

## SAFETY DATA SHEET

In Accordance with the Legislation of Great Britain

### 1. Identification of the Substance/Preparation and the Company/Undertaking

Product Name: FE-36 Fire Extinguishing Agent

Supplier Number: Du Pont de Nemours (Nederland) B.V.  
Dordrecht Works  
Baanhoekweg 22  
NL-3313 LA Doredrecht  
+ 31 (78) 630. 1567/630.1011

Emergency Number: (02871) 861. 313

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### 2. Composition/Information on Ingredients

Chemical name of the substance	Weight %	CAS-No	EC-No.
1, 1, 1, 3, 3, 3-Hexafluoropropane	100	690-39-1	425-320-1

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### 3. Hazards Identification

Most important hazards: Vapours are heavier than air and can cause suffocation by reducing oxygen available for breathing.

Specific hazards: Rapid evaporation of the liquid may cause frostbite.  
May cause cardiac arrhythmia.

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### 4. First Aid Measures:

General advice	Never give anything by mouth to an unconscious person.
Inhalation:	Move to fresh air. Oxygen or artificial respiration if needed. Do not give adrenaline or similar drugs.
Eye Contact:	Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.
Skin Contact:	Wash off immediately with plenty of water. Take off all contaminated clothing immediately.

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### 5. Fire-Fighting Measures:

Suitable extinguishing media:	Any; The product itself does not burn
Specific hazards:	Pressure build-up
Specific methods:	Cool containers/tanks with spray water

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### 6. Accidental Release Measures:

Personal precautions:	Evacuate personnel to safe areas. Ensure adequate ventilation. Use personal protective equipment.
Environmental Precautions:	Evaporates.
Methods for Cleaning up:	Evaporates.

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### 7. Handling and Storage:

Handling:	Technical measures/precautions:	Provide sufficient air exchange and/or exhaust in work rooms.
	Safe handling advice:	Use only in well-ventilated areas. Do not breathe vapours or spray mist.
Storage:	Technical measures/Storage Conditions:	Keep tightly closed in a dry, cool and well-ventilated place.

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Incompatible Products:	Explosive, flammable materials, organic peroxide
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Packaging Material:	Store in original container.
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### 8. Exposure Controls/Personal Protection

Engineering measures:	Ensure adequate ventilation, especially in confined areas.
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Control Parameters:	DuPont's acceptable exposure limit, AEL = 1000 ml/m <sup>3</sup> . (8h + 12h TWA)
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Personal Protective Equipment:

Respiratory Protection:	For rescue and maintenance work in storage tanks use self-contained breathing apparatus. Vapours and heavier than air and can cause suffocation by reducing oxygen available for breathing.
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Eye Protection:	Safety glasses
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Hand Protection:	Rubber Gloves
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Hygiene Measures:	Do not smoke
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### 9. Physical and Chemical Properties

Tested according to:		
Form:		Liquefied gas
Colour:		Colourless
Odour:		Ether-like
pH: (°C)	(at g/l H <sub>2</sub> O)	Neutral
Boiling Point/Range:	(1 bar)	-2,0 °C
Melting Point/Range:	(1 bar)	-103,0 °C
Flash Point:		Does not flash
Explosive Properties:		Not applicable
Vapour Pressure:	(25°C)	249,0 kPa
	(50°C)	350,0 kPa
Relative Density:	(22°C)	1,370 kg/l (liquid)
Solubility:		
Water solubility	(25°C)	724 mg/l
Partition coefficient (n-octanol/water)		1.12

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### 10. Stability and Reactivity:

Stability:	No decomposition if used as directed.
Materials to avoid:	Alkali metals, alkaline earth metals, powdered metal salts, powdered Al, Zn, Be, etc
Hazardous decomposition products:	Hydrogen halides, traces of carbonyl halides
Conditions to avoid:	The product is not flammable in air under ambient conditions of temperature and pressure. When pressurised with air or oxygen the mixture may become flammable. Certain mixtures of HCFC's HFCs with chlorine may become flammable or reactive under certain conditions.

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### 11. Toxicological Information

Acute toxicity:	LC50/inhalation/4h/rat = 2841 mg/l (Dupont 1996)
Local effects:	Concentrations substantially above the OEL value may cause narcotic effects. Inhalation of decomposition products in high concentration may cause shortness of breath (lung oedema).
Long term toxicity:	Did not show mutagenic or teratogenic effects in animal experiments
Specific effects:	Rapid evaporation of the liquid may cause frostbite. May cause cardiac arrhythmia.

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### 12. Ecological Information

Ecotoxicity effects:	LC50/96h/Brachydanio rerio = 292 mg/l EC50/48h/daphnia = > 186 mg/l EC50/96h/green algae = 299mg/l
Persistence and degradability:	Not readily biodegradable (16% after 28 days)

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### 13. Disposal Considerations

Waste from residues/ unused products:	Can be used after re-conditioning.
Contaminated packaging:	Empty pressure vessels should be returned to the supplier.

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14. Transport Information UN-No. 3163
- ADR/RID**  
Class: 2 Item: 2A Hazard labels: 2  
TREM-CARD: 20G39-A HI/UN No. 20/3163  
Proper Shipping Name: 3163 Liquefied gas, n.o.s., Hexafluoropropane, 2, 2A, ADR.
- ICAO**  
UN/ID No. 3163 Class 2.2 Subrisks: n.a.  
Packing group: n.a. Hazard labels: Non-flammable gas  
Proper shipping name: Liquefied gas, n.o.s.(Hexafluoropropane)
- IMO**  
Class: 2.2 IMDG page: 2155 Subrisks: n.a.  
Packing group: n.a. Hazard labels: Non-flammable gas  
EmS: 2-09 MFAG: 620  
Proper shipping name: Liquefied gas, n.o.s. (Hexafluoropropane)
- n.a. = not applicable
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15. Regulatory Information
- A notification according to the Notification of New Substances Regulations 1993 was filed for this substance.
- According to Regulation 5 of the CHIPS Regs 1994, the product does not need to be labelled.
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16. Other Information
- Recommended use: Fire extinguishing agent
- Further information: For further information contact the local DuPont office or DuPonts nominated distributors.
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The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.