



1. CHEMICAL PRODUCT/COMPANY IDENTIFICATION

Name: MS-122AVL
DPMS-N0805A-1
PTFE Release Agent/Dry Lubricant

Product Use: Release Agent or Dry Lubricant

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:

Avoid breathing mist/vapor/spray.
Wash skin thoroughly after handling.
Use only outdoors or in a well-ventilated area.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
If eye irritation persists: Get medical advice/attention.
IF ON SKIN: Remove/Take off all contaminated clothing, immediately. Rinse skin with water.
IF INHALED: Remove victim to fresh air and keep at rest in position comfortable for breathing.
Protect from sunlight. Do not expose to temperature exceeding 50°C/122°F.
Do not spray on an open flame or ignition source.
Pressurized container. Do not pierce or burn, even after use.
Dispose of contents/container to an approved waste disposal plant.

Other hazards which do not result in classification or are not covered by GHS

Vapors are heavier than air and can cause suffocation by reducing oxygen available for breathing.

The thermal decomposition vapors of fluorinated polymers may cause polymer fume fever with flu-like symptoms in humans, especially when smoking contaminated tobacco.

3. INGREDIENTS

<u>Material (s)</u>	<u>CAS No.</u>	<u>Approximate %</u>
Trans-1,3,3,3-Tetrafluoroprop-1-ene (HFO-1234ze)	29118-24-9	90 - 95
Isopropyl Alcohol	67-63-0	5 - 10

4. FIRST AID MEASURES

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

Eye: Immediately flush eyes with plenty of water for at least 15 minutes. If easy to do, remove contact lenses. Continue to rinse. Get medical attention.

Skin: Immediately flush skin with plenty of water. Remove contaminated clothing and shoes. Wash clothing before use. Thoroughly clean shoes before reuse. Get medical attention.

Oral: DO NOT induce vomiting. Get medical attention. Rinse mouth thoroughly with water. Never give anything by mouth to an unconscious person. If vomiting occurs naturally, have a victim lean forward to reduce the risk of aspiration.

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

Specific hazards: This product is not flammable.

Fire and Explosion: Aerosols may rupture under fire conditions. Decomposition may occur.

Extinguishing Media: As appropriate for surrounding area.

Special Fire Fighting Instruction: Self-contained breathing apparatus (SCBA) maybe required if a large amount of aerosols rupture under fire conditions. Evacuate personnel to safe area. Fight fire from a distance, heat may rupture containers.

6. ACCIDENTAL RELEASE MEASURES

Ventilate area with fresh air, if a large amount is accidental released and wear self-contained breathing apparatus. No need for additional release information, since it is an aerosol.

7. HANDLING AND STORAGE

Handling: Use in a well-ventilated area to avoid breathing vapors. Vapors are heavier than air and accumulate in low areas. Use only with adequate ventilation. Where ventilation is inadequate, use appropriate respiratory protection. Avoid contact with skin or eyes. Wash thoroughly after handling. Polytetrafluoroethylene should not be handled around tobacco products because, smoking contaminated tobacco products may cause polymer fume fever.

Storage Conditions: Do not store near sources of heat, in direct sunlight or where temperatures exceed 120°F/49°C

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

<u>Exposure Limits:</u>	<u>TLV (ACGIH)</u>	<u>PEL (OSHA)</u>
HFO-1234ze	Not Established	Not Established
Isopropyl Alcohol	400 ppm, TWA	400 ppm, 8 Hr. TWA

Respiratory Protection: Avoid breathing vapors, mists or spray. Use with mechanical ventilation especially for enclosed or low places. Local exhaust should be used when large amounts are released. If necessary to keep exposure limits below permissible limits, use NIOSH approved respirators. In poorly ventilated areas, use an approved self-contained breathing apparatus.

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 when prolonged or frequently repeated contact occurs.

Prevention of Swallowing: Do not eat, drink or smoke when using this product. Wash hands thoroughly after contact.

9. PHYSICAL AND CHEMICAL PROPERTIES

Boiling Point: Not Applicable

Percent Volatile by Volume: 99%

Density: 1.1 g/cc at 70°F/21°C

Vapor Pressure: 60.8 psig at 68°F/20°C

Vapor Density (Air=1): >1

Solubility in H₂O : Insoluble

pH Information: Neutral

Evaporation Rate (CC14=1): >1

Form: Aerosol

Appearance: Milky

Color: White

Odor: Alcohol Odor

10. STABILITY AND REACTIVITY

Stability: Stable at normal and storage conditions.

Material and Conditions to Avoid: Avoid heat, sparks and flame. Avoid hot surfaces as corrosive and toxic decomposition products can be formed. Alkali metals, Powdered metals.

Decomposition: This product can be decomposed by high temperatures (flame, glowing metal surfaces, etc.) forming fluoride, fluorocarbons, hydrogen fluoride, hazardous gases including carbon monoxide and carbon dioxide

Polymerization: Will not occur.

11. TOXICOLOGICAL INFORMATION

Trans-1,3,3,3-Tetrafluoroprop-1-ene (HFO-1234ze)

Acute Inhalation:

4 hour, LC50 rat: >207000 ppm

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

Serious eye damage/eye irritation: No data available

Respiratory or skin 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

Isopropyl Alcohol

Acute Oral Toxicity: LD50, Rat: > 5,000mg/kg

Acute Inhalation Toxicity: 6 hour, LC50, Rat: > 25mg/l (vapor)

Acute Dermal Toxicity: LD50, Rabbit: > 5,000 mg/kg

Skin Corrosion/Irritation: No skin irritation in rabbits

Serious Eye Irritation/ Eye Irritation: Eye irritation, in rabbits. Reversing in 21 days.

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: May cause drowsiness and dizziness.

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 (HFO-1234ze)

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 rate: NOEC: > 170 mg/l, Exposure time: 72 h. Method: OECD Test Guideline 201

Biodegradability: Aerobic: Not readily biodegradable

Isopropyl Alcohol

Ecotoxicity: The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Toxic to Fish: 96 hour, LC50 in Fathead minnow (*Pimephales promelas*): 9640 mg/l

Toxic to daphnia and other aquatic invertebrates: 24 hour, EC50 Water flea (*Daphnia magna*): >10,000 mg/l

Toxic to microorganisms: 16 hour, EC50 (*Pseudomonas putida*): >1,050 mg/l

Persistence and degradability: Rapidly degradable

Bioaccumulative potential: Partition coefficient n-octanol/ water (log Pow): 0.05

Mobility in soil: No data available.

13. DISPOSAL CONSIDERATIONS

Comply with federal, state and local regulations. Remove to a permitted waste disposal facility. Do not puncture or incinerate cans. Empty aerosol cans before disposal.

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: Aerosols, Non-Flammable

Hazard Class: 2.2

Identification No. UN1950

Packing Group: None

IMDG

Proper Shipping Name: Aerosols, Non-Flammable

Hazard Class: 2.2

Identification No. UN1950

Packing Group: None

15. REGULATORY INFORMATION

U.S. Federal Regulations

TSCA: All ingredients are listed in TSCA inventory.

U.S. State Regulations:

California Prop. 65

WARNING: This product can expose you to chemicals including 2,2'-Iminodiethanol, which is/are known to the State of California to cause cancer, and pentadecafluorooctanoic acid, which is/are known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

16. OTHER INFORMATION

NPCA-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: AUGUST 2019

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.