

SDS – SAFETY DATA SHEET

1. IDENTIFICATION

Product Identifier: HALOCARBON MSHV04n, MSHV04i, MSHV06n, MSHV06i, MSLV27n, MSLV27i, MSLV56n, MSLV56i, MSXTn, MSXTi

Synonyms: Polychlorotrifluoroethylene, Halocarbon Oil, Halocarbon Mechanical Seal Barrier Fluids

Chemical Formula: Cl-(C₂F₃Cl)_n-Cl

Recommended Use of the Chemical: Industrial Lubricant, Mechanical Seal Barrier Fluid

Uses Advised Against: No information available

Manufacturer / Supplier: HALOCARBON PRODUCTS CORPORATION

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2. HAZARD(S) IDENTIFICATION

Classification of the Substance or Mixture: Not classified

Risk Phrases: None

Label Elements:

Signal Word: None

Pictogram: None

Hazard Statements: None

Precautionary Statements: None

Other Hazards:

Substance Meets the Criteria for PBT According to Regulation (EC) No. 1907/2006 Annex XIII:

PBT: Not applicable

Substance Meets the Criteria for vPvB According to Regulation (EC) No. 1907/2006 Annex XIII:

vPvB: Not applicable

Other Hazards Which Do Not Result in Classification: Not available

3. COMPOSITION INFORMATION / INGREDIENTS

Ingredient	CAS Number	EC Number	Percent
Polychlorotrifluoroethylene	9002-83-9	Not applicable	<=99.9%

"n" oils do not contain corrosion inhibitor

"i" oils contain corrosion inhibitor at 0.1%

No ingredients are hazardous according to OSHA criteria.

No components need to be disclosed according to the applicable regulations.

4. FIRST-AID MEASURES

Description of First Aid Measures:

Inhalation: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give Oxygen.

Ingestion: Never give anything by mouth to an unconscious person. Rinse mouth with water.

Skin Contact: Wash off with soap and plenty of water.

Eye Contact: Flush eyes immediately with water for at least 15 minutes.

Most Important Symptoms and Effects, Both Acute and Delayed:

Potential Acute Health Effects:

Inhalation: No data available

Ingestion: No data available

Skin Contact: No data available

Eye Contact: No data available

Over-exposure signs/symptoms: Based on animal studies, signs of fluoride poisoning may be expected. These include nausea, shortness of breath and loss of appetite.

Inhalation: No data available for humans

Ingestion: No data available for humans

Skin Contact: No data available for humans

Eye Contact: No data available for humans

5. FIRE-FIGHTING MEASURES

Extinguishing Media:

Suitable Extinguishing Media: Use agent suitable for surrounding fire; CO₂, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

Unsuitable Extinguishing Media: No information available

Special Hazards Arising From the Substance or Mixture:

Hazards From the Substance or Mixture: No information available

Hazardous Thermal Decomposition Products: Thermal decomposition products are toxic and corrosive. See Section 10.

Advice for Fire-Fighters:

Special Precautions for Fire-Fighters: Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

Special Protective Equipment for Fire-Fighters: Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures: Avoid breathing vapors, mist or gas. Ventilate area of leak or spill. Wear appropriate personal protective equipment as specified in Section 8. Isolate hazard area. Keep unnecessary and unprotected personnel from entering.

Environmental Precautions: Do not flush into surface water or sanitary sewer system. Prevent product from entering drains.

Methods and Materials for Containment and Cleaning Up: Spills may be picked up with absorbent such as vermiculite and held in covered container for disposal.

7. HANDLING AND STORAGE

Precautions for Safe Handling: Wear personal protective equipment. Ensure adequate ventilation. In case of insufficient ventilation, wear suitable respiratory equipment. Do not breathe vapors or spray mist.

Conditions for Safe Storage, Including Any Incompatibilities: Protect against physical damage. Keep container tightly closed in a dry and well-ventilated place. Keep out of reach of children.

Specific End Uses: Industrial Lubricant

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Airborne Exposure Limits: No OSHA or ACGIH exposure limits have been established. Safe work practices should always be followed.

Ventilation System: Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. Please refer to the ACGIH document, Industrial Ventilation, A Manual of Recommended Practices, most recent edition, for details.

Personal Respirators (NIOSH Approved): Under conditions of heavy exposure, respiratory protection is not normally required. Self-contained breathing apparatus for large spills.

Skin Protection: Wear impervious gloves.

Eye Protection: It is good practice to use chemical safety goggles or goggles. Maintain eye wash fountain and quick-drench facilities in work area.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Colorless liquid

Odor: Slight ethereal odor

Odor Threshold: Not determined

pH: No data available

Melting Point: Not Determined

Boiling Point / Boiling Range: No data available

Flash Point: Not applicable

Evaporation Rate (BuAC=1): No data available

Flammability: Not flammable

Upper / Lower Flammability or Explosive Limits: Not applicable

Vapor Pressure (mm Hg): No data available

Vapor Density (Air=1): No data available

Relative Density: 1.9 g/cm³ (15.856 lbs/gal)

Solubility: Insoluble

Partition Coefficient: n-octanol / water: No data available

Auto-ignition Temperature: No data available

Decomposition Temperature: Rapidly at 325, noticeably at 300, safe operating temperature is 200 and maximum short term temperature is 260 in scrupulously clean systems

Viscosity: No data available

Explosive Properties: Not determined

Oxidizing Properties: Not determined

Other Information: No specific data

10. STABILITY AND REACTIVITY

Reactivity: No data available

Chemical Stability: Stable under recommended storage conditions

Possibility of Hazardous Reactions: Reacts with active metals like Sodium and Potassium, amines (including additives), liquid Fluorine and liquid Chlorine Trifluoride. Caution should be used with aluminum and magnesium under conditions of large shear forces such as those found in threaded connections.

Conditions to Avoid: Incompatibles

Incompatible Materials: Active metals, amines liquid Fluorine and liquid Chlorine Trifluoride

Hazardous Decomposition Products: The decomposition to toxic, non-sludge forming volatiles occurs rapidly at 325C, noticeably at 300C and in lesser amounts at lower temperatures. Therefore, the maximum safe operating temperature recommended is 200C and maximum short-term temperature recommended is 260C in scrupulously clean systems.

11. TOXICOLOGICAL INFORMATION

Acute Toxicity:

Extensive studies have been conducted on lighter, more volatile Halocarbon oils. Based on all the available data in three species of animals, limited exposure to Halocarbon oil should not be harmful to any portion of the human anatomy. Studies conducted by the Air Force have demonstrated liver toxicity in rodents but not in primates. The observed liver toxicity is believed to be specific for rodents and not relevant to humans. All mutagenicity studies were negative.

Halocarbon oils are not irritating to skin but skin protection should be used to prevent repeated exposure and the possibility of sensitization.

In the absence of chronic toxicity data on these products, exposure to these products and their vapors should be avoided since the potential for human toxicity cannot be ruled out.

Potential Health Effects:

Inhalation: No known effects

Ingestion: No known effects

Skin Contact: No known effects

Eye Contact: No known effects

Chronic Exposure: No known effects

Aggravation of Pre-existing Conditions: No known effects

Specific Target Organ Toxicity - Single Exposure (Globally Harmonized System): No data available

Specific Target Organ Toxicity - Repeated Exposure (Globally Harmonized System): No data available

Germ Cell Mutagenicity: No known effects

Reproductive Toxicity: No known effects

Aspiration Hazard: No known effects

Numerical Measures of Toxicity: Cancer Lists: NTP Carcinogen

Ingredient	Known	Anticipated	IARC Category
Polychlorotrifluoroethylene (9002-83-9)	No	No	None

12. ECOLOGICAL INFORMATION**Ecotoxicity:** No data available**Persistence and Degradability:** No data available**Bioaccumulative Potential:** No data available**Mobility in Soil:** No data available**Results of PBT and vPvB assessment:** PBT / vPvB assessment not available as chemical safety assessment not required / not conducted.**Other adverse effects:** No data available**13. DISPOSAL CONSIDERATIONS**

Waste Treatment Methods: Although not a listed RCRA hazardous waste, this material may exhibit one or more characteristics of a hazardous waste and require appropriate analysis to determine specific disposal requirements. Processing, use or contamination of this product may change the waste management options. State and local disposal regulations may differ from federal disposal regulations. Dispose of container and unused contents in accordance with federal, state and local requirements.

14. TRANSPORT INFORMATION**Land Transport ADR/RID and GGVS/GGVE (Cross Border / Domestic):** Not regulated**Maritime Transport IMDG/GGVSea:** Not regulated**Air Transport ICAO-TI and IATA-DGR:** Not regulated**Transport in Bulk according to Annex II of MARPOL 73/78 and the IBC Code:** Not applicable**Special Precautions for User:** No additional information**15. REGULATORY INFORMATION****Federal, State & International Regulations - Part 1**

Ingredient	SARA 302		SARA 313	
	RQ	TPQ	List Chemical	Catg.
Polychlorotrifluoroethylene (9002-83-9)	No	No	No	No

Federal, State & International Regulations - Part 2

Ingredient	RCRA		TSCA
	CERCLA	261.33	8(d)
Polychlorotrifluoroethylene (9002-83-9)	No	No	No

Chemical Weapons Convention: No	TSCA 12(b): No		CDTA: No
SARA 311/312: Acute: No	Chronic: No	Fire: No	Pressure: No
Reactivity: No	Pure / Liquid		

16. OTHER INFORMATION

HMIS

Health	1
Flammability	0
Reactivity	0

Disclaimer: Halocarbon believes the information given here to be correct. However, we cannot guarantee its accuracy or be responsible for loss or damage that result from the use of such information.