1. CHEMICAL PRODUCT/COMPANY IDENTIFICATION

Name: MS-242N-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
Protect from sunlight.
Store in a well-ventilated place.
Pressurized container. Do not pierce or burn, even after use.

Other Hazards
Vapors are heavier than air and can cause suffocation by reducing oxygen available for breathing. Misuse or intentional inhalation abuse may lead to death without warning symptoms, due to cardiac effects. Rapid evaporation of the product may cause frostbite.

3. INGREDIENTS

Material (s)	CAS No.	Approximate %
1,1,1,2 Tetrafluoroethane	811-97-2	99
Methanol	67-56-1	1

4. FIRST AID MEASURES

Inhalation: Remove patient to fresh air. Get medical attention.

Eye: Get medical attention immediately.

Skin: Thaw frosted parts with lukewarm water. Do not rub affected area. Get medical attention immediately.

Oral: Ingestion is not considered a potential route of exposure.

Most important symptoms/effects, acute and delayed: May cause cardiac arrhythmia.
Other symptoms potentially related to misuse or inhalation abuse: Cardiac sensitization, Anaesthetic effects, Light-headedness, Dizziness, Confusion, Lack of coordination, Drowsiness, Unconsciousness.
Contact with liquid or refrigerated gas can cause cold burns or frostbite.

Notes to Physician: Treat symptomatically and supportively.

5. FIRE FIGHTING MEASURES

Suitable Extinguishing Media: Not applicable. Will not burn.

Unsuitable extinguishing media: Not applicable. Will not burn.

Special hazards: Aerosol cans may rupture under fire conditions Exposure to combustion products may be hazardous to health. Hazardous combustion products: Hydrogen fluoride, Carbonyl fluoride, Carbon oxides.

Specific extinguishing methods: Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Evacuate personnel to safe areas. Cool containers with water spray. Fight fire remotely due to risk of explosion.

Protective Equipment for Fire-Fighters: Self-contained breathing apparatus if necessary. Use personal protective equipment.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures: Aerosols can explode when heated. Ventilate area**.** Warn personnel of this hazard and unprotected personnel should not return until safe to do so. Follow safe handling advice and personal protective equipment recommendations. Avoid skin contact with leaking liquid (danger of frostbite).

Environmental Precautions: Prevent further leakage or spillage, if safe to do so.

Methods and materials for containment and clean up: Ventilate area. Local and national regulations may apply to releases and disposal of this material.

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. Avoid contact with naked flames and hot surfaces as toxic decomposition products can be formed. Do not get in eyes or on skin.

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

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Limits:	TLV (ACGIH)	PEL (OSHA)	US WEEL
1,1,1,2-Tetrafluoroethane	Not Established	Not Established	1000 ppm (TWA)
Methanol	200 ppm, TWA	200 ppm, 8 Hr. TWA	

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: General and local exhaust ventilation is recommended to maintain vapor exposures below recommended limits. Where concentrations are above recommended limits or are unknown, appropriate respiratory protection should be worn. Follow OSHA respirator regulations (29 CFR 1910.134) and use NIOSH/MSHA approved respirators. Protection provided by air purifying respirators against exposure to any hazardous chemical is limited. Use a positive pressure air supplied respirator if there is any potential for uncontrolled release, exposure levels are unknown, or any other circumstance where air purifying respirators may not provide adequate protection.

Eye Protection: Avoid eye contact. Use chemical goggles or safety glasses with side shields.

Skin Protection: Avoid contact with skin. Use gloves impervious to this material. For special applications, we recommend clarifying the resistance to chemicals of the afore mentioned protective gloves with the glove manufacturer. Wash hands before breaks and at the end of workday. Breakthrough time is not determined for the product. Change gloves often.

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

9. PHYSICAL AND CHEMICAL PROPERTIES

Boiling Point: -15^{O}F/-26^{O}C

Density: 1.21 g/cc at 77^{O}F/25^{O}C

Vapor Density (Air=1): N.A.

pH Information: Neutral

Form: Liquid Gas Aerosol

Color: Colorless

Percent Volatile by Volume: 100%

Volatile Organic Compound (VOC): Not applicable

Vapor Pressure: 5700 hPa at 68^{O}F/20^{O}C

Solubility in H_2O: 1.5 g/l at 77^{O}F/25^{O}C

Evaporation Rate (CCl4=1): > 1

Odor: Faint Ethereal

10. STABILITY AND REACTIVITY

Reactivity: Not classified as a reactivity hazard.

Chemical stability: Stable if used as directed. Follow precautionary advice and avoid incompatible materials and conditions.

Possibility of hazardous reactions: Can react with strong oxidizing agents.

Material and Conditions to Avoid: Heat, flames and sparks. Oxidizing agents.

Decomposition: No hazardous decomposition products are known.

11. TOXICOLOGICAL INFORMATION

1,1,1,2-Tetrafluoroethane

Acute Inhalation toxicity:
4 hour, LC50 rat: >567000 ppm
Skin Corrosion/Irritation: Not classified based on available information.
Serious Eye Irritation/ Eye Irritation: Not classified based on available information.
Skin Sensitization: Not classified based on available information.
Respiratory Sensitization: Not classified based on available information
Germ Cell Mutagenicity: Not classified based on available information.
Carcinogenicity: Not classified based on available information.
Reproductive toxicity: Not classified based on available information.
STOT-single exposure: Not classified based on available information.
STOT-repeated exposure: Not classified based on available information.
Aspiration toxicity: Not classified based on available information

Methanol

Inhalation Acute toxicity: 3mg/l, 4 hours, animals (unspecified species)
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 Irritaion/ Eye Irritation: No irritation, Rabbit
Skin sensitization: Not classified based on available information.
Respiratory Sensitization: Not classified based on available information.
Germ Cell Mutagenicity: Genotoxicity in vivo and vitro tests were negative.
Carcinogenicity: Not classified based on available information.
Reproductive Toxicity: Not classified based on available information.
STOT-single exposure: May cause damage to organs (Eyes, Central Nervous System)
STOT-repeated exposure: NOEL (90 days, Inhalation) in rats: 1.06 mg/l
Aspiration toxicity: Not classified based on available information.

12. ECOLOGICAL INFORMATION

Ecotoxicity
1,1,1,2-Tetrafluoroethane

96 hour LC50 in Oncorhynchus mykiss (rainbow trout): 450 mg/l
48 hour EC50 in Daphnia magna (Water flea): 980 mg/l
96 hour ErC50 (algae): 142 mg/l
72 hour NOEC in Pseudokirchneriella subcapitata (green algae): 13.2 mg/l

Biodegradability: Not readily biodegradable.
Bioaccumulative potential: Partition coefficient: n-octanol/water: log Pow: 1.06
Mobility in soil: No data available
Other adverse effects
Results of PBT and vPvB assessment: This substance is not considered to be persistent, bioaccumulating and toxic (PBT). This substance is not considered to be very persistent and very bioaccumulating (vPvB).

Methanol

96 hour LC50 in Lepomis marochirus (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

13. DISPOSAL CONSIDERATIONS

Dispose of in accordance with 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: 1,1,1,2 Tetrafluoroethane
Hazard Class: 2.2
Identification No. UN 3159
Packing Group: None
(Authorization DOT-SP 10232 for CFR only)

IMDG
Proper Shipping Name: 1,1,1,2 Tetrafluoroethane
Hazard Class: 2.2
Identification No. UN 3159
Packing Group: None
(Authorization DOT-SP 10232 for CFR only

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 304 Extremely Hazardous Substances Reportable Quantity: This material does not contain any components with a section 304 EHS RQ.

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

SARA 311/312 Hazards: Gases under pressure. Simple Asphyxiant.

SARA 313: Methanol

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

INTERNATIONAL INVENTENTORIES:

US – TSCA 12(b) Export Notification
None of the ingredients are listed.
CANADA: DSL/NDSL
All ingredients are listed or exempt.

16. OTHER INFORMATION

HMIS Ratings:

Health	- 0
Flammability	- 0
Physical Hazard	- 3

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

FOR INDUSTRIAL USE ONLY

REVISION DATE: NOVEMBER 2018