

Material Safety Data Sheet
 May be used to comply with
 OSHA's Hazard Communication Standard,
 29 CFR 1910.1200. Standard must be
 consulted for specific requirements.

U.S. Department of Labor
 Occupational Safety and Health Administration
 (Non-Mandatory Form)
 Form Approved
 OMB No. 1218-0072



IDENTITY (As Used on Label and List) FE-36	Note: Blank spaces are not permitted. If any item is not applicable or no information is available, the space must be marked to indicate that.
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Section I

Manufacturer's Name PYRO-CHEM	Emergency Telephone Number (202) 483-7616
Address (Number, Street, City, State, and ZIP Code) 301 Division Street	Telephone Number for Information (202) 483-7616
Boonton, New Jersey	Date Prepared January 31, 2000 Revised: NA
07005	Signature of Preparer (optional) —

Section II – Hazardous Ingredients/Identity Information

Hazardous Components (Specific Chemical Identity, Common Name(s))	OSHA PEL	ACGIH TLV	Other Limits Recommended	% (optional)
1, 1, 1, 3, 3, 3 Hexafluoropropane (FE-36)		NDA	AEL* 1000 PPM, 8 HR and 12 HR NOAEL 10% LOAEL 15% ALC [4 HR] RAT: >189,000 PPM	99-100

*AEL is DuPont's acceptable exposure limit. Where governmentally imposed occupational exposure limits which are lower than the AEL are in effect, such limits shall take precedence.

Section III – Physical/Chemical Characteristics

Boiling Point 29.5 °F (-1.4 °C)	Specific Gravity (H ₂ O = 1) 1.370
Vapor Pressure (mm Hg.) 272.4 kPa@25 °C (39.9 PSIA)	Melting Point N/A
Vapor Density (AIR = 1)	Evaporation Rate (Butyl Acetate = 1) NDA
Solubility in Water Negligible	
Appearance and Odor Colorless Liquified Gas	

Section IV – Fire and Explosion Hazard Data

Flash Point (Method Used) N/A	Flammable Limits N/A	LEL N/A	UEL N/A
Extinguishing Media N/A THIS IS AN EXTINGUISHING AGENT.			
Special Fire Fighting Procedures	THIS IS AN EXTINGUISHING AGENT. Use water to cool fire-exposed cylinders or other bulk containers. Use self-contained breathing apparatus and protective clothing when LOAEL limit of 15% is likely to be exceeded or when products of combustion are toxic.		
Unusual Fire and Explosion Hazards Not a fire or explosion hazard.			

Section V – Reactivity Data

Stability	Unstable		Conditions to Avoid	N/A
	Stable	X		
Incompatibility (<i>Materials to Avoid</i>) Strong bases, metallic sodium, potassium, lithium.				
Hazardous Decomposition or Byproducts HF or hydrofluoric acid may be produced.				
Hazardous Polymerization	May Occur		Conditions to Avoid	N/A
	Will Not Occur	X		

Section VI – Health Hazard Data

Route(s) of Entry: Eye Contact: "Frostbite-like" effects may occur if the liquid or escaping vapors contact the eyes.			
Inhalation: Repeated exposure caused no significant toxicological effects in concentrations up to 2% based on animal data.			
Skin: Frostbite, if liquid or escaping vapor contacts the skin.		Ingestion: Not a probable route of exposure.	
Health Hazards (<i>Acute and Chronic</i>) Acute Overexposure: Based on animal data, this material may cause: Suffocation, if air is displaced by vapors. Irregular heart beat with a strange sensation in the chest, "heart thumping", apprehension, lightheadedness, feeling of fainting, dizziness, weakness, sometimes progressing to loss of consciousness and death. Chronic Overexposure: No significant effects known.			
Carcinogenicity	NTP? No	IARC Monographs? No	OSHA Regulated? No
Signs and Symptoms of Exposure Frostbite			
Medical Conditions Generally Aggravated by Exposure This material may make the heart more susceptible to arrhythmias.			
Emergency and First Aid Procedures Eye Contact: Immediately flush eyes with plenty of water for at least 15 minutes. Call a physician. Skin Contact: Flush area with lukewarm water. If frostbite has occurred, do not use hot water, call physician. Inhalation: Immediately remove to fresh air, keep person calm. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician. Note to Physician: THIS MATERIAL MAY MAKE THE HEART MORE SUSCEPTIBLE TO ARRHYTHMIAS. Catecholamines such as adrenaline, and other compounds having similar effects, should be reserved for emergencies and then used only with special caution.			

Section VII – Precautions for Safe Handling and Use

Steps to Be Taken in Case Material Is Released or Spilled Keep upwind of leak – evacuate until gas has dispersed. Ventilate area before re-entering.	
Waste Disposal Method Dispose of in accordance with local, state, and federal regulations.	
Precautions to Be Taken in Handling and Storing Vapors of the compound are heavier than air, posing a hazard of asphyxia if they are trapped in enclosed or low places. Keep away from heat, sparks and flames. Keep container in a cool place. Keep container tightly closed.	
Other Precautions	See extinguisher label for minimum room volume limitations. Note incompatibility information in Section 4.

Section VIII – Control Measures

Respiratory Protection (<i>Specify Type</i>) Wear NIOSH/MSHA approved respiratory protection, as appropriate, when concentrations may exceed NOAEL limit of 10%.		
Ventilation	Local Exhaust Recommended to control exposures. See mechanical.	Special –
	Mechanical (<i>General</i>) Recommended in low areas or indoors where vapors may collect.	Other –
Protective Gloves Good Practice	Eye Protection Wear safety glasses or coverall chemical splash goggles when handling FE-36 liquid.	
Other Protective Clothing or Equipment Wear impervious clothing, such as gloves, apron, or boots as appropriate, when recharging or working with liquid FE-36.		
Work/Hygienic Practices		

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