral toxicity (LD₅₀): >2000 mg/kg (rat)
Primary skin irritation (OECD 404): non-irritant to rabbit
Primary mucosal membrane irritation (OECD 405): non-irritant to rabbit's eyes
Inhalation risk (rat): no diagnosis

Uptake of kidney damaging amounts is possible via absorption through the skin. Oral uptake of higher doses has led to embryotoxic effects in animal tests.

Experience in humans Lethal dose if swallowed is approx. 1.5 g/kg body weight. Lethal dose approx. 90-110 g for adults and correspondingly less for children. Smaller doses can result in kidney damage, damage to central nervous system, and impaired conscious ability

Contact with eyes Temporary burning and redness may occur

Contact with skin Occasional contact produces no or only slight effects. In case of repeated exposure towards larger amounts, the product might be reabsorbed in harmful doses

Inhalation Inhalation of mists or aerosols may lead to irritation of mucosal membranes in the respiratory system

Swallowing Irritation of mucosal membranes and digestive system possible

Mutagenicity No evidence of mutagenic effects

Carcinogenicity Not carcinogenic

Additional information When correctly used as prescribed the product will not, according to best available knowledge and experience, be damaging to health

12. Ecological data

Elimination information Test method: OECD 302 B/ISO 9888/EEC 88/3032 C
>70% (Zahn-Wellens test): easy to eliminate

The product will not affect the activity of activated sludge in a biological effluent clarification plant if introduced correctly according to local regulations

Water danger class (wdc) 0 (self-classification)

Toxicity to fish LC₅₀: >10,000 mg/l (Leuciscus idus, 96h)

13. Information about the disposal of toxic waste

Disposal Dispose of by special means, e.g. suitable incineration, in accordance with local regulations, or by treatment at an authorised waste treatment plant.

Contaminated packaging Contaminated packaging may be used again after cleansing it thoroughly

14. Transportation data

Not subject to the regulations for inflammable liquids. May be sent by post

GGVE/RID: -	GGVS/ADR: -	IMDG-Code: -
UN-No: -	IATA-DGR: -	TA-air: -

The product is not classified according to transport regulations

15. Regulations

The product is not subject to registration according to European regulations and therefore does not have to be marked by law. However, in accordance with the data to hand, we voluntarily mark the product:

Contents	Ethandiol	
Symbol	X _n	Harmful to health
R-phrases	22	Harmful to health if swallowed
S-phrases	2	Keep out of reach of children
	24-25	Avoid contact with skin and eyes
	46	If swallowed seek medical advice immediately and show the container label

Water danger class (wdc) 0 (self classification)

In dealing with chemicals observe the usual protection measures

16. Further information

This safety data sheet is intended to provide information and recommendations as to how to handle chemical substances and preparations in accordance with the essential requirements of safety precautions and physical, toxicological, and ecological data, and how to handle, store, transport, and use them safely.

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