

MATERIAL SAFETY DATA SHEET

Trade Name: Johnsens Freeze 12
MSDS NO. 6000
Revision Date: 10/04/2002
Date Printed: 05/18/2004

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Trade Name: Johnsens Freeze 12
Chemical Family: Refrigerant gas/lubricant
Synonyms: None
Emergency Telephone (24 hr.): CHEMTREC 1-800-424-9300

Supplier: Technical Chemical Company, P.O. Box 139, Cleburne, Texas 76033

2. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredient/CAS No.	wt. %	OSHA PEL TWA	OSHA PEL Ceiling Limits	ACGIH TLV TWA	ACGIH TLV STEL
1,1,1,2-Tetrafluoroethane 811-97-2	70-90	Not Known (Recommended <1000 ppm TWA)	Not Known	Not Known	Not Known
1-Chloro 1,1-Difluoroethane 75-68-3	10-25	None Established (Recommended <1000 ppm TWA)	Not Known	Not Known	Not Known

Contains no other ingredients in concentrations >.1% that are now known to be hazardous as defined by OSHA.

3. HAZARDS IDENTIFICATION

Emergency Overview: Warning! Content under pressure. May be fatal if inhaled. Gross inhalation overexposure may cause: respiratory track irritation, eye and skin irritation, central nervous system depression, headache, dizziness, anesthesia, drowsiness, loss of consciousness and death. Suffocation, if air is displaced by vapors. "Frostbite-like" effects may occur if the liquid or escaping vapors contact the eyes or skin.

HMIS Classification: Health: 1 Flammability: 2 Physical Hazard: 2
NFPA Rating: Health: 2 Flammability: 2 Reactivity: 1

4. FIRST AID MEASURES

Eye Contact: In case of contact, or suspected contact, immediately flush eyes with plenty of water for at least 15 minutes and get medical attention immediately after flushing.
Ingestion: DO NOT INDUCE VOMITING. Give nothing by mouth. Get medical attention! If vomiting occurs, keep head lower than hips to prevent aspiration.
Inhalation: If inhaled, remove to fresh air. If not breathing give artificial respiration, preferably mouth-to-mouth. If breathing is difficult give oxygen. Get medical attention.
Skin Contact: In case of contact, immediately flush skin with plenty of soap and water for at least 15 minutes. Get medical attention. Remove contaminated clothing and shoes, and launder before reuse. Use approved skin lotions or creams to replace lost skin oils. Treat for frostbite if necessary by gently warming affected area.

5. FIRE FIGHTING MEASURES

Flammable Properties
Flash Point °F(°C): >300 F.
Flash Point Method: COC
Flammable Limits in Air - Lower (%): Not Determined
Flammable Limits in Air - Upper (%): Not Determined
Autoignition Temperature °F(°C): Not Determined
Extinguishing Media: Water fog, carbon dioxide, foam, dry chemical. Use water spray to keep containers cool that are exposed to heat or flames.

Protection Of Fire-Fighters:
Special Fire-Fighting Procedures: Warning!! Contents under pressure. Container may rupture under fire conditions. Decomposition may occur. Wear approved positive-pressure self-contained breathing apparatus and protective clothing.
Hazardous Combustion Products: Carbon Dioxide. Carbon Monoxide.
Aerosol Comments: NFPA Level 1 Aerosol

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions: Wear appropriate protective clothing and equipment to prevent skin and eye contact.
Spill Procedures: Wear protective equipment specified. Contain any liquid from leaking containers. Ventilate spill area. Soak up material with absorbent and place in chemical waste container.

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Increase area ventilation. Do not puncture or incinerate container. Contents under pressure.

Environmental Precautions: Keep away from drains.

7. HANDLING AND STORAGE

Handling and Storage: CAUTION: COMPRESSED GAS. Do not puncture, incinerate or store above 120 F. Do not store in passenger compartment of automobile. Avoid breathing vapors, if exposed to high vapor concentration, leave area at once. Avoid contact with skin and eyes. Should not be mixed with air for leak testing or used for any other purpose above atmospheric pressure.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Controls: Local exhaust ventilation as necessary to maintain exposures to within applicable limits. Showers. Eyewash stations.

Eyes: Wear safety glasses or goggles to protect against exposure.

Skin Protection: Avoid skin contact. Wear protective clothing and gloves.

Respiratory Protection: Use in a well ventilated area.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Colorless gas with clear to yellow liquid.

Odor: MILD ETHER LIKE **pH Value:** Not Determined

Vapor Pressure: 67 PSIG @ 70 F **Vapor Density (Air=1):** 3.6 @ 25 C

Boiling Point (°F): -15.5 F (Lowest Component) **Melting/Freezing Point:** Not determined.

Solubility in Water: SLIGHT **Bulk Density at 20°C:** 1.2 @ 25 C (g/cm3)

Molecular Weight: Mixture **Evaporation Rate:** Not Determined

Viscosity: Not determined. **Specific Gravity (H2O=1):** 1.0 @ 70 F liquid approx.

VOC Content(%): Not determined. **Decomposition Temperature:** Not Known

10. STABILITY AND REACTIVITY

Chemical Stability: Stable under normal temperatures and pressures.

Conditions to Avoid: Do not expose to heat or store at temperatures above 120 F.

Materials to Avoid: Avoid contact with acidic, basic or oxidizing agents. Avoid contact with alkali or alkaline earth metals.

Hazardous Decomposition Products: Carbon monoxide. Carbon dioxide. This material can be decomposed by high temperatures forming hydrofluoric acid and possibly carbonyl fluoride.

Hazardous Polymerization: WILL NOT OCCUR

11. TOXICOLOGICAL INFORMATION

Toxicological Data:

Ingredient/CAS No.	wt. %	Route	Species	Dose
1,1,1,2-Tetrafluoroethane 811-97-2	70-90	Inhalation	Rats	LC50 1500 gm/m3/4H
1-Chloro 1,1-Difluoroethane 75-68-3	10-25	Inhalation	Rats	LC50 2050 gm/m3/4H

Carcinogenicity:

Ingredient/CAS No.	wt. %	IARC	NTP	OSHA
1,1,1,2-Tetrafluoroethane 811-97-2	70-90	Not Listed	Not Listed	Not Listed
1-Chloro 1,1-Difluoroethane 75-68-3	10-25	Not Listed	Not Listed	Not Listed

12. ECOLOGICAL INFORMATION

Ecological testing has not been conducted on this product.

13. DISPOSAL CONSIDERATION

Waste Classification: Not determined.

Waste Management: Not determined.

Disposal should be made in accordance with federal, state and local regulations.

14. TRANSPORTATION INFORMATION

Trade Name: Johnsens Freeze 12 MSDS NO. 6000

U.S. DOT:

Proper Shipping Name: Refrigerant Gas, n.o.s. (1,1,1,2-Tetrafluoroethane, 1-Chloro 1,1-Difluoroethane)
Hazard Class: 2.2
UN/NA Number: UN 1078
DOT Packing Group: NA

IMDG:

Proper Shipping Name: Refrigerant Gas, n.o.s. (1,1,1,2-Tetrafluoroethane, 1-Chloro 1,1-Difluoroethane)
Hazard Class: 2.2
Hazard Subclass: Not determined.
UN No.: UN 1078
Packing Group: NA
Marine Pollutant: No

15. REGULATORY INFORMATION

US Federal Regulations:

Ingredient/CAS No.	wt. %	SARA 313	SARA 302	RQ	TPQ
1,1,1,2-Tetrafluoroethane 811-97-2	70-90	Not Listed	Not Listed	NA	NA
1-Chloro 1,1-Difluoroethane 75-68-3	10-25	Listed	Not Listed	100 lbs	NA

SARA 311/312 Hazard Categories: Not Determined.

State Regulations:

Ingredient/CAS No.	wt. %	California Prop. 65 Cancer list	California Prop. 65 Developmental Toxicity	California Prop. 65 Reproductive Female	California Prop. 65 Reproductive Male
1,1,1,2-Tetrafluoroethane 811-97-2	70-90	Not Listed	Not Listed	Not Listed	Not Listed
1-Chloro 1,1-Difluoroethane 75-68-3	10-25	Not Listed	Not Listed	Not Listed	Not Listed

U.S. TSCA:

The components of this product are listed on the TSCA Inventory.

16. OTHER INFORMATION

General Notes: Do not allow undiluted material or large quantities to reach groundwater, bodies of water or sewer system.

Disclaimer:

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