## 1. CHEMICAL PRODUCT/COMPANY IDENTIFICATION

**Name: MS-122SEL**
N0805A-2
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**
Harmful if inhaled (Inhaled dust or mist): Category 4
Harmful to aquatic life with long lasting effects: Category 3.

**Label elements:**
**Signal word**
Warning

**Pictograms**

**Hazard Statements**
Harmful if inhaled.
Harmful to aquatic life with long lasting effects.

**Precautionary Statements**
Avoid breathing mist/vapors/spray.
Use in a well-ventilated area or outdoors.
Avoid release into the environment.
**Inhalation:** Remove person to fresh air and keep comfortable for breathing.
Call a POISON CENTER or doctor/physician if you feel unwell.
Pressurized container: Do not pierce or burn, even after use.
Protect from sunlight. Do not expose to temperatures exceeding 50°C/122°F.

**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.
May cause cardiac arrhythmia.
The thermal decomposition vapors of fluorinated polymers may cause polymer fume fever with flu-like symptoms in humans, especially when smoking contaminated tobacco.
Repeated episodes of polymer fume fever may result in persistent lung effects.

## 3. INGREDIENTS

| Material (s) | CAS No. | Approximate % |
|---|---|---|
| 1,1,1,2,2,3,4,5,5,5-Decafluoropentane (HFC-43-10mee) | 138495-42-8 | 40 – 50 |
| Trans,1.2-Dichloroethylene | 156-60-5 | 50 – 60 |
| Trans-1,3,3,3-Tetrafluoroprop-1-ene (HFO-1234ze) | 29118-24-92 | 18 – 22 |

## 4. FIRST AID MEASURES

**Inhalation:** Remove patient to fresh air. If not breathing, give artificial respiration. Give oxygen as necessary, if qualified personnel is available. Get medical attention if necessary.

**Eye:** Flush with large amounts of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Get medical attention if necessary.

**Skin:** Wash with water for at least 15 minutes. Remove contaminated clothing. Wash contaminated clothing before reuse. Get medical attention if necessary.

**Oral:** If swallowed, DO NOT induce vomiting unless directed to do so by a physician, because the hazard of aspirating the material into the lungs is considered greater than swallowing it. Never give anything to an unconscious person. Get medical attention.

## 5. FIRE FIGHTING MEASURES

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

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

**Extinguishing Media:** Dry chemical powder, alcohol-resistant foam, carbon dioxide. Do not use a heavy stream of water may spread fire.

**Special Fire Fighting Instruction:** Use water spray to cool containers. Do not allow run-off from firefighting to enter drains and water sources. Do not breathe fumes or vapors from fire. Self-contained breathing apparatus (SCBA) maybe required if a large amount of aerosols rupture under fire conditions. Fight fire from a distance, heat may rupture containers.

## 6. ACCIDENTAL RELEASE MEASURES

Ventilate area with fresh air and remove all ignition sources, if a large amount is accidental released. 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. Use appropriate respiratory protection, when ventilation is inadequate. Avoid contact with skin or eyes. Wash thoroughly after handling. Poly-Tetrafluoroethylene should not be handled around tobacco products. The inhalation of vapors in the presence of tobacco products will cause polymer fume fever.

**Storage Conditions**: Do not store near sources of heat, in direct sunlight or where temperatures exceed 120$^{O}$F/49$^{O}$C. Protect from freezing temperatures. If solvent is stored below -10°C (14°F), mix prior use.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

| Exposure Limits: | TLV (ACGIH) | PEL (OSHA) | WEEL (AIHA) |
|---|---|---|---|
| 1,1,1,2,2,3,4,5,5,5-Decafluoropentane | Not Established | Not Established | |
| Trans,1,2-Dichloroethylene | 200 ppm, 8 Hr. TWA | 200 ppm, 8 Hr. TWA | |
| HFO-1234ze | Not Established | Not Established | 800 ppm (TWA) |

**Respiratory Protection:** Avoid breathing vapors, mists or spray. Use with sufficient ventilation especially for enclosed or low places. If necessary to keep exposure limits below permissible limits, use NIOSH approved respirators, such as an air-purifying respirator with organic cartridges. 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 exposed areas thoroughly with soap and water.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

**Boiling Point:** N.A.

**Percent Volatile by Volume:** 99%

**Density:** 1.41 g/cc at 77°F/25°C

**Vapor Pressure:** 497 mm Hg at 77°F/25°C

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

**Solubility in $H_2O$ :** N.A.

**pH Information:** Neutral

**Evaporation Rate (CC14=1):** N.A.

**Form:** Aerosol

**Appearance:** Milky

**Color:** White

**Odor:** Faint Ethereal Odor

## 10. STABILITY AND REACTIVITY

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

**Material and Conditions to Avoid:** Strong alkali or alkaline earth metals. Finely powdered metals, powdered metal salts, Nitrogen oxides, acids, bases and strong oxidizing agents. Open flame.

**Decomposition:** This product can be decomposed by high temperatures (flame, glowing metal surfaces, etc.) forming fluorinated hydrocarbons, Hydrogen fluoride, Carbon dioxide, Carbon monoxide, Hydrogen chloride gas, and other toxic fumes.

**Polymerization:** Will not occur.

## 11. TOXICOLOGICAL INFORMATION

**Carcinogenicity:** None of the components in this product are listed as a carcinogen by IARC, NTP, OSHA, or ACGIH.

**1,1,1,2,2,3,4,5,5,5-Decafluoropentane (HFC-43-10mee)**

**Inhalation:** 4 hour LC50: 114mg/l in rats, Central nervous system effects, Convulsions
**Oral:** LD50: > 5,000 mg/kg in rats
**Dermal:** LD50: > 5,000 mg/kg in rabbits
**Skin Irritation:** No skin irritation, rabbit
**Eye Irritation:** No eye irritation, rabbit
**Skin Sensitization:** Did not cause sensitization on laboratory animals., guinea pig
**Repeated dose toxicity:** Inhalation, rat
No toxicologically significant effects were found.
**Reproductive toxicity:** Animal testing showed no reproductive toxicity.
**Teratogenicity:** Animal testing showed no developmental toxicity

**Trans-1,2-Dichloroethylene**

**Oral:** LD50: 7902 mg/kg in rats
**Dermal:** LD50: > 5,000 mg/kg in rabbits
**Inhalation:** 4 hour LC50: 96.4 mg/l in rats
**Target Organs:** Central nervous system, narcosis
**Inhalation Low Observed:** 250000 ppm in rats
**Adverse Effect Concentration:** Cardiac sensitization
**Skin irritation:** Skin irritation in rabbits
**Eye irritation:** Mild eye irritation in rabbits
**Repeated dose toxicity:** Inhalation, 90 days in rats: No toxicologically significant effects were found.
Oral, 90 days in rats: No toxicologically significant effects were found.
**Mutagenicity:** Did not cause genetic damage in animals.
Test on bacterial or mammalian cell cultures did not show mutagenic effects.
**Reproductive toxicity:** Animal testing showed no reproductive toxicity.
**Teratogenicity:** Animal testing showed no developmental toxicity

## 12. ECOLOGICAL INFORMATION

**Aquatic Toxicity:**

**1,1,1,2,2,3,4,5,5,5-Decafluoropentane (HFC-43-10mee):**

96 hour LC50 in fathead minnows: 27.2 mg/L
96 hour LC50 in rainbow trout: 13.9 mg/L
48 hour LC50 in Daphnia magna: 11.7 mg/L
72 hour EC50 in green algae: > 120mg/L

**Trans-1,2-Dichloroethylene**

96 hour LC50 in bluegill sunfish: 74 mg/l
48 hour LC50 in Daphnia magna: 79mg/l
96 hour EC50 in green algae: 798 mg/l

## 13. DISPOSAL CONSIDERATIONS

Comply with federal, state and local regulations. Remove to a permitted waste disposal facility.

## 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.

**SARA/TITLE III HAZARD CATEGORIES:**
**Product Hazard Categories:**

| | |
|---|---|
| Acute Health | - Yes |
| Chronic Health | - No |
| Fire Hazard | - No |
| Reactivity Hazard | - No |
| Pressure Hazard | - Yes |

1,1,1,2,2,3,4,5,5,5-Decafluoropentane (CAS# 138495-42-8) is controlled by TSCA Section 5, Significant New Use Rule (SNUR; 40 CFR 721.5645) The approved uses are: precision and general cleaning, carrier fluid, displacement drying, printed circuit board cleaning, particulate removal and film cleaning, process medium, heat transfer fluid (dielectric and non-dielectric), and test fluid. Processors and users of this substance must also comply with the applicable general SNUR requirements set forth in 40 CFR 721 subpart A, including export notification requirements if applicable (40 CFR 721.20), and the applicable record keeping requirements set forth at 40 CFR 721.125.

## 16. OTHER INFORMATION

**NPCA-HMIS Ratings:**

| | |
|---|---|
| Health | - 1 |
| Flammability | - 1 |
| Reactivity | - 1 |

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

**FOR INDUSTRIAL USE ONLY**

**REVISION DATE: AUGUST 2016**