

## 1. CHEMICAL PRODUCT/COMPANY IDENTIFICATION

**Name:** MS-122XD  
DPMS-Z0612A  
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

**Hazard Classification:** 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:**

Do not pierce or burn, even after use.  
Protect from sunlight. Do not expose to temperatures exceeding 50°C/122°F.  
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>
1,1,1,2-Tetrafluoroethane	811-97-2	80 - 90
1,1,1,2,2,3,4,5,5,5-Decafluoropentane	138495-42-8	9 - 15

### 4. FIRST AID MEASURES

**Inhalation:** Remove patient to fresh air. Get medical attention if necessary.

**Eye:** Flush with a large amount of water. Get medical attention if irritation develops and persists.

**Skin:** Wash skin with soap and water after contact. Get medical attention if symptoms occur.

**Oral:** If swallowed, Do NOT induce vomiting. Rinse mouth thoroughly with water. Get medical attention if symptoms occur.

Note to physician: Treat symptomatically and supportively.

### 5. FIRE FIGHTING MEASURES

**Flammability:** This product is not flammable.                      **Test Method:** Ignition distance test and Enclosed space ignition test

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

**Extinguishing Media:** Water spray, Alcohol-resistant foam, Dry chemical, Carbon dioxide (CO<sub>2</sub>)

**Specific hazards during firefighting:** Exposure to combustion products may be a hazard to health. Aerosols will rupture under fire conditions due to the heat and high pressure.

**Hazardous combustion products:** Carbon oxides, Hydrogen fluoride, Carbonyl fluoride, Potentially toxic fluorinated compounds.

**Special Fire Fighting Instruction:** Evacuate area. Use water spray to cool aerosols. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations. Do not breathe fumes or vapors from fire. Self-contained breathing apparatus (SCBA) may be required if a large amount of aerosols rupture under fire conditions. Fight fire from a distance, heat may rupture containers.

### 6. ACCIDENTAL RELEASE MEASURES

**Personal precautions, protective equipment, and emergency procedures:** Evacuate area. Ventilate the area with fresh air. Use personal protective equipment. If a large amount of aerosols rupture and spill in confined areas, provide mechanical ventilation to disperse the vapors.

**Environmental precautions:** Avoid release to the environment. Prevent material from entering sewers, waterways, or low areas. Do not allow contact with soil, surface, or ground water. Local authorities should be advised if significant spillages cannot be contained.

**Methods and material for containment and cleaning up:** Contain spillage, and then collect with inert absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations.

## 7. HANDLING AND STORAGE

**Handling:** Use in a well-ventilated area to avoid breathing vapors. Use only with adequate ventilation. Use appropriate respiratory protection, when ventilation is inadequate. Avoid contact with skin or eyes. Wash thoroughly after handling.

**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

### Exposure Limits:

1,1,1,2-Tetrafluoroethane

1,1,1,2,2,3,4,5,5,5-Decafluoropentane

### ACGIH

Not Established

Not Established

### OSHA

Not Established

Not Established

**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 when prolonged or frequently repeated contact occurs. Wash hands before breaks and at the end of workday. Breakthrough time is not determined for the product. Change gloves often.

**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:** 1.25 g/cc at 77°F/25°C

**Vapor Pressure:** 80 psig at 77°F/25°C

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

**Solubility in H<sub>2</sub>O :** Insoluble

**pH Information:** Neutral

**Evaporation Rate (CC14=1):** >1

**Form:** Aerosol

**Appearance:** Milky

**Color:** White

**Odor:** Faint Ethereal Odor

## 10. STABILITY AND REACTIVITY

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

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

**Material and Conditions to Avoid:** None known.

**Hazardous Decomposition:** This product can be decomposed by high temperatures (flame, glowing metal surfaces, etc.) forming Hydrofluoric acid, Carbonyl difluoride, Carbon monoxide and Carbon dioxide.

## **11. TOXICOLOGICAL INFORMATION**

### **1,1,1,2-Tetrafluoroethane**

**Acute Inhalation:**

LC50 (Rat) > 567000, 4 h. Test atmosphere: gas. Method: OECD Test Guideline 403

No observed adverse effect concentration (Dog): 40000 ppm. Test atmosphere: gas. Remarks: Cardiac sensitization

Lowest observed adverse effect concentration (Dog): 80000 ppm. Test atmosphere: gas. Symptoms: May cause cardiac arrhythmia.

Cardiac sensitization threshold limit (Dog): 334,000 mg/m<sup>3</sup>. Test atmosphere: gas. Symptoms: May cause cardiac arrhythmia.

**Skin corrosion/irritation:** No skin irritation.

**Serious eye damage/eye irritation:** No eye irritation.

**Respiratory or skin sensitization:** Not classified based on available information. Negative in Rat: Skin contact and Inhalation.

**Germ cell mutagenicity:** Weight of evidence does not support classification as a germ cell mutagen.

Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay) Species: Mouse

Application Route: inhalation (gas) Method: OECD Test Guideline 474 Result: negative

Test Type: Unscheduled DNA synthesis (UDS) test with mammalian liver cells in vivo Species: Rat

Application Route: inhalation (gas) Method: OECD Test Guideline 486 Result: negative

**Carcinogenicity:** Weight of evidence does not support classification as a carcinogen. Rat by inhalation (gas) for 2 years is negative.

Method: OECD Test guideline 453

**Reproductive toxicity:** Weight of evidence does not support classification for reproduction toxicity.

Effects on fertility: Mouse by inhalation is negative.

Effects on fetal development: Test type: Combined repeated dose toxicity study with the reproduction/development toxicity screening test in Rabbit by inhalation (gas) is negative. Method: OECD Test Guideline 414

**STOT-single exposure:** Not classified based on available information. No significant health effects observed in animals at concentrations of 20000V/4H or less by inhalation (gas).

**STOT-Repeated exposure:** Not classified based on available information. No significant health effects observed in animals at concentrations of 20000V/4H or less by inhalation (gas).

**Aspiration toxicity:** No aspiration toxicity classification.

### **1,1,1,2,2,3,4,5,5,5-Decafluoropentane**

**Information on likely routes of exposure:** Inhalation, Skin contact, Ingestion, Eye contact

**Acute Oral:** LD50: > 5000 mg/kg in rats

**Acute Inhalation (vapor):** 4 hour LC50: 114 mg/l in rats

**Acute Dermal:** LD50: > 5000 mg/kg in rats

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

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

**Skin Sensitization:** No skin sensitization in Guinea pigs.

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

**Germ Cell Mutagenicity:** Weight of evidence does not support classification as a germ cell mutagen.

**Carcinogenicity:** Not classified based on available information.

**Reproductive toxicity:** Weight of evidence does not support classification as a germ cell mutagen.

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

**STOT-repeated exposure:** No significant health effects observed in animals at concentrations of 1mg/l/6h/d or less.

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

## 12. ECOLOGICAL INFORMATION

### 1,1,1,2-Tetrafluoroethane

**Toxicity to fish:** 96 hour LC50 (Oncorhynchus mykiss (rainbow trout)): 450 mg/l. Method: Regulation (EC) No. 440/2008, Annex, C.1

**Toxicity to daphnia and other:** 48 hour EC50 (Daphnia magna (Water flea)): 980 mg/l. Method: Regulation (EC) No. 440/2008, Annex, C.2

**Toxicity to algae:** 96 hour ErC50 (algae): 100 mg/l. Based on data from similar materials.

**Biodegradability:** Not readily biodegradable. Method: OECD Test Guideline 301D

**Bioaccumulative potential:** Bioaccumulation is unlikely. Partition coefficient n-octanol/ water (log Pow): 1.06

**Mobility in soil:** No data available

**Other adverse effects:** No data available

### 1,1,1,2,2,3,4,5,5-Decafluoropentane

96 hour LC50 in Oncorhynchus mykiss (rainbow trout): 13.9 mg/l

96 hour LC50 in Pimephales promelas (fathead minnow): 27.2 mg/l

96 hour LC50 in Danio rerio (zebra fish): 13 mg/l

48 hour LC50 in Daphnia magna (Water flea): 11.7 mg/l

72 hour EC50 in Pseudokirchneriella subcapitata (Green algae): >120 mg/l

21 days NOEC in Daphnia magna (Water flea): 1.72 mg/l

**Biodegradability:** Not readily biodegradable.

**Bioaccumulative potential:** Bioaccumulation is unlikely.

**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

Limited Quantity

### 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.

1,1,1,2,2,3,4,5,5,5-Decafluoropentane (CAS# 138495-42-8) - The United States Environmental Protection Agency has established a Significant New Use Rule (SNUR; 40 CFR 721.5645) for this product. Also, this product requires an export notification under TSCA Section 12(b) and 40 CFR Part 707 Subpart D.

### **U.S. State Regulations**

#### **California Prop. 65**

**WARNING:** This product can expose you to chemicals including 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](http://www.P65Warnings.ca.gov). Note to User: This product is not made with PFOA nor is PFOA intentionally present in the product; however, it is possible that PFOA may be present as an impurity at background (environmental) levels.

## **16. OTHER INFORMATION**

### **NPCA-HMIS Ratings:**

Health	- 1
Flammability	- 0
Reactivity	- 0

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

### **FOR INDUSTRIAL USE ONLY**

#### **REVISION DATE: APRIL 2022**

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.