



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

5. FIRE FIGHTING MEASURES

Suitable extinguishing media: Use the media appropriate for surrounding materials. Water mist, Dry powder, Foam, Carbon dioxide (CO₂)

Specific Hazards during firefighting: Contents under pressure. Avoid contact with flame and hot surfaces because may burst and toxic decomposition products (Hydrogen fluoride) 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: 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 for clean up: Extinguish all ignition sources. Avoid sparks, flames, and heat. 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, 8 Hr. TWA	800 ppm (TWA)

Engineering Measures: Local exhaust. 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. 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 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.

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.

Materials to avoid: Alkali 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

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; 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

Inhalation Acute toxicity: 3mg/l estimated, 4 hours (vapor) (Based on harmonised classification in EU regulation 1272/2008, Annex VI)

Dermal Acute toxicity: 300 mg/kg, (estimated in humans)

Oral Acute Toxicity: 300 mg/kg, (estimated in humans)

Skin Corrosion/Irritation: No irritation, Rabbit

Serious Eye Irritation/ Eye Irritation: No irritation, Rabbit

Skin sensitization: Negative in Guinea pig (Maximization Test)

Respiratory Sensitization: Not classified based on available information.

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

Carcinogenicity: Negative in Mouse, 18 months (inhalation-vapor).

Reproductive Toxicity: Fertility/early embryonic development - Negative in Mouse (ingestion)

Embryo-fetal development - Positive in Mouse (ingestion). The effects were only at maternally toxic doses.

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

STOT-repeated exposure: NOEL: 1.06 mg/l (90 days, Inhalation) in rats

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

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

Biodegradability: Readily biodegradable. 95% biodegradable in 20 days

Bioaccumulative potential: Partition coefficient: n-octanol/water: log Pow: -0.77

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.

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

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

SARA 313: Methanol

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

US STATE REGULATIONS:

California Proposition 65: This product contains Methanol, known to the State of California to cause birth defects or other reproductive harm.

INTERNATIONAL INVENTENTORIES:

CANADA

WHMIS Classification: A: Compressed Gas

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: JANUARY 2020

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.