



## 1. CHEMICAL PRODUCT/COMPANY IDENTIFICATION

**Name:** MS-122ADL  
H1212A  
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.

**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	200 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

<b>Boiling Point:</b> Not Applicable	<b>Percent Volatile by Volume:</b> 99%
<b>Density:</b> 1.1 g/cc at 70°F/21°C	<b>Vapor Pressure:</b> 60.8 psig at 68°F/20°C
<b>Vapor Density (Air=1):</b> >1	<b>Solubility in H<sub>2</sub>O :</b> Insoluble
<b>pH Information:</b> Neutral	<b>Evaporation Rate (CC14=1):</b> >1
<b>Form:</b> Aerosol	<b>Appearance:</b> Milky
<b>Color:</b> White	<b>Odor:</b> Alcohol Odor

## 10. STABILITY AND REACTIVITY

**Stability:** Stable at normal and storage conditions.

**Material and Conditions to Avoid** Avoid heat, sparks and flame. Avoid alkali 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 and 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

### 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. Method OECD Test Guideline 203

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

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

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

**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.

## **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: APRIL 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.