



HEALTH and SAFETY DATA

1. PRODUCT NAME	DESCRIPTION
Kilfrost DF Plus (80)	Aircraft de-icing fluid, Type I. Complies with specifications ISO 11075 and AMS 1424.
SUPPLIED BY	EMERGENCY NUMBERS
Kilfrost Limited Albion Works HALTWHISTLE Northumberland NE49 0HJ ENGLAND	Telephone: Working Hours: (01434) 320332 Other Times: (01228) 573614 FAX: (01434) 321463 e-mail: info@kilfrost.co.uk

2. COMPOSITION
2.1 Aqueous monopropylene glycol mixture.
2.2 Contains a minimum of 80% monopropylene glycol.

3. HAZARD IDENTIFICATION	
3.1 Inhalation	Considered to be non-hazardous.
3.2 Skin	Unlikely to cause irritation.
3.3 Eyes	May cause temporary irritation.
3.4 Ingestion	Considered to be non-hazardous.
3.5 Occupational Exposure Limits	An exposure limit has been set for Monopropylene Glycol (synonym Propane-1,2-diol). This applies in the UK only.
UK (EH 40) WEL	
Total (vapour & particulates)	150 ppm (470 mg/m ³) (8hr TWA)
Particulates	- ppm (10 mg/m ³) (8hr TWA)
ACGIH TLV – TWA	No limit assigned.
FRANCE VME	No limit assigned.
GERMANY MAK	No limit assigned.

HEALTH and SAFETY DATA

4. FIRST AID MEASURES

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| 4.1 | Ingestion | Give large quantities of water to drink. Consult medical personnel. |
| 4.2 | Skin contact | Wash off in flowing water. Launder contaminated clothing before re-use. |
| 4.3 | Eye contact | Irrigate with water for 5 minutes. Obtain medical assistance if irritation persists. |
| 4.4 | Inhalation | Remove to fresh air if feeling unwell. Consult medical personnel if symptoms persist. |
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5. FIRE FIGHTING MEASURES

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| 5.1 | Flash point (closed cup) | None below boiling point. |
| 5.2 | Auto ignition temperature | 446°C |
| 5.3 | Explosion limits | No data |
| 5.4 | Specific fire-fighting procedures | None |
| 5.5 | Unusual fire hazards | The product may become combustible after prolonged heating at the boiling point. |
| 5.6 | Extinguishing media | Water, foam, Carbon Dioxide, dry powder. |
| 5.7 | Hazardous decomposition products | Incomplete combustion may produce Carbon Monoxide and other harmful gases/vapours. |
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6. ACCIDENTAL RELEASE MEASURES

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| 6.1 | Contain spillage and absorb on suitable material e.g. sawdust, sand or earth. Transfer to a container for disposal. See section 13. |
| 6.2 | Wash the spillage area with plenty of water. |
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7. HANDLING AND STORAGE

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| 7.1 | Avoid contact with skin and eyes. |
| 7.2 | Avoid breathing mists/vapours when spraying. |
| 7.3 | Store in tightly sealed original containers, away from direct heat and strong oxidising agents. |
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HEALTH and SAFETY DATA

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

- 8.1 Maintain sufficient ventilation to comply with 'Workplace Exposure Limit'.
 - 8.2 Wear eye protection if splashing is possible. An eye wash bottle should be available.
 - 8.3 Gloves and protective overalls recommended if prolonged contact is likely.
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9. PHYSICAL AND CHEMICAL PROPERTIES Typical Values

9.1	Appearance	Clear, orange fluid.
9.2	Odour	None.
9.3	pH (20°C)	8.0 – 9.0
9.4	Boiling point	117°C
9.5	Flammability data	See 5.1 – 5.3
9.6	Vapour pressure (20°C)	10 mm Hg
9.7	Specific gravity (20°C)	1.045
9.8	Vapour density (air = 1)	1.6 (estimated)
9.9	Freezing point	
	100%	below -70°C
	75% v/v	-58°C
	50% v/v	-21.5°C
9.10	Viscosity	
	20°C	25 mPas
	0°C	60 mPas
	-25°C	650 mPas
9.11	Specific heat	
	20°C	2.9 J/g°C
	70°C	3.2 J/g°C
9.12	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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HEALTH and SAFETY DATA

11. TOXICOLOGICAL INFORMATION

- 11.1 Considered to have low oral toxicity. See also section 3.
- 11.2 LD₅₀ (rat – oral) > 10g/Kg (estimated)
- 11.3 LC₅₀ (Pimephales Promelas) 12,500 mg/L (96h)
- 11.4 LC₅₀ (Daphnia Magnia) 10,500 mg/L (48h)
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12. ECOLOGICAL INFORMATION

- 12.1 COD 1.34 Kg O₂/Kg fluid
- 12.2 BOD₅ 0.31 Kg O₂/Kg fluid
- 12.3 Water Danger Class (WGK) 1
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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 Not classified as hazardous under any regulations.
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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: 20 September 2004
(revalidated 1 August 2006)**