



1. CHEMICAL PRODUCT/COMPANY IDENTIFICATION

Name: MS-122AD
DPMS-Z0918A
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

GHS Label Elements:

Pictogram: not required
Signal word: not required

Precautionary Statements: Avoid breathing spray.
Wash skin thoroughly after handling.
Use in a well-ventilated area.
In case of EYE contact, immediately flush eyes with plenty of water.
If eye irritation persists: Get medical attention.
IF ON SKIN: Remove/Take off all contaminated clothing, immediately. Rinse skin with water.
If INHALED: Remove victim to fresh air.

Hazardous prevention measures: Avoid release to the environment.
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.
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

<u>Material (s)</u>	<u>CAS No.</u>	<u>Approximate %</u>
1,1,1,2-Tetrafluoroethane	811-97-2	88 - 92
Isopropyl Alcohol	67-63-0	5 - 10
Poly-TFE, Omega-Hydro-Alpha-(Methylcyclohexyl)-	65530-85-0	1 - 2
Poly-Tetrafluoroethylene	9002-84-0	< 1

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, 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, because the hazard of aspirating the material into the lungs is considered greater than swallowing it. Immediately give 2 glasses of water. Never give anything to an unconscious person. Call a physician.

If vomiting occurs naturally, have a victim lean forward to reduce the risk of aspiration.

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>	<u>AEL* (DuPont)</u>
1,1,1,2-Tetrafluoroethane	Not Established	Not Established	1000 ppm
Isopropyl Alcohol	200 ppm, TWA	400 ppm, 8 Hr. TWA	200ppm, 8 & 12Hr. TWA
Poly-Tetrafluoroethylene	Not Established	Not Established	10 mg/m ³ , 8 Hr. TWA, Total dust 5 mg/m ³ , 8 Hr. TWA, Respirable dust

*AEL is DuPont's Acceptable Exposure Limit. Where governmentally imposed occupational exposure limits which are lower than the AEL are in effect, such limits shall take precedence.

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

Boiling Point: Not Applicable

Percent Volatile by Volume: 99%

Density: 1.2 g/cc at 77°F/25°C

Vapor Pressure: 80 psig 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 Avoid heat, sparks and flame. Strong oxidizers, strong acids, reactive metals, halogenated compounds, aldehydes, strong bases, alkali metals, alkaline earth metals.

Decomposition: This product can be decomposed by high temperatures (flame, glowing metal surfaces, etc.) forming halogenated hydrocarbons, hydrogen fluoride, hazardous gases including carbon monoxide and carbon dioxide.

Polymerization: Will not occur.

11. TOXICOLOGICAL INFORMATION

Animal Data

1,1,1,2-Tetrafluoroethane

Inhalation:

4 hour, LC50 rat: >500000 ppm

Sensitization: Cardiac sensitization

Species: Dogs

Note: No-observed-effect level 50 000 ppm Lowest observable effect level 75 000

Repeated dose toxicity: Species: rat

NOEL: 40000ppm

Genotoxicity in vitro: Note: In vitro tests did not show mutagenic effects

Other Health Effects: This substance has no evidence of carcinogenic properties

Isopropyl Alcohol

Acute Toxicity

Ingestion: LD50, Rat 4,700 - 5,800 mg/kg. Approximate. Lethal Dose, Human 100 ml

Skin Absorption

LD50, Rabbit 13,000 mg/kg

Inhalation

LC50, 8 h, Vapor, Rat, female 19,000 ppm

Sensitization Skin

Did not demonstrate the potential for contact allergy in mice.

Repeated Dose Toxicity

In animals, effects have been reported on the following organs: Liver. Kidney. Kidney effects have been observed in male rats. These effects are believed to be species specific and unlikely to occur in humans. Observations in animals include: Lethargy.

Chronic Toxicity and Carcinogenicity Inhalation:

Did not cause cancer in laboratory animals.

Developmental Toxicity

Isopropanol has been toxic to the fetus in laboratory animals at doses toxic to the mother.

Reproductive Toxicity

In animal studies, did not interfere with reproduction.

Genetic Toxicology

In vitro genetic toxicity studies were negative. Animal genetic toxicity studies were negative.

Poly-TFE, Omega-Hydro-Alpha-(Methylcyclohexyl)-

Oral: ADL/rat: >17,000 mg/kg

Skin irritation: No skin irritation, guinea pig

Eye irritation: No eye irritation, rabbit

Skin sensitization: Did not cause sensitization on laboratory animals., guinea pig

Poly-Tetrafluoroethylene

Oral: LD50/rat: >11,280 mg/kg

Skin irritation: No skin irritation, guinea pig

Eye irritation: No eye irritation, rabbit

Skin sensitization: Did not cause sensitization on laboratory animals., guinea pig

Repeated dose toxicity: Oral, rat

No toxicologically significant effects were found.

12. ECOLOGICAL INFORMATION

Aquatic Toxicity:

Isopropyl Alcohol

Material is practically non-toxic to aquatic organisms on an acute basis (LC50/EC50/EL50/LL50 >100 mg/L in the most sensitive species tested).

Fish Acute & Prolonged Toxicity

LC50, fathead minnow (*Pimephales promelas*), flow-through, 96 h: 9,640 - 10,400 mg/l

Aquatic Invertebrate Acute Toxicity

EC50, water flea *Daphnia magna*, 48 h, immobilization: 7,550 - 13,299 mg/l

Aquatic Plant Toxicity

EC50, alga *Scenedesmus* sp., Growth rate inhibition, 72 h: > 1,000 mg/l

Toxicity to Micro-organisms

EC50; activated sludge, respiration inhibition: > 1,000 mg/l

1,1,1,2-Tetrafluoroethane

Ecotoxicity: There is no data on the ecotoxicity of this product.

Additional ecology information: Accumulation in aquatic organisms is unlikely. The product contains greenhouse gases which may contribute to global warming.

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: Aerosol, Non-Flammable

Hazard Class: 2.2

Identification No. UN1950

Packing Group: None

IMDG

Proper Shipping Name: Aerosol, 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 - 0

Reactivity - 0

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

FOR INDUSTRIAL USE ONLY

REVISION DATE: JANUARY 2015

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.