



1. CHEMICAL PRODUCT/COMPANY IDENTIFICATION

Name: ReleaSys™ DFX
Semi-Permanent Mold Release

Product Use: Release Agent

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: Gases under pressure – Liquefied Gas

Label elements:



Single Word: Warning

Hazard Statements

Contains gas under pressure; may explode if heated.
May displace oxygen and cause rapid suffocation.

Precautionary Statements:

Pressurized container. Do not pierce or burn, even after use.
Protect from sunlight. Do not expose to temperatures 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

Vapors are heavier than air and can cause suffocation by reducing oxygen available for breathing.
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

<u>Material (s)</u>	<u>CAS No.</u>	<u>Approximate %</u>
1,1,1,2-Tetrafluoroethane	811-97-2	40 - 50
1,1,1,2,2,3,4,5,5,5-Decafluoropentane	138495-42-8	40 - 50

4. FIRST AID MEASURES

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

Eye: Flush with large amounts 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.

Note to physician: Treat symptomatically and supportively.

5. FIRE FIGHTING MEASURES

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

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>
1,1,1,2-Tetrafluoroethane	Not Established	Not Established
1,1,1,2,2,3,4,5,5,5-Decafluoropentane	Not Established	Not Established

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 frequent contact occurs.

Prevention of Swallowing: Do not eat, drink, or smoke when using this product. Wash exposed areas thoroughly with soap and water.

9. PHYSICAL AND CHEMICAL PROPERTIES

Boiling Point: Not Applicable

Percent Volatile by Volume: 99%

Density: 1.25 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: Heat, flames, and sparks. Oxidizing agents.

Decomposition: This product can be decomposed by high temperatures (flame, glowing metal surfaces, etc.) forming Hydrofluoric acid, Carbonyl difluoride, Carbon monoxide and Carbon dioxide.

Polymerization: Will not occur.

11. TOXICOLOGICAL INFORMATION

Carcinogenicity: None of the components in this product are listed as a carcinogen by IARC, NTP, OSHA, or ACGIH.

1,1,1,2-Tetrafluoroethane

Inhalation:

4 hour, LC50 rat: >567000 ppm

Cardiac sensitization: Dogs

Note: No-observed adverse effect concentration: 40000 ppm; Lowest observable adverse effect concentration: 80000 ppm.

Threshold limit: 334000 mg/m³

Skin Corrosion/Irritation: No skin irritation in rabbits.

Serious Eye Irritation/ Eye Irritation: No eye irritation in rabbits.

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.

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

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.

12. ECOLOGICAL INFORMATION

1,1,1,2-Tetrafluoroethane

Ecotoxicity:

96 hour LC50 in *Oncorhynchus mykiss* (rainbow trout): 450 mg/l
48 hour EC50 in *Daphnia magna* (water flea): 980 mg/l
96 hour ErC50 in algae: >100 mg/l. Remarks: Based on data from similar materials

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

Bioaccumulative potential: Partition coefficient n-octanol/water: log Pow: 1.06

Mobility in soil: No data available

Other adverse effects: No data available

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).

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.

1,1,1,2,2,3,4,5,5-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.

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 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 - 0

Reactivity - 0

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

FOR INDUSTRIAL USE ONLY

REVISION DATE: MARCH 2021

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.