

## 1. CHEMICAL PRODUCT/COMPANY IDENTIFICATION

**Name:** MS-242L-AS  
Anti-Static Quik-Freeze

**Product Use:** Anti-Static 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	99
Methanol	67-56-1	1

#### 4. FIRST AID MEASURES

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

**Eye:** Immediately flush with large amounts of water (lukewarm), lifting eyelids for at least 15 minutes. Get medical attention if symptoms persist.

**Skin:** Rapid evaporation of the liquid may cause frostbite. If there is evidence of frostbite, bathe (do not rub) with lukewarm (not hot) water. If water is not available, cover with a clean, soft cloth or similar covering. Call a physician if irritation develops or persists.

**Oral:** Unlikely route of exposure. As this product is a gas, refer to the inhalation section. Do not induce vomiting without medical advice. Call a physician immediately.

**Notes to Physician:** Treat frost-bitten areas as needed.

#### 5. FIRE FIGHTING MEASURES

**Suitable extinguishing media:** Use the media appropriate for surrounding environment. Water mist, Dry powder, Foam, Carbon dioxide (CO<sub>2</sub>)

**Specific Hazards during firefighting:** Contents under pressure. Avoid contact with flame and hot surfaces because may burst and form toxic decomposition products (Hydrogen fluoride, Carbon oxides, Carbonyl halides, Halogenated compounds) 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. Exposure to decomposition products may be a hazard to health.

#### 6. ACCIDENTAL RELEASE MEASURES

**Personal precautions, protective equipment and emergency procedures:** Immediately evacuate personnel to safe areas. 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 and material for containment and cleaning up:** Ventilate. Allow to evaporate.

#### 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. Intense heat may cause violent rupture of cans. 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>TLV(ACGIH)</u>	<u>PEL (OSHA)</u>	<u>WEEL (AIHA)</u>
Trans-1,3,3,3-Tetrafluoroprop-1-ene Methanol	Not Established 200 ppm, TWA	Not Established 200 ppm, TWA	800 ppm (TWA)

**Engineering Measures:** Local exhaust.

**Respiratory Protection:** In case of insufficient ventilation wear suitable respiratory equipment. Wear a positive-pressure supplied-air respirator.

**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. Avoid breathing vapors. 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:** 62 psi at 68°F/20°C  
162 psi at 129.9°F/54.4°C

**Vapor Density (Air=1):** 4

**Solubility in H<sub>2</sub>O:** 0.373 g/l

**pH Information:** Neutral

**Appearance:** Clear

**Form:** Liquefied Gas

**Odor:** Faint Ethereal

**Color:** Colorless

## 10. STABILITY AND REACTIVITY

**Reactivity:** Not classified as a reactivity hazard.

**Chemical Stability:** Stable under normal conditions.

**Conditions to avoid:** Protect from sunlight and do not expose to temperatures exceeding 50°C.

**Materials to avoid:** Alkali metals

**Decomposition:** This material can be decomposed by high temperatures (open flames, glowing metal surfaces, etc.) forming halogenated compounds, Carbon oxides, Hydrogen fluoride, Carbonyl halides.

**Polymerization:** Will not occur.

## **11. TOXICOLOGICAL INFORMATION**

### **Trans-1,3,3,3-Tetrafluoroprop-1-ene**

**Acute Inhalation:**

4 hour, LC50 rat: >207000 ppm

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

**Eye irritation:** No data available. Study technically not feasible.

**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 & in vivo tests - did not show mutagenic effects.

**Reproductive toxicity:** Test Method: Two-generation study

Species: Rat. Application Route: Inhalation. 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

**Further information:** Note: Excessive exposure may cause central nervous system effects including drowsiness and dizziness.

Excessive exposure may also cause cardiac arrhythmia. Rapid evaporation of the liquid may cause frostbite.

### **Methanol**

**Acute Inhalation toxicity:** 3mg/l, 4 hours. Test atmosphere: vapor. Method: Expert judgment.

Remarks: Based on national and regional regulations.

**Acute Dermal toxicity:** 300 mg/kg, (estimated in humans). Method: Expert judgment

**Acute Oral Toxicity:** 300 mg/kg, (estimated in humans). Method: Expert judgment

**Skin Corrosion/Irritation:** No irritation in rabbits.

**Serious Eye Irritation/ Eye Irritation:** No irritation in rabbits.

**Skin sensitization:** Test Type: Maximization Test. No skin sensitization in Guinea pigs. Based on data similar materials.

**Respiratory Sensitization:** Not classified based on available information.

**Germ Cell Mutagenicity:** Genotoxicity in vivo and vitro tests were negative.

**Carcinogenicity:** Negative in mice by inhalation for 18 months.

**Reproductive Toxicity:** Test Type: Embryo-fetal development. Positive in mice by ingestion. Remarks: The effects were seen only at maternally toxic doses.

**STOT-single exposure:** May cause damage to organs (Eyes, Central Nervous System)

**STOT-repeated exposure:** Not classified based on available information.

**Aspiration toxicity:** Not classified based on available information.

## **12. ECOLOGICAL INFORMATION**

### **Trans-1,3,3,3-Tetrafluoroprop-1-ene**

**Ecotoxicity effects:**

96 hour, LC0: Cyprinus carpio (Carp): > 117 mg/L Method: OECD Test Guideline 203

48 hour, EC50: Daphnia magna (Water flea): > 160 mg/L Method: OECD Test Guideline 202

72 hour, NOEC: Toxicity to algae: > 170 mg/L Method OECD Test Guideline 201

**Biodegradability:** Aerobic: Not readily biodegradable

**Bioaccumulation:** No bioaccumulation is to be expected (log Pow <=4)

## **Methanol**

96 hour LC50 in Lepomis macrochirus (Bluegill sunfish): 15,400 mg/l

48 hour EC50 in Daphnia magna (Water flea): > 10,000 mg/l

96 hour EC50 in Pseudokirchneriella subcapitata (Green algae): 22,000 mg/l. Method: OECD Test Guideline 201

200 hour NOEC in Oryzias latipes (Orange-red killfish): 15,800 mg/l

**Biodegradability:** Readily biodegradable. 95% biodegradable in 20 days

**Bioaccumulative potential:** Species: Leuciscus idus (Golden orfe) BCF <10. Partition coefficient: n-octanol/water: log Pow: -0.77

**Mobility in soil:** No data available

## **13. DISPOSAL CONSIDERATIONS**

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

## **14. TRANSPORT INFORMATION**

### **U.S. DOT**

**Limited Quantity**

### **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.

**CERCLA Reportable Quantity:** Methanol, 67-56-1: Component RQ is 5000 lbs.

**SARA 302 Extremely Hazardous Substances Threshold Planning Quantity:** This material does not contain any components with a section 302 EHS RQ.

**SARA 313:** This material contains the following component that is subject to reporting levels established by SARA Title III, Section 313: Methanol

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

## State Regulations (U.S.)

**California Proposition 65:** This product contains Methanol, known to the State of California to cause birth defects or other reproductive harm. For more information go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov).

## INTERNATIONAL INVENTENTORIES:

### CANADA: DSL

All ingredients are listed or exempt.

## 16. OTHER INFORMATION

### HMIS Ratings:

Health - 1

Flammability - 1

Reactivity - 0

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

### FOR INDUSTRIAL USE ONLY

### REVISION DATE: MARCH 2023

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.