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MATERIAL SAFETY DATA SHEET

IDENTIFICATION AND EMERGENCY INFORMATION

Product Name	SHUR/Freeze
Product Code (Catalog Number)	FRZ-1 (Catalog number change only-previously H-FRZ-1)
Product Category (Chemical Name)	hydrofluorocarbon
Product Appearance and Odor	Clear gas at standard temperature and pressure with a slight ethereal odor. Finished package: aerosol container filled w/liquified gas.
Emergency Notification	Chem-Tel 1-800-255-3924

COMPONENTS AND HAZARD INFORMATION

Component	CAS No.	%	OSHA TWA		OSHA STEL	
			ppm	mg/m3	ppm	mg/m3
1,1,1,2-Tetrafluoroethane	811-97-2		NE	NE	NE	NE

PHYSICAL DATA

THE FOLLOWING DATA ARE APPROXIMATE OR TYPICAL VALUES AND SHOULD NOT BE USED FOR PRECISE DESIGN PURPOSES.

Boiling Range	Specific Gravity	Molecular Weight	Viscosity
-15	1.21	NE	NE

Percent Volatile by Volume	Vapor Pressure @25 C degrees	Vapor Density (Air = 1)	Pour, Congealing or Melting Point
100	96 psia	>1	NA

Solubility in Water @1 ATM and 25°C (77°F)	Evaporation Rate @1 ATM and 25°C (77°F) (n-Butyl Acetate =1)	pH
substantial	>1	NE

FIRE AND EXPLOSION HAZARD INFORMATION

Flash Point (Minimum)	Autoignition Temperature	Test Mode	LEL	UEL
NE	>1369°F		non-flammable	non-flammable

Handling Precautions
NA

NA = not applicable NL = not listed NE = not established NNR = not normally required

Flammable or Explosive Limits (Approximate Percent by Volume in Air)
NE

Extinguishing Media
Use media appropriate for surrounding material.

Fire Fighting Procedures
Water may be used to cool closed containers to prevent pressure build-up and possible bursting when exposed to high temperatures. Firemen should wear self-contained, positive pressure, respiratory equipment. Hazardous decomposition products.

Decomposition Products Under Fire Condition
This material can be decomposed by high temperature (open flames, flowing metal surfaces, etc.) forming hydrofluoric acids and possibly carbonyl halides.

"Empty" Container Warning

Unusual Fire and Explosion Hazards
Contents under pressure. Keep temperatures of containers below 120°F to prevent bursting. Exposure to temperature above 120°F may cause can to burst with violence and cause injury.

HEALTH AND HAZARD INFORMATION

Variability Among Individuals

Signs and symptoms of overexposure
Skin Contact: Liquid contact can cause frostbite.
Eye Contact: Liquid contact can cause frostbite
Inhalation: Vapor is heavier than air and can cause suffocation by reducing oxygen available for breathing. Breathing high concentrations of vapor may cause lightheadedness, giddiness, shortness of breath, and may lead to narcosis, cardiac irregularities, unconsciousness or death.

Effects of Overexposure
Intentional misuse by deliberately concentrating and inhaling the contents of the can may be harmful or fatal.

Nature of Hazard and Toxicity Information

Pre-existing Medical Conditions which may be Aggravated by Exposure

Threshold Limit Value
DuPont recommended 1,000 ppm TWA exposure level.

Health Hazards

PRIMARY ROUTES OF ENTRY AND EMERGENCY AND FIRST AID PROCEDURES

Eye Contact
Immediately flush eyes with plenty of cold water. Call a physician.

Skin
Flush with water. Treat for frostbite if necessary.

Inhalation
Remove to fresh air. If not breathing, give artificial respiration, preferably mouth-to-mouth. If breathing difficult, give oxygen. Do not give epinephrine or similar drugs. Call a physician.

Ingestion
Ingestion is not considered a potential route of exposure.

SEEK MEDICAL TREATMENT IF DISCOMFORT PERSISTS.

NOTE TO PHYSICIAN: Because of possible disturbances of cardiac rhythm, catecholamine drugs, such as epinephrine, should only be used with special caution in situations of emergency life support.

REACTIVITY

Stability	**Incompatibility**	**Hazardous Decomposition Products**
Stable	Alkali or alkaline earth metals; powdered aluminum, Zinc, Be, etc.	This material can be decomposed by high temperature (open flames, flowing metal surface, etc.) forming hydrofluoric acids and possibly carbonyl halides.
Materials to Avoid	**Hazardous Polymerization**	**Conditions to Avoid**
NA	Will not occur.	Avoid excessive heat, ignition sources, open flames, or other high temperatures which induce thermal decomposition.

ENVIRONMENTAL INFORMATION

Steps to be Taken in Case Material is Released or Spilled
Ventilate area, especially low places where heavy vapors might collect. Remove open flames. Use self-contained breathing apparatus for large spills.

Disposal
Dispose in accordance with federal, state, and local regulations. Do not incinerate closed or empty containers.

Other Precautions:
Contents under pressure. Do not puncture or incinerate. Exposure to temperatures above 120°F may cause can to burst with violence and cause injury. Vapors are heavier than air and will collect in low areas.

Precautions to be taken in handling and storage
Avoid skin and eye contact with spray and liquid due to frostbite hazard. Do not store above 110°F. Do not store near any open flames or ignition sources.

THE FOLLOWING INFORMATION MAY BE USEFUL IN COMPLYING WITH VARIOUS STATE AND FEDERAL LAWS AND REGULATIONS UNDER VARIOUS ENVIRONMENTAL STATUTES.

Reportable Quantity (RQ), EPA Regulation 40 CFR 302 (CERCLA Section 102)

Threshold Planning Quantity (TPQ), EPA Regulation 40 CFR 355 (SARA Sections 301-304)

Toxic Chemical Release Reporting, EPA Regulation 40 CFR 372 (SARA Section 313) This product does not contain any ingredients subject to SARA Section 313.
Hazardous Chemical Reporting, EPA Regulation 40 CFR 370 (SARA Sections 311-312)
SPECIAL STATE NOTIFICATIONS
PROTECTION AND PRECAUTIONS
Ventilation Local or mechanical exhaust to keep below TLV.
Respiratory Protection Under normal use conditions, no respiratory protection is required. Self-contained breathing apparatus (SCBA) is required if a large spill or release occurs.
Protective Gloves Lined butyl gloves should be worn when handling liquid.
Eye Protection Safety glasses or goggles should be worn when handling liquid.
Other Protective Equipment None reasonably foreseeable.
TRANSPORTATION AND OSHA RELATED LABEL INFORMATION
Transportation Incident Information
U.S. DOT Hazardous Materials Shipping Description
OSHA Required Label Information