1. CHEMICAL PRODUCT/COMPANY IDENTIFICATION

Name: MS-143AX
DPMS A1229B
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
Serious Eye Damage/Irritation: Category 2A.
Specific Target Organ Toxicity (single exposure): Category 3

Label elements:
Signal word
Warning

Pictogram

Hazard Statements
Causes serious eye irritation.
May cause drowsiness or dizziness

Prevention Statements
Avoid breathing fumes/gas/vapor/spray.
Wash hands thoroughly after handling.
Use only outdoors or in a well-ventilated area.
Wear protective gloves/eye protection/face protection.
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 INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.
Store in a well-ventilated place. Keep container tightly closed. Keep cool.
Dispose of contents/ container to an approved waste disposal plant.

Other Hazards
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 %
1,1,1,2,2,3,4,5,5,5-Decafluoropentane	138495-42-8	64 - 67
Isopropyl Alcohol	67-63-0	32 - 34

4. FIRST AID MEASURES

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

Eye: Flush with a large amount of water for at least 15 minutes. If easy to do, remove contact lens, if worn. Get medical attention.

Skin: Wash with water and soap. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.

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

Most important symptoms/effects, acute and delayed: May cause cardiac arrhythmia.
Skin contact may provoke the following symptoms: Dermatitis, Irritation, Discomfort, Pain, Redness, Rash, Itching, Swelling of tissue, Superficial burning sensation
Eye contact may provoke the following symptoms: Pain, Tearing, Swelling of tissue, Redness, Impairment of vision
Inhalation may provoke the following symptoms: Unconsciousness, Drowsiness, Lack of coordination, Confusion, Dizziness, Central nervous system depression
Effects of breathing high concentrations of vapor may include: Tiredness, Drowsiness, Central nervous system effects, Convulsions
Adverse effects from repeated inhalation may include central nervous system effects
Aspiration may cause pulmonary edema and pneumonitis.
Causes serious eye irritation.

Notes to Physician: Treat symptomatically and supportively.

5. FIRE FIGHTING MEASURES

Flash Point: None **Method:** TCC

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

Unsuitable extinguishing media: No applicable data available.

Specific hazards during fire-fighting: Exposure to combustion products, Carbon oxides, Hydrogen fluoride, carbonyl fluoride, and potentially toxic fluorinated compounds may be a hazard to health

Specific extinguishing methods: Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Use water spray to cool unopened containers. Remove undamaged containers from fire area if it is safe to do so. Evacuate area.

Special Fire Fighting Equipment: In the event of fire, wear self-contained breathing apparatus and other protective clothing to prevent contact with the skin and eyes.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures: Evacuate personnel to safe area. Ventilate area, especially low or enclosed places where heavy vapors might collect. In case of insufficient ventilation, wear suitable respiratory equipment.

Environmental precautions: If containers rupture, prevent material from entering sewers, waterways, or low areas. Should not be released into the environment. Do not allow contact with soil, surface or ground water.

Spill Cleanup: Contain spillage, and then collect with non-combustible 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. 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. Do not eat, drink or smoke when using this product. Wash thoroughly after handling.

Storage Conditions: Store tightly sealed in a clean, dry place, and well-ventilated place. Do not store in temperatures that exceed 125^{O}F/52^{O}C, because the containers could leak or rupture from pressure and expansion.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Limits:	TLV (ACGIH)	PEL (OSHA)
1,1,1,2,2,3,4,5,5,5-Decafluoropentane	Not Established	Not Established
Isopropyl Alcohol	200 ppm, TWA	400 ppm, 8 Hr. 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 to this material (eg. Viton) when prolonged or frequently repeated contact occurs. For special applications, we recommend clarifying the resistance to chemicals of the afore mentioned protective gloves with the glove manufacturer. Wash hands before breaks and at the end of workday. Breakthrough time is not determined for the product. Change gloves often.

9. PHYSICAL AND CHEMICAL PROPERTIES

Boiling Point: 128^{O}F/53^{O}C

Density: 1.6 g/cc at 77^{O}F/25^{O}C

Vapor Density (Air=1): 4.0

pH Information: Neutral

Form: Liquid

Color: White

Percent Volatile by Volume: 99%

Vapor Pressure: 290 mm Hg at 77^{O}F/25^{O}C

Solubility in H_2O : Insoluble

Evaporation Rate (CC14=1): >1

Appearance: Milky

Odor: Faint Ethereal Odor

10. STABILITY AND REACTIVITY

Reactivity: Not classified as a reactivity hazard.

Chemical stability: Stable under normal conditions.

Possibility of hazardous reactions: Vapors may form flammable mixture with air. In use may form flammable/explosive vapor-air mixture.

Material and Conditions to Avoid: None known.

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, Carbonyl fluoride.

11. TOXICOLOGICAL INFORMATION

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

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.

Isopropyl Alcohol

Acute Toxicity
Oral: LD50, Rat, >5,000 mg/kg
Skin Absorption: LD50, Rat, >5,000 mg/kg
Inhalation: LC50, 4 h, Vapor, Rat, 72.6 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: Not classified based on available information.
Respiratory Sensitization: Not classified based on available information.
Germ Cell Mutagenicity: In vitro and In vivo - Not Mutagenic
Carcinogenicity: Negative based in inhalation testing in rats.
Reproductive Toxicity: Not classified based on available information.
STOT- single exposure: May cause drowsiness or dizziness
STOT- repeated exposure: Not classified based on available information.
Aspiration toxicity: Not classified based on available information.

12. ECOLOGICAL INFORMATION

Ecotoxicity

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).

Isopropyl Alcohol:

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

Persistence and degradability: Rapidly degradable.

Bioaccumlative potential: Partition coefficient: n-octanol/water: log Pow: 0.05

Mobility in soil: No data available.

13. DISPOSAL CONSIDERATIONS

If recycling is not practicable, dispose of in compliance with local regulations. Remove to a permitted waste disposal facility. The product should not be allowed to enter drains, water courses or the soil.

14. TRANSPORT INFORMATION

U.S. DOT
Not Regulated

IATA
Not Regulated

IMDG
Not Regulated

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. This product contains one or more substances which requires export notification under TSCA Section 12(b) and 40 CFR Part 707 Subpart D.

CERCLA Reportable Quantity: This material does not contain any components with a CERCLA RQ.

SARA 304 Extremely Hazardous Substances Reportable Quantity: This material does not contain any components with a section 304 EHS RQ.

SARA 302 Extremely Hazardous Substances Threshold Planning Quantity: This material does not contain any components with a section 302 EHS RQ.

SARA 311/312 Hazards: Serious eye damage or eye irritation.

SARA 313: This material contains the following component that is subject to reporting levels established by SARA Title III, Section 313: Isopropyl Alcohol (Propan-2-ol)

California Proposition 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.

16. OTHER INFORMATION

NPCA-HMIS Ratings:

Health	- 2
Flammability	- 0
Reactivity	- 0

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

FOR INDUSTRIAL USE ONLY

REVISION DATE: AUGUST 2019

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.