miller-stephenson

SDS
Safety Data Sheet

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

Hazard classification
Aerosols: Category 3
Serious Eye Damage/Irritation: Category 2A.

Label elements:

Single Word: Warning
Hazard Statements
Pressurized container: may burst if heated.
May displace oxygen can cause rapid suffocation.
Causes serious eye irritation.

Precautionary Statements:
Pressurized container. Do not pierce or burn, even after use.
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.
Dispose of contents/container to an approved waste disposal plant.

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

Material (s)	CAS No.	Approximate %
Trans-1,3,3,3-Tetrafluoroprop-1-ene	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.

Most important symptoms/effects, acute and delayed: May cause drowsiness and dizziness. Causes serious eye irritation.

5. FIRE FIGHTING MEASURES

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

Suitable Extinguishing Media: Water fog, Alcohol resistant foam, Dry chemical, Carbon dioxide (CO2)

Unsuitable extinguishing media: No applicable data available.

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 halides, Halogenated compounds.

Special Fire Fighting Instruction: Evacuate area. Do not enter area without personal protective equipment. Exposure to decomposition products may be a hazard to health. Wear self-contained breathing apparatus, if necessary. Fight fire from a distance, heat may rupture containers. Use water spray to cool aerosols. Do not allow run-off from firefighting to enter drains or water sources.

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^{O}F/49^{O}C.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Limits:	TLV (ACGIH)	PEL (OSHA)
Trans-1,3,3,3-Tetrafluoroprop-1-ene	Not Established	Not Established
Isopropyl Alcohol	200 ppm, TWA	400 ppm, TWA

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

Density: 1.1 g/cc at 70^{O}F/21^{O}C

Vapor Density (Air=1): >1

pH Information: Neutral

Form: Aerosol

Color: White

Percent Volatile by Volume: 99%

Vapor Pressure: 60.8 psig at 68^{O}F/20^{O}C

Solubility in H_2O : Insoluble

Evaporation Rate (CC14=1): >1

Appearance: Milky

Odor: Alcohol Odor

10. STABILITY AND REACTIVITY

Reactivity: Not classified as a reactivity hazard.

Chemical Stability: Stable at normal conditions.

Material and Conditions to Avoid: Heat, sparks, and flames. Exposure to elevated temperatures, direct sunlight. Acids, Strong oxidizers, Alkali metals.

Decomposition: Decomposition products are hazardous. This material can be decomposed by high temperatures (open flames, glowing metal surfaces, etc) forming products containing Carbon monoxide, Carbon dioxide, Carbonyl halides, Gaseous hydrogen chloride, Hydrogen fluoride.

Polymerization: Will not occur.

11. TOXICOLOGICAL INFORMATION

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

Acute Oral: Not applicable study technically not feasible.
Acute Dermal: No data available study technically not feasible
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. Study technically not feasible.
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: Test Method: Chromosome aberration test in vitro. Cell type: Human lymphocytes
Result: negative. Method: OECD Test Guideline 473
Genotoxicity in vivo: Test Method: Mutagenicity (in vivo mammalian bone-marrow cytogenetic test, chromosomal analysis)
Species: Mouse. Cell type: Micronucleus. Application Route: Inhalation. Method: OECD Test Guideline 474. Result: negative.
Reproductive toxicity: Test Method: Two-generation study. Species: Rat. Application Route: Inhalation. 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: LD50, Rat, > 5,000 mg/kg
Acute Dermal: LD50, Rabbit, > 5,000 mg/kg
Acute Inhalation (vapor): 6 hour LC50, Rat > 25 mg/l
Skin Corrosion/Irritation: No skin irritation in rabbits.
Serious Eye Damage/Irritation: Irritation to eyes in Rabbits, reversing within 21 days.
Skin Sensitization: Buehler Test (skin contact) is negative in Guinea pig. Method OECD Test Guideline 406
Respiratory Sensitization: Not classified based on available information.
Germ Cell Mutagenicity: In vitro and In vivo - Not Mutagenic
Carcinogenicity: Negative in rats exposed 104 weeks by inhalation (vapor). Method: OECD Test Guideline 451
Reproductive Toxicity: Negative in rats by ingestion based on Two-generation reproduction toxicity study and Embryo-fetal development.
STOT- single exposure: May cause drowsiness or dizziness

STOT- repeated exposure: NOAEL, Rat exposed 104 weeks by inhalation (vapor): 12.5 mg/l
Aspiration toxicity: Not classified based on available information.

12. ECOLOGICAL INFORMATION

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

96 hour LC0 – Static Test of Cyprinus carpio (Carp): > 117 mg/l. Method: OECD Test Guideline 203
48 hour EC50 – Static Test Daphnia magna (Water flea): > 160 mg/L. Method: OECD Test Guideline 202
Toxicity to algae: Growth rate and Biomass: 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

Toxicity to fish: 96 hour LC50 in Pimephales promelas (fathead minnow): 10,000 mg/l
Toxicity to daphnia and other aquatic invertebrates: 24 hour EC50 in Daphnia magna (water flea): >10,000 mg/l
Toxicity to microorganisms: 16 hour EC50 in Pseudomonas putida: >1,050 mg/l

Persistence and degradability: Rapidly degradable. BOD: 1.19 (BOD5)COD: 2.23BOD/COD: 53%
Bioaccumlative 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
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.

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. 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	- 1
Reactivity	- 0

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

FOR INDUSTRIAL USE ONLY

REVISION DATE: MARCH 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.