



ics service

NATIONWIDE SUPPORT

HEALTH and SAFETY DATA

1. PRODUCT NAME

FlowCool
INDUSTRIAL GRADE REFRIGERANT

DESCRIPTION

Heat Transfer Fluid

SUPPLIED BY

ICS Cool Energy Ltd.
ICS House
Stephenson Road
Calmore Industrial Estate, Totton
SO30 3RY

EMERGENCY NUMBERS

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2. COMPOSITION

- 2.1 Aqueous mono ethylene glycol solution.
- 2.2 Contains 90% mono ethylene glycol (Harmful; R22; S2,24/25).

3. HAZARD IDENTIFICATION

- 3.1 Inhalation
Not normally a hazard due to relatively low vapour pressure.
- 3.2 Skin
May be slightly irritant. Small amounts may be absorbed through skin.
- 3.3 Eyes
May be slightly irritant.
- 3.4 Ingestion
Swallowing may lead to kidney damage. Symptoms similar to alcoholic intoxication may occur.
- 3.5 Workplace Exposure Limits
Exposure limit has been set for Mono Ethylene Glycol. (Synonyms Ethane-1, 2-diol)

UK (EH 40) WEL
Particulate - ppm (10 mg/m³ (8 hr TWA)
Vapour - ppm (52 mg/m³ (8hr TWA); - ppm (104 mg/m³) STEL
ACGIH TLV 50 ppm (125 mg/m³) (Ceiling)
GERMANY MAK - ppm (26 mg/m³)

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4. FIRST AID MEASURES

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| 4.1 | Ingestion | DO NOT INDUCE VOMITING. Give large quantities of water to drink. Obtain medical attention. |
| 4.2 | Skin contact | Wash off with soap and water or shower. Launder contaminated clothing before re-use. |
| 4.3 | Eye contact | Irrigate with water for 15 minutes. Obtain medical assistance if irritation persists. |
| 4.4 | Inhalation | Remove to fresh air if irritation occurs. Consult medical personnel if symptoms of distress persist. |
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5. FIRE FIGHTING MEASURES

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|-----|-----------------------------------|--|
| 5.1 | Flash point (closed cup) | No flash below boiling point of approx. 123°C. |
| 5.2 | Auto ignition temperature | 410°C. |
| 5.3 | Explosion limits | No data. |
| 5.4 | Specific fire-fighting procedures | None. |
| 5.5 | Unusual fire hazards | May become combustible after prolonged heating at boiling point. |
| 5.6 | Extinguishing media | Water fog, alcohol resistant foam, dry chemical, CO ₂ . |
| 5.7 | Hazardous decomposition products | Incomplete combustion may produce Carbon Monoxide. |
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6. ACCIDENTAL RELEASE MEASURES

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| 6.1 | Prevent entry into drains and watercourses. Inform authorities if any does enter. |
| 6.2 | Contain spillage & absorb on suitable material e.g. sawdust, sand or earth. Transfer to a container for disposal. See section 13. |
| 6.3 | Wash the spillage area with water. |
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7. HANDLING AND STORAGE

- 7.1 Avoid contact with skin & eyes. Do not breathe mists/vapours.
 - 7.2 Store in tightly sealed original containers away from heat & oxidising agents.
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8. EXPOSURE CONTROLS/PERSONAL PROTECTION

- 8.1 Maintain sufficient ventilation to comply with 'Workplace Exposure Limits'.
 - 8.2 Avoid the formation of mists and aerosols.
 - 8.3 When handling for any length of time wear goggles & chemical resistant gloves. If there is a possibility of body contact, a rubber or PVC apron should be worn.
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9. PHYSICAL AND CHEMICAL PROPERTIES Typical Values

9.1	Appearance	Red
9.2	Odour	Slight.
9.3	pH (20°C)	6.0 – 7.0
9.4	Boiling range(760 mmHg)	123°C
9.5	Flammability data	See 5.1 – 5.3
9.6	Vapour pressure (20°C)	7 mmHg
9.7	Specific gravity (20°C)	1.101
9.8	Freezing point	-48°C (approx)
9.9	Pour point (100%)	approx. -70°C
9.10	Viscosity (20°C)	9 mm ² /s
9.11	Solubility in water	Completely miscible.

10. STABILITY AND REACTIVITY

- 10.1 Stable under normal storage conditions.
 - 10.2 Incompatible materials – strong oxidising agents.
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11. TOXICOLOGICAL INFORMATION

- 11.1 Not a hazard in normal use but swallowing may lead to kidney damage. See also section 3.
- 11.2 Estimated human lethal dose is 1.75/ml/Kg body weight.
- 11.3 Oral intake of Mono Ethylene Glycol has caused teratogenic effects in laboratory animals. The relevance of this to humans has not been established.
- 11.4 LD₅₀ (rat – oral) 7g/Kg (calculated).
- 11.5 LC₅₀ (fish, fathead minnow) 64,000 mg/L (calculated).
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12. ECOLOGICAL INFORMATION

- 12.1 Readily biodegradable by naturally occurring micro organisms.
- 12.2 Biological Oxygen Demand (BOD₂₀) is 89% of the Theoretical Oxygen Demand (Th.O.D).
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13. DISPOSAL CONSIDERATION

- 13.1 Controlled incineration or landfill in accordance with local, state or national regulations.
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14. TRANSPORT INFORMATION

- 14.1 Not restricted under any transport regulations.
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15. REGULATORY INFORMATION

- 15.1 EEC classification for supply Harmful.
- 15.2 Hazard symbol St Andrew's Cross.
- 15.3 Risk phrase R22: Harmful if swallowed.
- 15.4 Safety phrases S2: Keep out of reach of children.
S24/25: Avoid contact with skin & eyes.*
**Additional recommended safety advice.*
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16. OTHER INFORMATION

- 16.1 All components are registered in accordance with EINECS AND TSCA.
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The information contained herein is based on the present state of our knowledge. No responsibility is accepted that the information is sufficient or correct in all cases.

Date: 18 April 2011