



1. CHEMICAL PRODUCT/COMPANY IDENTIFICATION

Name: ReleaSys™ S50-1
Specialty Cleaning Agent

Product Use: Cleaning Solvent

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

Highly Flammable – Category 2

Label elements:

Signal word

Danger

Pictograms



Hazard Statements

Highly flammable liquid and vapor.

Precautionary Statements

Keep away from heat, sparks, open flame and hot surfaces . No smoking.

Keep container tightly closed.

Use explosion-proof electrical, ventilating and lighting equipment.

Use only non-sparking tools.

Take precautionary measures against static discharge.

Wear protective gloves, eye protection and face protection.

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.

Store in a well-ventilated place. Keep cool.

Dispose of contents and container to an approved waste disposal plant.

Other Hazards

Vapors are heavier than air and can cause suffocation by reducing oxygen available for breathing.
Misuse or intentional inhalation abuse may cause death without warning symptoms due to cardiac effects.
Rapid evaporation of the product may cause frostbite.
Vapors may form flammable mixture with air

3. INGREDIENTS

<u>Chemical name</u>	<u>CAS No.</u>	<u>Approximate %</u>
1,1,1,2,2,3,4,5,5,5-Decafluoropentane	138495-42-8	50 - 70

4. FIRST AID MEASURES

Inhalation: If inhaled, remove to fresh air. Get medical attention if symptoms occur.

Eye: Flush eyes with water as a precaution. Get medical attention if irritation develops and persists.

Skin: Remove contaminated clothing and shoes.

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

Most important symptoms/effects, acute and delayed: May cause cardiac arrhythmia.

Skin contact may provoke the following symptoms: Irritation, Discomfort Pain, Rash, Redness, Swelling of tissue, Itching, Prolonged skin contact may defat the skin and produce dermatitis

Inhalation may provoke the following symptoms: respiratory tract irritation, Cough, Discomfort

Eye contact may provoke the following symptoms: tearing, Redness, Irritation, Discomfort, Pain, Blurred vision

Adverse effects from repeated inhalation may include central nervous system effects, kidney effects, liver disorders, blood effects.

Effects of breathing high concentrations of vapor may include: Tiredness, Drowsiness, Central nervous system effects, Convulsions

Aspiration may cause pulmonary edema and pneumonitis.

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: < -0.40 °F / < -18 °C

Method: Pensky-Martens closed cup

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

Unsuitable extinguishing media: High volume water jet

Special hazards: Do not use a solid water stream as it may scatter and spread fire. Flash back possible over considerable distance. Vapors may form flammable mixture with air. Exposure to combustion products may be a hazard to health.

Hazardous Combustion Products: Hydrogen fluoride, carbonyl fluoride, carbon oxides, silicon oxides.

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

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.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures: Remove all sources of ignition. Ventilate the area. Follow safe handling advice and personal protective equipment recommendations.

Environmental precautions: Avoid release to the environment. 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.

Spill Cleanup: Non-sparking tools should be used. Soak up with inert absorbent material. Suppress (knock down) gases/vapors/mists with a water spray jet.

For large spills, provide diking or other appropriate containment to keep material from spreading. If diked material can be pumped, store recovered material in 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.

7. HANDLING AND STORAGE

Handling: Handle in accordance with good industrial hygiene and safety practice, based on the results of the workplace exposure assessment. Non-sparking tools should be used. Keep container tightly closed. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Take precautionary measures against static discharges. Take care to prevent spills, waste and minimize release to the environment.

Storage Conditions: Do not expose drums to direct heat or temperature above 46°C (115°F) to avoid pressurizing and possibly distorting the drums. Material should not be dispensed by pouring from pail/drum shipping containers containing 5 gallons or more. The use of a drum pump is recommended for dispensing from pail/drum shipping containers with 5 gallons or more, except for smaller containers where adequate ventilation can be used to manage the exposure. Keep in properly labeled containers. Keep tightly closed. Keep in a cool, well-ventilated place. Store in accordance with the particular national regulations. Keep away from heat and sources of ignition.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

<u>Exposure Limits:</u>	<u>TLV (ACGIH)</u>	<u>PEL (OSHA)</u>
1,1,1,2,2,3,4,5,5-Decafluoropentane	225 ppm, TWA	Not Established

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: Wear the following personal protective equipment: Safety glasses

Skin Protection: Select appropriate protective clothing based on chemical resistance data and an assessment of the local exposure

potential. Wear the following personal protective equipment: If assessment demonstrates that there is a risk of explosive atmospheres or flash fires, use flame retardant antistatic protective clothing. Skin contact must be avoided by using impervious protective clothing (gloves, aprons, boots, etc).

9. PHYSICAL AND CHEMICAL PROPERTIES

Boiling Point: 135°F/57°C

Percent Volatile by Volume: N.A.

Density: 1.170 g/cc @ 77°F/25°C

Vapor Pressure: 180 hPa @ 77°F/25°C

Vapor Density (Air=1): 7

Solubility in H₂O: Slightly Soluble

pH Information: N.A.

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

Form: Liquid

Appearance: Clear & Colorless

Color: Clear, Colorless

Odor: Slight Ether-like

10. STABILITY AND REACTIVITY

Reactivity: Not classified as a reactivity hazard.

Chemical stability: Stable under normal conditions.

Possibility of hazardous reactions: Highly flammable liquid and vapor. Vapors may form flammable mixture with air. Can react with strong oxidizing agents.

Material and Conditions to Avoid: Heat, flames and sparks. Oxidizing agents.

Decomposition: No hazardous decomposition products are known.

11. TOXICOLOGICAL INFORMATION

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

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

Acute Oral: LD50: > 5000 mg/kg in rats

Acute Inhalation (vapor): 4 hour LC50: 114 mg/l in rats

Acute Dermal: LD50: > 5000 mg/kg in rats

Skin Corrosion/Irritation: No skin irritation in rabbits.

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

Skin Sensitization: No skin sensitization in Guinea pigs.

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 as a germ cell mutagen.

STOT-single exposure: Not classified based on available information.

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

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 Oncorhynchus mykiss (rainbow trout): 13.9 mg/l
96 hour LC50 in Pimephales promelas (fathead minnow): 27.2 mg/l
96 hour LC50 in Danio rerio (zebra fish): 13 mg/l
48 hour LC50 in Daphnia magna (Water flea): 11.7 mg/l
72 hour EC50 in Pseudokirchneriella subcapitata (Green algae): >120 mg/l
21 days NOEC in Daphnia magna (Water flea): 1.72 mg/l

Biodegradability: Not readily biodegradable.

Bioaccumulative potential: Bioaccumulation is unlikely.

Mobility in soil: No data available

13. DISPOSAL CONSIDERATIONS

Waste from residues: Dispose of in accordance with local regulations.

Contaminated packaging: Empty containers should be taken to an approved waste handling site for recycling or disposal. Empty containers retain residue and can be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, or other sources of ignition. They may explode and cause injury and/or death. If not otherwise specified: Dispose of as unused product.

14. TRANSPORT INFORMATION

U.S. DOT

Proper Shipping Name: Flammable liquid, n.o.s. (Hexamethyldisiloxane)

Hazard Class: 3

Identification No. UN1993

Packing Group: II

IATA

Proper Shipping Name: Flammable liquid, n.o.s. (Hexamethyldisiloxane)

Hazard Class: 3

Identification No. UN1993

Packing Group: II

IMDG

Proper Shipping Name: Flammable liquid, n.o.s. (Hexamethyldisiloxane)

Hazard Class: 3

Identification No. UN1993

Packing Group: II

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 138495-42-8

The United States Environmental Protection Agency (USEPA) has established a Significant New Use Rule (SNUR) for one of the components in this product. See 40 CFR § 721.5645 This material 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 TPQ.

SARA 311/312 Hazards: Flammable (gases, aerosols, liquids, or solids)

SARA 313 Regulated Chemicals: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

California Proposition 65: This product does not contain any chemicals known to the State of California to cause cancer and/or birth defects or other reproductive defects.

16. OTHER INFORMATION

NPCA-HMIS Ratings:

Health	- 0
Flammability	- 3
Physical Hazard	- 0

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

FOR INDUSTRIAL USE ONLY

REVISION DATE: February 18, 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.