

MATERIAL SAFETY DATA SHEET

FIREFIGHTER GL FREEZE PROTECTION FLUID™ CONCENTRATE

1. General

Trade Name	FIREFIGHTER GL CONCENTRATE	Date Prepared: 5/01/07
Manufacturer's Name	THE NOBLE COMPANY	
Address	7300 Enterprise Drive Spring Lake, MI 49456	
Emergency Telephone Number	(231) 799-8000	
Telephone Number for Information	(231) 799-8000	

2. Composition/Information on Ingredients

Substance/Preparation	: Substance
Chemical Description	: 1,2,3-Propanetriol
CAS Number	: 56-81-5
EC Number	: 2002895
Hazards Identification	: Not considered as hazardous

NFPA (National Fire Protection Association)

Health	: 1 – Slight
Flammability	: 1 – Slight
Reactivity	: 0 – Insignificant
Special Hazards	: None

3. Hazards Identification

Human Health Hazards

Inhalation	: Not applicable at ambient temperature. Mist can cause Irritation.
Skin Contact	: Unlikely to be irritant.
Eye Contact	: Can cause irritation.
Ingestion	: Unlikely to be harmful unless excessive amount swallowed.

Physical/Chemical Hazards : None identified

Environmental Hazards : None Identified

FIREFIGHTER GL CONCENTRATE (CON'T.)

4. First Aid Measures

Inhalation	Remove to fresh air.
Skin Contact	Wash off with plenty of water and soap.
Eye Contact	Wash out with water. Get medical attention if any sensations persist.
Ingestion	Remove material from mouth. Drink plenty of water. If large amount swallowed or symptoms develop get medical attention.

5. Fire Fighting Measures

Extinguishing Media	: Dry chemical, alcohol-resistant foam, water spray, carbon dioxide.
Unsuitable Extinguishing Media	: None
Specific Hazards	: During burning poisonous acrolein may be formed.
Protection of Fire-Fighters	: Self-contained breathing apparatus, full protective clothing.

6. Accidental Release Measure

Personal Precautions	: No specific protective measures are required.
Environmental Precautions	: No specific protective measures are required.
Methods for cleaning up	: Transfer product to suitably labelled containers for disposal at an approved site. Absorb liquid spillage onto inert material (e.g. sand). Residues and small spillages may be washed away with water and detergent.

7. Handling and Storage

Handling	: No specific protective measures are required. Avoid generation of mist.
Storage	: Store in the original closed containers under dry conditions. (Product is hygroscopic).
Other Information	: For quality reasons: Avoid elevated temperatures.

8. Exposure Controls/Personal Protection

Engineering Measures	: Provide ventilation to meet exposure limits.
Hygiene Measures	: Good industrial hygiene should be followed.
Occupational Exposure Limits	: TLV-TWA : 10 mg/m ³ (mist).
Personal Protective Equipment	: Normal precautions should be observed as for handling all chemicals.

9. Physical and Chemical Properties

Physical State Liquid (20 °C)	Color Colorless	Odor Characteristic	pH Neutral	Boiling Point/Boiling Range 290 °C (1013 hPa)
Melting Point/Melting Range 18 °C (Solidifies at a much lower temperature).		Flash Point 177 °C (COC)		Autoignition Temperature 400 °C
Explosion Properties Not to be expected	Oxidation Properties Not to be expected		Vapor Pressure < 0.01 hPa (20 °C) < 1 hPa (100 °C)	Density 1210 kg/m ³ (25 °C)
Solubility in Water Miscible	Solubility in Other Miscible with ethanol.		Ingredients Slightly soluble in acetone. Insoluble in ether and in chloroform.	Partition Coefficient (log Pow) -2.6 (calculated)
	Viscosity 1300 mPa.s (20 °C)		Volatile Organic Compound (VOC) Content Not volatile ambient	

10. Stability and Reactivity

Stability	: Stable under normal conditions.
Conditions to Avoid	: -
Materials to Avoid	: Oxidizing agents
Hazardous Reactions	: None
Hazardous Decomposition	: Thermal decomposition may release acrolein.
Products	
Hazardous Polymerization	: Will not occur.

11. Toxicological Information

Acute Toxicity	
Oral – LD₅₀	: >2 g/kg (rat)
Skin Irritation	: Not irritating (rabbit)
Eye Irritation	: Not irritating (rabbit)

12. Ecological Information

Degradability	: Completely biodegradable BOD5/COD : 0.87/1.16 (gO ₂ /g)
Ecotoxicity	
LC₅₀	: >5000 mg/l (fish – 96 hours)
EC₅₀	: >10000 mg/l (Daphnia magna – 24 hours) >10000 mg/l (Pseudomonas putida – 16 hours)

13. Disposal Considerations

Methods of Disposal : Re-use/recycling of waste highly recommended. Disposal according to the local legislation.
Contaminated Packaging : Observe local regulations.

14. Transport Information

D.O.T. Classification : Not restricted

15. Regulatory Information

OSHA HCS (29 CFR 1910.1200) : Not hazardous
SARA Title III section 313 : Not listed

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