

## 1. CHEMICAL PRODUCT/COMPANY IDENTIFICATION

**Name:** MS-143TE-5.0  
DPMS-N0413B-5.0  
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/Eye Irritation: Category 2A  
Specific Target Organ Toxicity (single exposure): Category 3

### Label elements:

#### Signal word

Warning

#### Pictograms



### Hazard Statements

H319 Causes serious eye irritation.  
H336 May cause drowsiness or dizziness.

### Precautionary Statements

Avoid breathing mist/vapors/spray.  
Use only outdoors or in a well-ventilated area.  
Wash skin thoroughly after handling.  
Wear eye protection/face protection.  
IF INHALED: Remove person to fresh air and keep comfortable for breathing.  
Call a POISON CENTER or doctor/physician if you feel unwell.  
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.  
Store in a well-ventilated place. Keep container tightly closed.  
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. Vapors are heavier than air and can cause suffocation by reducing oxygen available for breathing. Misuse or intentional inhalation abuse may lead to death without warning symptoms, due to cardiac effects. Rapid evaporation of the product may cause frostbite.

### **3. INGREDIENTS**

<u>Material (s)</u>	<u>CAS No.</u>	<u>Approximate %</u>
1,1,1,2,2,3,4,5,5,5-Decafluoropentane	138495-42-8	20 – 24
Trans,1.2-Dichloroethylene	156-60-5	56 – 60
Isopropyl Alcohol	67-63-0	12 – 18

### **4. FIRST AID MEASURES**

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

**Eye:** Immediately, flush with large amounts of water for at least 15 minutes, lifting eyelids until no evidence of the chemical remains. Remove contact lenses, if present and easy to do. Continue to rinse. Get medical attention.

**Skin:** Immediately flush skin with plenty of water. Remove contaminated clothing and shoes. Wash contaminated clothing and clean shoes before use. Get medical attention.

**Oral:** DO NOT induce vomiting without medical advice. Rinse mouth thoroughly with water. Never give anything by mouth to an unconscious person. 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, Pain, superficial burning sensation, Itching, Redness, Swelling of tissue, Rash, Discomfort

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. May cause drowsiness or dizziness.

**Notes to Physician:** Because of possible disturbances of cardiac rhythm, catecholamine drugs, such as epinephrine, that may be used in situations of emergency life support should be used with special caution.

### **5. FIRE FIGHTING MEASURES**

**Flash Point:** Does not flash.

**Test Method:** Pensky-Martens closed cup

**Suitable Extinguishing Media:** Water spray, Alcohol-resistant foam, Dry chemical, Carbon dioxide (CO<sub>2</sub>)

**Unsuitable extinguishing media:** None known.

**Special hazards:** Vapors may form explosive mixture with air. Exposure to combustion products may be a hazard to health.

**Hazardous combustion products:** Hydrogen fluoride, Fluorine compounds, Carbonyl fluoride, Carbon oxides, Chlorine compounds.

**Specific extinguishing methods:** Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Evacuate personnel to safe areas. Cool unopened containers with water spray.

**Special protective equipment for fire-fighters:** In the event of fire, wear self-contained breathing apparatus. Use personal protective equipment.

## 6. ACCIDENTAL RELEASE MEASURES

**Personal precautions, protective equipment and emergency procedures:** Evacuate personnel to safe area. Use personal protective equipment.

**Environmental precautions:** If containers rupture, prevent material from entering sewers, waterways, or low areas. Should not be released into the environment. Retain and dispose of contaminated wash water. Local authorities should be advised if significant spillages cannot be contained.

**Spill Cleanup:** 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 only in an area equipped with explosion-proof exhaust ventilation if advised by assessment of the local exposure potential. Do not eat, drink, or smoke. Do not swallow. Avoid contact with skin, eyes, or clothing. Wash thoroughly after handling.

**Storage Conditions:** Store tightly sealed in a clean, dry place, and well-ventilated place. Keep away from heat and sources of ignition. Take precautionary measures against static discharges. Do not store in temperatures that exceed 115°F/46°C, because the containers could leak or rupture from pressure and expansion. Take care to prevent spills, waste and minimize release to the environment.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Exposure Limits:

1,1,1,2,2,3,4,5,5-Decafluoropentane  
Trans,1,2-Dichloroethylene  
Isopropyl Alcohol

### ACGIH

Not Established  
200 ppm  
400 ppm

### OSHA

Not Established  
200 ppm  
400 ppm

**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 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:** 122-124°F/50-51°C

**Density:** 1.24 g/cc at 77°F/25°C

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

**pH Information:** Neutral

**Form:** Liquid

**Color:** White to off-white

**Percent Volatile by Volume:** 95%

**Vapor Pressure:** 275 mm Hg at 77°F/25°C F

**Solubility in H<sub>2</sub>O:** N.A.

**Evaporation Rate (CC14=1):** >1

**Appearance:** Suspended white solids

**Odor:** Slight 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 in the air. In use may form flammable/explosive vapor-air mixture.

**Material and Conditions to Avoid:** None known.

**Hazardous decomposition products:** No hazardous decomposition products are known.

## 11. TOXICOLOGICAL INFORMATION

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

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

**Acute Oral:** LD50: > 5000 mg/kg in rats. Method: OECD Test Guideline 401

**Acute Inhalation (vapor):** 4 hour LC50: 114.428 mg/l in rats. Method: OECD Test Guideline 403

**Acute Dermal:** LD50: > 5000 mg/kg in rabbits. Method: OECD Test Guideline 402

**Skin Corrosion/Irritation:** No skin irritation in rabbits. Method: OECD Test Guideline 404

**Serious Eye Irritation/ Eye Irritation:** No eye irritation in rabbits. Method: OECD Test Guideline 405

**Skin Sensitization:** No skin sensitization in Guinea pigs. Buehler Test. Method: OECD Test Guideline 406

**Respiratory Sensitization:** Not classified based on available information.

**Germ Cell Mutagenicity:** Weight of evidence does not support classification as a germ cell mutagen.

**Carcinogenicity:** Not classified based on available information.

**Reproductive toxicity:** Weight of evidence does not support classification for reproductive toxicity.

**STOT-single exposure:** Inhalation (vapor): No significant health effects observed in animals at concentrations of 20mg/l/4h or less.

**STOT-repeated exposure:** Inhalation (vapor): No significant health effects observed in animals at concentrations of 1mg/l/6h/d or less.

**Aspiration toxicity:** No aspiration toxicity classification..

## **Trans-1,2-Dichloroethylene**

**Acute Oral:** LD50: 7902 mg/kg in rats. Method: OECD Test Guideline 420

**Acute Dermal:** LD50: > 5,000 mg/kg in rabbits. Method: OECD Test Guideline 402

**Acute Inhalation:** 4 hour LC50: 95.5 mg/l in rats. Test atmosphere: vapor. Method: OECD Test Guideline 403

**Skin Corrosion/Irritation:** Mild skin irritation in rabbits. Method: OECD Test Guideline 404

**Serious Eye Irritation/Eye Irritation:** Eye irritation in rabbits. Reversing within 7 days. Method: OECD Test Guideline 405

**Skin Sensitization:** Not classified based on available information.

**Respiratory Sensitization:** Not classified based on available information.

**Germ Cell Mutagenicity:** Evidence does not support classification of a germ cell mutagen.

**Carcinogenicity:** Not classified based on available information.

**Reproductive toxicity:** Test Type: Embryo-fetal development. Inhalation in rats. Negative. Method: OECD Test Guideline 414

**STOT-single exposure:** May cause drowsiness and dizziness.

**STOT-repeated exposure:** Inhalation: No significant health effects observed in animals at concentrations of 250 ppmV/6h/d or less.

**Aspiration toxicity:** Not classified based on available information.

## **Isopropyl Alcohol**

### **Acute Toxicity**

**Oral:** LD50, Rat, > 5,000 mg/kg

**Dermal:** LD50, Rat, > 5,000 mg/kg

**Inhalation:** LC50, 6 h, Vapor, 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:** Not classified based on available information. Test Type: Buehler Test. Routes of exposure: Skin contact.

Species: Guinea pig. Method: OECD Test Guideline 406. Result: negative

**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. Species: Rat. Application Route: inhalation (vapor). Exposure time: 104 weeks. Method: OECD Test Guideline 451. Result: negative

**Reproductive Toxicity:** Not classified based on available information. Test Type: Two-generation reproduction toxicity study.

Species: Rat. Application Route: Ingestion. Result: negative effects on fertility. Test Type: Embryo-fetal development.

Species: Rat. Application Route: Ingestion. Result: negative effects on fetal development

**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**

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

96 hour LC50 in Danio rerio (zebra fish): 13 mg/l. Method: OECD Test Guideline 203

48 hour EC50 in Daphnia magna (Water flea): 10.6 mg/l. Method: OECD Test Guideline 202

72 hour EC50 in Selenastrum capricornutum (Green algae): >120 mg/l. Method: OECD Test Guideline 201

21 days NOEC in Daphnia magna (Water flea): 1.72 mg/l. Method: OECD Test Guideline 211

**Biodegradability:** Not readily biodegradable. Method: OECD Test Guideline 301D

**Bioaccumulative potential:** Bioaccumulation is unlikely. Partition coefficient: noctanol/water: log Pow: 2.4 (75 °F / 24 °C)

**Mobility in soil:** No data available

### **Trans-1,2-Dichloroethylene**

96 hour LC50 in Lepomis marochirus (Bluegill sunfish): 135 mg/l. Based on data similar materials  
48 hour EC50 in Daphnia magna (Water flea): 220 mg/l. Method: EPA-660/3-75-009  
48 hour EbC50 in Pseudokirchneriella subcapitata (Green algae): 36.36 mg/l. Method: OECD Test Guideline 201

**Biodegradability:** Not readily biodegradable. Method: OECD Test Guideline 301D

**Bioaccumulative potential:** Partition coefficient: n-octanol/water: log Pow: 2.06

**Mobility in soil:** No data available

### **Isopropyl Alcohol**

**Toxicity to fish:** 96 hour LC50, fathead minnow (Pimephales promelas): 9,640 mg/l

**Toxicity to daphnia and other aquatic invertebrates:** 24 hour EC50, water flea (Daphnia magna): >10,000 mg/l

**Toxicity to microorganisms:** 16 hour EC50, (Pseudomonas putida): >1,050 mg/l

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

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

**Mobility in soil:** No data available.

## **13. DISPOSAL CONSIDERATIONS**

Dispose of in compliance with local regulations. Remove to a permitted waste disposal facility.

## **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. Also, this product requires an export notification under TSCA Section 12(b) and 40 CFR Part 707 Subpart D.

**CERCLA Reportable Quantity:** Trans-Dichloroethylene, 156-60-5: Component RQ is 1000 lbs.

**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 TPQ.

**SARA 311/312 Hazards:** Serious eye damage or eye irritation. Specific target organ toxicity (single or repeated exposure).

**SARA 313:** This product contains the following toxic chemicals subject to the reporting requirements of section 313 of the Emergency Planning and Community Right-to-Know Act of 1986 (40CFR 372). They may not be intentionally present in the product; however, it is possible that it may be present as an impurity and the exact concentration may vary between batches:

Perfluorobutanoic acid, CAS No.: 375-22-4, < 1.2 ppb  
Perfluorohexanoic acid, CAS No.: 307-24-4, < 1.8 ppb  
Perfluorononanoic acid, CAS No.: 375-95-1, < 2.4 ppb  
Perfluorododecanoic acid, CAS No.: 307-55-1, < 2.8 ppb  
Perfluorodecanoic acid, CAS No.: 335-76-2, < 3 ppb  
Perfluorooctanoic acid, CAS No.: 335-67-1, < 5 ppb

## 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 Carbon monoxide, 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](http://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	- 2
Flammability	- 0
Reactivity	- 0

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

### FOR INDUSTRIAL USE ONLY

**REVISION DATE: MAY 15, 2024**

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.