



## 1. CHEMICAL PRODUCT/COMPANY IDENTIFICATION

**Name:** TriboSys™ MDF  
Medical Dry Lubricant

**Product Use:** Medical Dry Lubricant

### **MANUFACTURER/DISTRIBUTOR:**

Miller-Stephenson Chemical  
55 Backus Ave.  
Danbury, Conn. 06810 USA  
(203) 743-4447

**Emergency Phone Number:**  
(800) 424-9300

**Restrictions for use:** Do not use in medical applications involving implantation in the human body or contact with tissues or any bodily fluids.

## 2. HAZARDS IDENTIFICATION

**GHS classification in accordance with the OSHA Hazard Communication Standard (29 CFR 1910.1200)**

Not a hazardous substance or mixture.

**GHS Label elements:**

**Hazard Symbol:** None

**Signal word:** None

**Hazard Statements:** None

**Precautionary Statements:** None

**Other hazards:**

The thermal decomposition vapors of fluorinated plastics 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>
1,1,1,2,2,3,4,5,5,5-Decafluoropentane	138495-42-8	95 – 98

#### 4. FIRST AID MEASURES

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

**Eye:** Flush with a large amount of water. Get medical attention if irritation develops and persists.

**Skin:** Wash skin with soap and water after contact. 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 and effects, both acute and delayed:** None known.

**Note to physician:** Treat symptomatically and supportively.

#### 5. FIRE FIGHTING MEASURES

**Flash Point:** Does not flash

**Method:** TCC

**Suitable extinguishing media:** Water spray, Alcohol-resistant foam, Carbon Dioxide (CO<sub>2</sub>), Dry chemical.

**Unsuitable extinguishing media:** None known.

**Specific hazards during fire-fighting:** Exposure to combustion products may be a hazard to health.

**Hazardous combustion products:** Hydrogen fluoride, carbonyl fluoride, Carbon oxides, potentially toxic fluorinated compounds, aerosolized particulates.

**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 the fire area if it is safe to do so. Evacuate area.

**Special protective equipment for fire-fighters:** Self-contained breathing apparatus (SCBA) may be required if necessary. Use personal protective equipment.

#### 6. ACCIDENTAL RELEASE MEASURES

**Personal precautions, protective equipment and emergency procedures:** Follow safe handling advice (see section 7) and personal protective equipment recommendations (see section 8).

**Environmental precautions:** Discharge into the environment must be avoided. Prevent further leakage or spillage if safe to do so. Prevent spreading over a wide area (e.g. by containment or oil barriers). Retain and dispose of contaminated wash water. Local authorities should be advised if significant spillages cannot be contained.

**Methods and materials for containment and cleaning up:** Soak up with inert absorbent material. For large spills, provide diking and other appropriate containment to keep material from spreading. If diked material can be pumped, store recovered material in an appropriate container. Clean up remaining materials from spill with suitable absorbent. Local or national regulations may apply to releases and disposal of this material, as well as those materials and items employed in the cleanup of releases. You will need to determine which regulations are applicable. Sections 13 and 15 provide information regarding certain local or national requirements.

## 7. HANDLING AND STORAGE

**Handling:** Use in a well-ventilated area to avoid breathing vapors. Where ventilation is inadequate, use appropriate respiratory protection. Avoid contact with skin, eyes, clothing. 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:** Store in a well-ventilated place and keep container tightly closed. Do not allow stored product to exceed 52°C (125°F) to prevent leakage or potential rupture of container from pressure and expansion. Freezing will affect the physical condition but will not damage the material. Thaw and mix before using.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**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. Gloves impervious may be worn when handling liquid. Wash skin after contact.

**Hygiene measures:** If exposure is likely during typical use, provide eye flushing systems and safety showers close to the working place. Do not eat, drink or smoke when using this product. Wash exposed areas thoroughly with soap and water. Wash contaminated clothing before re-use.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

**Boiling Point:** 131°F/55°C Approx.

**Percent Volatile by Volume:** 97%

**Density:** 1.6 g/cc at 68°F/20°C

**Vapor Pressure:** 232 mm Hg at 77°F/25°C

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

**Solubility in H<sub>2</sub>O:** Insoluble

**pH Information:** Neutral

**Evaporation Rate (CC14=1):** N.A.

**Form:** Liquid

**Appearance:** Milky

**Color:** White

**Odor:** Faint Ethereal Odor

## 10. STABILITY AND REACTIVITY

**Reactivity:** Not classified as a reactivity hazard.

**Stability:** Stable under normal conditions.

**Incompatible Materials and Conditions to Avoid:** None known.

**Possibility of hazardous reactions:** Hazardous decomposition products will be formed at elevated temperatures.

**Hazardous Decomposition Products:** Hydrogen fluoride, Carbonyl difluoride, Carbon dioxide, and Carbon monoxide.

## **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.

## **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: n-octanol/water: log Pow: 2.4 (75°F/24°C)

**Mobility in soil:** No data available

## **13. DISPOSAL CONSIDERATIONS**

Comply with federal, state, and local regulations. Remove to a permitted waste disposal facility.

Contaminated packaging: Empty containers should be taken to an approved waste handling site for recycling or disposal.

## **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:** 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 TPQ.

**SARA 311/312 Hazards:** No SARA Hazards

**SARA 313 Regulated Chemicals:** 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 lots:

3,3,4,4,5,5,6,6,7,7,8,8,8-Tridecafluorooctanesulphonic acid, CAS No.: 27619-97-2, < 0.04 ppb

Perfluorononanoic acid, CAS No.: 375-95-1, < 1.2 ppb

Perfluorododecanoic acid, CAS No.: 307-55-1, < 1.2 ppb

Perfluorodecanoic acid, CAS No.: 335-76-2, < 1.4 ppb

Perfluoropalmitic acid, CAS No.: 67905-19-5, < 1.4 ppb

Perfluorohexanoic acid, CAS No.: 307-24-4, < 1.6 ppb

Perfluorobutanoic acid, CAS No.: 375-22-4, < 1.8 ppb

Octadecanoic acid, pentatriacontafuoro-, CAS No.: 16517-11-6, < 1.8 ppb

Perfluorotetradecanoic acid, CAS No.: 376-06-7, < 2.2 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 Pentadecafluorooctanoic acid, 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	- 0
Flammability	- 0
Reactivity	- 0

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

### **FOR INDUSTRIAL USE ONLY**

**REVISION DATE: February 6, 2025**

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.