



FlowCool

INDUSTRIAL GRADE GLYCOL

SAFETY DATA SHEET

PRODUCT AND COMPANY IDENTIFICATION

Product Name FlowCool IG (aka IG Antifreeze)
Manufacturer / Supplier ICS Temperature Control
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2. COMPOSITION / INFORMATION ON PRODUCT COMPONENTS

Hazardous Components for EC

COMPONENT NAME	CAS no	CONCENTRATION	R PHASES	CLASSIFICATION
Mono Ethylene Glycol with corrosion, scale and biological inhibitors.	107-21-1	90 -100%	R22	Xn -Harmful if swallowed

3. HAZARD IDENTIFICATION

Main Hazards: Harmful if swallowed.

4. FIRST AID MEASURES

Health effects -Eyes Wash eyes promptly and rinse for 15 minutes. Seek medical attention.
Health effects - Skin Remove affected person from source of contamination. Wash skin with soap or mild detergent.
Health effects - Ingestion Following over exposure by ingestion, treatment may be needed for CNS depression and severe acidosis. Early administration of ethanol may counter the effects of monoethylene glycol. Haemodialysis or peritoneal dialysis may be effective.
First Aid - Inhalation Remove person to fresh air at once. Perform artificial respiration if breathing has stopped. Keep the affected person warm and at rest. Seek medical attention.

5. FIRE FIGHTING MEASURES

Extinguishing Media Water, foam. Carbon Dioxide (CO2). Dry chemicals, sand and dolomite etc
Protective equipment for fire fighting. Wear self contained breathing apparatus.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions Wear rubber or PVC gloves and goggles.
Environmental Precautions Inform local authorities. Protect drains by covering
Spill clean up Stop leak if possible without risk. Inform authorities if large volumes involved. Absorb with inert, damp, non-combustible materials then flush with water. Disposal should be carried out in accordance with any Special Waste Regs.

7. HANDLING AND STORAGE

Handling & Storage Avoid inhalation of any vapours.
Keep away from heat or naked flame.
Avoid static build up.
Containers should be: kept tightly sealed and dry.

8. EXPOSURE CONTROL/PERSONAL PROTECTION

See section 7 LT Exp (8 hrs) : 60mg/m3. ST Exp (15 mins) 125mg/m3
Engineering Control Measures Engineering methods to prevent or control exposure are preferred. Methods include process or personnel enclosure, mechanical ventilation (dilution and local exhaust), and control of process conditions.
Respiratory Protection Respiratory protection if there is a risk of exposure to high vapour concentrations.
Hand Protection PVC gloves
Eye Protection Chemical goggles or face shield must be worn.
Body protection Wear overall or apron.



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9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State	Liquid. Hygroscopic. Viscous.
Colour	According to specification. Eg. may be dyed one of several colours.
Odour	Almost odourless (slightly sweet)
pH at 500g/l, 20°C	Range between 7.5 - 9.5pH depending on inhibitors and additives
Density (g/cm ³)	1.04 - 1.20 depending on inhibitors and dilution.

10. STABILITY AND REACTIVITY

Stability	No particular stability concerns.
Conditions to Avoid	Heat, flames sparks.
Materials to Avoid	Strong oxidising agents

11. TOXICOLOGICAL INFORMATION

Acute Toxicity	LD 50/oral/rat:4700.00 mg/kg. Human poison by ingestion. Lethal dose to humans 100 ml. Gas or vapour is harmful on prolonged exposure or high concentration. Narcotic effect. Nephrotoxin. chronic respiratory failure. Swallowing may cause severe internal injury. Liver and/or kidney damage.
Route of entry	Ingestion. Skin and or eye contact.
Target organs	Central nervous system. Heart or cardiovascular system. Kidneys, liver respiratory system, lungs, brain.
Medical symptoms	Nausea, vomiting. Central nervous system depression. Drowsiness dizziness, disorientation, vertigo.

12. ECOLOGICAL INFORMATION

Mobility	The product will dissolve rapidly in water.
Ecotoxicity	The product is rated as : goldfish 24 hr LD50 >500mg/l. Guppy 7d LC50 : 49, 300ppm.

13. DISPOSAL

Product Disposal	Incinerate in suitable combustion chamber. Dilute with organic solvent and incinerate using gas effluent cleaner. Collect on absorbent material place in cardboard kegs and incinerate. Confirm disposal methods with environmental engineer and local regulations. Wash to drain with lots of water.
Container Disposal	Containers should be cleaned by appropriate methods and then re-used or disposed in same manner as contents.

14. TRANSPORT INFORMATION Not classified as hazardous under transport regulations

UN Number	n/a
UN Class	n/a
UN Packaging Group	n/a
ADR/RID Substance ID No.	n/a
ADR/RID - Class	n/a

15. REGULATORY INFORMATION

General	Low hazard material, not considered dangerous for carriage.
Labeling Information	Harmful
EEC (EINECS) No	203-473-3
R Phases	R-22
S Phrases	S-2 - keep out of reach of children, S24/25 - avoid contact with skin/eyes S36/37 - Wear suitable protective clothing and gloves. S43,16 - In case of fire use sand, earth, alcohol resistant foam or water fog. S46 - If swallowed seek medical advice immediately and show container label.
UK regulatory references	Classification, packaging and label regs' 1984. COSHH 1988.
EC Annex 1 Classification	n/a

16. OTHER INFORMATION

MSDS first issued	28-May-99
MSDS data revised	30-Apr-04