



1. CHEMICAL PRODUCT/COMPANY IDENTIFICATION

Name: MS-122XDL
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:

Pressurized container. 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>
Trans-1,3,3,3-Tetrafluoroprop-1-ene	29118-24-9	85 - 90
1,1,1,2,2,3,4,5,5,5-Decafluoropentane	138495-42-8	10 - 15

4. FIRST AID MEASURES

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

Eye: Flush with a large amount of water for at least 15 minutes, lifting eyelids until no evidence of the chemical remains. Get medical attention if necessary.

Skin: Wash skin with water after contact. Wash contaminated clothing before use. Get medical attention if necessary.

Oral: If swallowed, Do NOT induce vomiting. Rinse mouth with plenty of water. Never give anything to an unconscious person. Call a physician.

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

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: As appropriate for surrounding area.

Hazardous decomposition products: In case of fire, forming toxic gases along with Hydrogen fluoride, Carbonyl fluoride, Carbon dioxide (CO₂), Carbon monoxide.

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. Do not store or consume food, drink, or tobacco in areas where they may become contaminated with this material.

Storage Conditions: Keep away from strong oxidizing agents. 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>
Trans-1,3,3,3-Tetrafluoroprop-1-ene	Not Established	Not Established
1,1,1,2,2,3,4,5,5,5-Decafluoropentane	Not Established	Not Established

Respiratory Protection: Avoid breathing vapors, mists or spray. Use with mechanical ventilation especially for enclosed or low places. Local exhaust should be used when a large amount is 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 exposed areas thoroughly with soap and water.

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: 56 psi at 77°F/25°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: Faint Ethereal Odor

10. STABILITY AND REACTIVITY

Stability: Stable at normal and storage conditions.

Material and Conditions to Avoid Incompatible with alkali metals and strong oxidizing agents.

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

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.

Trans-1,3,3,3-Tetrafluoroprop-1-ene

Inhalation:

4 hour, LC50 rat: >207000 ppm

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

Method: OECD Test Guideline 404

Eye irritation No data available

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.

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

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

Acute Toxicity: Not classified based on available information.

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.

12. ECOLOGICAL INFORMATION

Trans-1,3,3,3-Tetrafluoroprop-1-ene

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 inhibition: NOEC: > 170 mg/l, Exposure time: 72 h

Biodegradability: Aerobic: Not readily biodegradable

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

Ecotoxicity: No data available

Persistence and degradability: No data available

Bioaccumulative potential: No data available

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).

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.

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	- 0
Reactivity	- 0

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

FOR INDUSTRIAL USE ONLY

REVISION DATE: APRIL 2018

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.