

Material Safety Data Sheet.

EN-COOL EC 30

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Product code: 223020

Issue : 1

Date: 28/09/1999

1. Identification of the substance/preparation and of the company/undertaking.

Trade name:	EN-COOL EC 30
Product code :	223020
CAS number:	Mixture
Type of product and use:	Antifreeze / Cooling liquid.
Company identification:	ENOC International Sales LLC
Address and telephone Nr.:	Sheikh Rashid Road P.O. Box 6442 DUBAI, UAE Tel. : +971 4 3374400 Fax. : +971 4 3134602
Emergency phone Nr. of the company during working hours :	+971 4 3374400

2. Composition/information on ingredients.

Substance or preparation:	Preparation
Hazardous component(s):	Max. 33 % Monoethylene glycol (N° CAS 107-21-1 / Xn - R22)

3. Hazards identification.

Important health hazards:	The product contains a bittering repellent agent. Harmful if swallowed.
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4. First-aid measures.

- | | |
|-------------------|---|
| 4.1 Inhalation: | If aspiration is suspected (during vomiting,for instance),seek medical advice urgently.
Remove the patient to fresh air, allow to rest and keep him/her warm and at rest in a safety position. |
| 4.2 Skin contact: | Wash immediately with plenty of water.
In case of serious contamination, seek immediate hospital treatment.
Remove contaminated clothing. |
| 4.3 Eye contact: | Flush immediately with plenty of running water.
If inflammation or irritation persists, seek medical advice.
Continue rinsing for at least 10 minutes. |
| 4.4 Ingestion: | Immediately transport to hospital.
Do not induce vomiting to avoid the risk of aspiration in the respiratory tract. |

5. Fire - fighting measures.

Extinguishing media:	
- Suitable:	Carbon dioxide, dry chemicals, foam, water spray (fog).
- Not to be used:	Water jet.

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Special exposure hazards:	Take precautions against the risk of decomposition of ethyleneglycol in acetaldehyde at temperatures around 500 - 600 °C.
Special protective equipment for fire fighters:	Breathing apparatus.
Special intervention method(s) :	Use water spray to cool fire exposed containers.

6. Accidental release measures.

Personal precautions:	Goggles or face shield with safety glasses. Appropriate protective clothing. Protective gloves (Plastic, impervious).
Environmental precautions:	Prevent from entering sewers or the immediate environment. Handle in accordance with good industrial hygiene and safety procedures.
Methods for cleaning up:	
- On soil:	Absorb product with an adequate material such as paper,rags,sawdust,...
- On water:	Inform local police and/or fire brigade.

7. Handling and storage.

7.1 Handling:	Do not smoke. Avoid proximity or contact with hot surfaces, flames or sparks. Ensure good ventilation.
7.2 Storage:	Keep out of reach of children. Store in original package. Store in dry, cool, well ventilated area.

8. Exposure controls/personal protection.

Recommended engineering controls:	Ensure good ventilation.
Occupational Threshold limit values (TLV):	125 mg/m ³ 50 ppm
MAK:	Not established.
Personal protection:	
- Respiratory protection:	In case of insufficient ventilation, use face mask with breathing filter.
- Skin protection:	Protective gloves (Plastic, impervious). Remove contaminated clothing.
- Eye protection:	Safety goggles.
Monitoring procedures:	Measure of the concentration of ethylene glycol in the blood and of oxalic acid in the urine.

9. Physical and chemical properties (typical values).

Physical state, appearance and colour :	Liquid. Blue. Clear.
Odour:	Mild.

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pH (concentrated product):	Not determined.
pH in aqueous solution (33% - 20°C) :	8.3
Boiling point/range:	175 °C.
Freezing point:	-13 °C.
Flash point (Pensky/Martens):	115 °C.
Decomposition temperature:	between 500 and 600 °C.
Auto-ignition temperature:	>410 °C (ASTM E659).
Explosion limits:	
- Lower:	+/- 3.2 %.
- Upper:	+/- 15.3 %.
Vapour pressure:	+/- 0.2 kPa.
Relative vapour density:	> 2 (Air = 1)
Density at 20°C:	1,125 (Kg/dm³).
Solubility in water:	Completely soluble
Partition coefficient (P o/w):	Not determined.
Viscosity at 20°C:	21 (mPas).

10. Stability and reactivity.

Stability :	Stable.
Conditions to avoid:	Avoid proximity or contact with flames or sparks. Keep away from heat.
Materials to avoid:	Avoid contact with strong oxidizers.
Hazardous decomposition products:	Acetaldehyde at temperatures around 500 - 600 °C.

11. Toxicological information.

Oral LD50 (rat):	>2000 mg/Kg
Dermal LD50 (Rabbit):	19530 mg/Kg
Ingestion :	Swallowing is the main risk due to the toxicity of ethylene glycol. The acute intoxication is particularly severe in children. Swallowing is followed by digestive troubles (nausea, vomiting, abdominal pain), then by ataxia, convulsions, headache, dizziness, premonitory of severe nervous disturbances. It evolves in a torpor, then in a (sometimes) convulsive coma. The severe metabolic acidosis (oxalic acid) results in a tubular nephropathy with anuria. The intoxication may result in a coma with metabolic acidosis which could be lethal. The lowest known oral lethal dosis for humans is 1500 mg/kg.
Skin contact :	Not irritating. Probably skin absorption won't be sufficient to produce damage, nevertheless avoid prolonged and widespread contacts, particularly for people suffering of an extended dermatitis.
Eye contact :	Not irritating.

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Inhalation :

An unlikely risk in normal handling conditions.

Mist and vapours from ethylene glycol and its solutions may affect the nervous system : drowsiness, temporary loss of consciousness, lack of appetite.

There is a risk of long term intoxication which could become chronic : pathological anomalies as well as rhinitis and conjunctivitis have been observed.

12. Ecological information.

Effects on the environment :

LC50 (Rainbow Trout/96h): >1000 mg/Kg

EC50 (Daphnia Magna/24 h): +/- 48 g/l

EC50 Algae (Selenastrum capricornutum) : >1000 mg/Kg

EC50 Lemna: >1000 mg/Kg

Aquatic Toxicity:

- Biodegradation: The product is readily biodegradable.

- WGK class (Germany): 1

Other data: Under normal handling conditions the product doesn't produce any perturbation in a biological wastewater treatment plant.

13. Disposal considerations..

13.1 Disposal of product:

Dispose of in a safe manner, in accordance with local regulations.

Prevent from entering sewers or the immediate environment.

Incineration is possible.

13.2 Disposal of packaging:

Authorized disposal.

14. Transport information.

RID/ADR: Not applicable.

Substance identification number. (UN Nr.): Not applicable.

IMO-IMDG code: Not applicable.

Packaging group: Not applicable.

ICAO/IATA: Not classified under this legislation.

15. Regulatory information.

- Symbol(s): Not applicable.

- Contains: Monoethyleneglycol

- R Phrase(s): R 22: Harmful if swallowed.

- S Phrase(s): S 2: Keep out of reach of children.

S 46: If swallowed seek medical advice immediately and show this container or label.

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16. Other information.

Nature of revision:

Not applicable.

Based on the EC Directive 91/155/EEC.

Notes to the reader :

This sheet completes the technical datasheet, but it doesn't replace it. The information contained herein is based on our knowledge on the product in question, at the date indicated. It is given in good faith.

The attention of the users is drawn to the risks into which they can incur by using the product for applications other than the ones for which it has been conceived.

It does not exempt in any case the user from knowing and observing all texts which regulate his activity. He will be the only responsible for taking precautionary measures, according to the applications for which he uses the product.

All mentioned regulatory prescriptions have been indicated just to help the user to be able to meet all incumbent obligations. This listing cannot be considered exhaustive.

The user must ensure that there aren't any other prescriptions in addition to those indicated.

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