



1. CHEMICAL PRODUCT/COMPANY IDENTIFICATION

Name: MS-242L
Quik-Freeze

Product Use: Freeze Spray

MANUFACTURER/DISTRIBUTOR:

Miller-Stephenson Chemical
55 Backus Ave.
Danbury, Conn. 06810 USA
(203) 743-4447

Emergency Phone Number:
(800) 424-9300

2. HAZARDS IDENTIFICATION

Physical Hazard: Gases under pressure – Liquefied Gas

Label elements:



Single Word: Warning

Hazard Statements

Contains gas under pressure; may explode if heated.
May displace oxygen and cause rapid suffocation.

Precautionary Statements

Use personal protective equipment as required.
Protect from sunlight.
Store in a well-ventilated place.

3. INGREDIENTS

<u>Material (s)</u>	<u>CAS No.</u>	<u>Approximate %</u>
Trans-1,3,3,3-Tetrafluoroprop-1-ene	29118-24-9	100

4. FIRST AID MEASURES

Inhalation: Immediately remove patient to fresh air. Keep person calm. If not breathing, give artificial respiration. If breathing is difficult give oxygen, provided operator is present. Get medical attention immediately.

Eye: Remove contact lenses from eyes. Immediately flush with large amounts of water, lifting eyelids until no evidence of the chemical remains. Get medical attention.

Skin: Remove contaminated clothing and shoes. Flush promptly with plenty of water. Get medical attention if necessary. Treat for frostbite if necessary by gently warming affected area.

Oral: Is not considered a potential route of exposure. DO NOT INDUCE VOMITING without medical advice. Immediately rinse mouth and drink plenty of water. Call a physician immediately.

Notes to Physician: Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient.

5. FIRE FIGHTING MEASURES

Extinguishing media: Use the media appropriate for surrounding materials.

Fire and Explosion: Aerosol cans may rupture under fire conditions.

Hazardous decomposition products: In case of fire, forming toxic gases along with Hydrogen fluoride.

Specific Hazards: Avoid contact with flame and hot surfaces because burst and toxic decomposition products may form. Vapors are heavier than air and can cause suffocation by reducing oxygen available for breathing.

Protective Equipment for Fire-Fighters: Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions: Remove all ignition sources. Aerosols can explode when heated. Warn personnel of this hazard and unprotected personnel should not return until safe to do so. Ventilate area. Avoid inhalation of vapors. Use an approved respirator if needed to keep exposure levels below the accepted level.

Environmental Precautions: Prevent further leakage or spillage, if safe to do so. This product evaporates readily.

Methods for clean up: Extinguish all ignition sources. Avoid sparks, flames, and heat. Ventilate.

7. HANDLING AND STORAGE

Handling: Avoid inhalation of vapors. Use in a well-ventilated area to keep employee exposure below recommended limits. Use an approved respirator if necessary. Vapors are heavier than air and accumulate in low areas. Avoid contact with naked flames and hot surfaces as toxic decomposition products can be formed. Do not get in eyes or on skin. Do not puncture or burn.

Storage Conditions: Store in a clean, dry place, not near sources of heat, in direct sunlight or where temperatures exceed 122°F/50°C.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

<u>Exposure Limits:</u>	<u>WEEL (AIHA)</u>	<u>Honeywell</u>
Trans-1,3,3,3-Tetrafluoroprop-1-ene	800 ppm (TWA)	800 ppm (TWA)

* Limit established by Honeywell International Inc.

Engineering Measures: Use adequate ventilation. Vapors are heavier than air and if working in confined or poorly ventilated areas, proper respiratory protection must be used to prevent exceeding the exposure limit.

Respiratory Protection: Mechanical ventilation, or respiratory protection with air supply should be used in low or enclosed areas. In poorly ventilated areas, or if a large release occurs, use an approved self-contained breathing apparatus (SCBA).

Eye Protection: Wear approved safety goggles.

Skin Protection: Avoid contact with skin (danger of frostbite). Wear cold insulating gloves/face shield/eye protection, if necessary. Use protective gloves when prolonged or frequently repeated contact occurs.

Hygiene Measures: Good personal hygiene practices are always advisable. Do not eat, drink, or smoke when using.

9. PHYSICAL AND CHEMICAL PROPERTIES

Boiling Point: -2°F/-19°C

Percent Volatile by Volume: 100%

Density: 1.17 g/cc at 70°F/21.1°C

Vapor Pressure: 60.8 psi at 68°F/20°C
159.5 psi at 129.9°F/54.4°C

Vapor Density (Air=1): 4

Solubility in H₂O: 0.373 g/l

pH Information: Neutral

Appearance: Clear

Form: Liquefied Gas

Odor: Faint Ethereal

Color: Colorless

10. STABILITY AND REACTIVITY

Stability: Stable under normal conditions.

Material and Conditions to Avoid: Protect from sunlight and do not expose to temperatures exceeding 50°C. Avoid open flames and hot surfaces as corrosive and toxic decomposition products can be formed. Alkali metals, Powdered metals.

Decomposition: This material can be decomposed by high temperatures (open flames, glowing metal surfaces, etc.) forming corrosive and toxic products, including fluoride, fluorocarbons, and Hydrogen fluoride.

Polymerization: Will not occur.

11. TOXICOLOGICAL INFORMATION

Inhalation:

4 hour, LC50 rat: >207000 ppm

Skin irritation: No skin irritation in rabbits. Method: OECD Test Guideline 404

Method: OECD Test Guideline 404

Eye irritation No data available

Sensitization: Cardiac sensitization

Species: Dogs

Result: Did not cause sensitization on laboratory animals.

Repeated dose toxicity:

13 Weeks, Inhalation, rat: Causes mild effects on the heart. NOEL 5,000 ppm

Genotoxicity in vitro and in vivo: In vitro tests did not show mutagenic effects.

Reproductive toxicity: Test Method: Two-generation study

Species: Rat. Application Route: Inhalation. NOEL: >20,000 ppm; NOEL: >20,000 ppm.

Method: OECD Test Guideline 416

Teratogenicity: Species: Rabbit & Rat. Method: OECD 416. Did not show teratogenic effects in animal experiments.

Species: Rat. Application Route: Inhalation. NOAEC: 15,000 ppm. Method: OECD Test Guideline 414

12. ECOLOGICAL INFORMATION

Ecotoxicity effects:

96 hour NOEC – Cyprinus carpio (Carp): > 117 mg/L

48 hour EC50 – Daphnia magna (Water flea): > 160 mg/L

Toxicity to algae: Growth inhibition: NOEC: > 170 mg/l, Exposure time: 72 h

Biodegradability: Aerobic: Not readily biodegradable

13. DISPOSAL CONSIDERATIONS

Comply with federal, state and local regulations. Do not puncture or incinerate cans.

14. **TRANSPORT INFORMATION**

U.S. DOT

Proper Shipping Name: Consumer Commodity

Hazard Class: ORM-D

Identification No. None

Packing Group: None

IATA

Proper Shipping Name: LIQUEFIED GAS, N.O.S. (trans-1,3,3,3-Tetrafluoroprop-1-ene)

Hazard Class: 2.2

Identification No. UN 3163

Label: 2.2

Packing instruction (cargo aircraft); 200

Packing instruction (passenger aircraft); 200

IMDG

Proper Shipping Name: LIQUEFIED GAS, N.O.S. (trans-1,3,3,3-Tetrafluoroprop-1-ene)

Hazard Class: 2.2

Identification No. UN 3163

Label: 2.2

EmS Number; F-C, S-V

Marine pollutant: no

15. **REGULATORY INFORMATION**

US FEDERAL REGULATIONS:

TSCA: All ingredients are listed in TSCA inventory.

SARA 302: No ingredients in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 Emission Reporting: None of the ingredients exceed the threshold reporting levels established by SARA Title III, Section 313.

SARA 311/312 HAZARDS: Acute Health Hazard & Sudden Release of Pressure Hazard

US STATE REGULATIONS:

California Proposition 65 Carcinogens and Reproductive Toxins: None of the ingredients are listed.

INTERNATIONAL INVENTORIES:

CANADA: DSL

All ingredients are listed

WHMIS Classification: A: Compressed Gas

16. OTHER INFORMATION

HMIS Ratings:

Health - 1

Flammability - 0

Reactivity - 0

Personal Protective rating to be supplied by user depending on the conditions.

FOR INDUSTRIAL USE ONLY

REVISION DATE: JANUARY 2017

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. Final determination of suitability of any material is the sole responsibility of the user.