

# MATERIAL SAFETY DATA SHEET

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CHEMTREC 24-HOUR EMERGENCY RESPONSE  
TOLL FREE NUMBER: (800) 424-9300  
INTERNATIONAL CALLS: COLLECT (703) 527-3887  
CHEMTREC should only be contacted in the event of chemical emergencies  
involving a spill, leak, fire, exposure, or accident involving chemicals

## 1. PRODUCT NAME

LENIUM™\* CP

## 2. COMPOSITION AND INFORMATION ON INGREDIENTS

	CAS NO.	Weight %	OSHA PEL	ACGIH TLV
n-Propyl bromide	106-94-5	10 – 30	100 ppm**	Not est.
Methyl Nonafluorobutyl ether	163702-07-6	60 – 80	600 ppm**	Not est.
Methyl Nonafluoroisobutyl ether	163702-08-7	60 - 80	600 ppm**	Not est.
1,2 Epoxybutane	106-88-7	< 1	400 ppm	Not est.
2-Methyl-2-propanol	75-65-0	< 2	100 ppm	Not est.
Dimethoxymethane	109-87-5	< 2	1000 PPM	1000 PPM
2-Propanol	67-63-0	3 - 8	400 ppm	400 ppm

\*\*Source of Exposure Limit Data: Manufacturer's TWA

## 3. HAZARDS IDENTIFICATION SYMPTOMS/EFFECTS OF OVEREXPOSURE

Inhalation: May irritate the nose, throat, and lungs. Exposure to high doses may cause central nervous system depression (anesthetic-like effects). Doses which cause anesthetic-like effects may also cause adverse effects in liver, lung, and kidney.

Ingestion: Low order of toxicity. May cause mild nausea and abdominal discomfort

Skin: Prolonged exposure will cause a skin irritation.

Eyes: Contact with eyes may cause mild irritation.

Listed Carcinogens: None

## 4. FIRST AID MEASURES

Inhalation: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Consult a physician.

Ingestion: Do not induce vomiting. Seek medical attention.

Skin: Remove contaminated clothing. Thoroughly wash affected area with soap water; use skin cream if irritation is severe.

Eyes: Immediately flush eyes with water for 15 minutes. Call a physician if irritation persists.

## 5. FIRE FIGHTING MEASURES

Extinguishing Media: Dry chemical, chemical foam, carbon dioxide. Class BC, ABC fire extinguisher.

Special Fire Fighting Procedures: Wear full protective clothing, including helmet, self-contained, positive pressure or pressure demand breathing apparatus, bunker coat and pants, bands around arms, waist and legs, face mask, and protective covering for exposed areas of the head.

\*LENIUM is a trademark of Petroferm Inc.

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5. **FIRE FIGHTING MEASURES** **CONTINUED**  
 Unusual Fire and Explosions Hazard: Vapors can travel considerable distances to source of ignition. Exposure to extreme heat can give rise to thermal decomposition.
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6. **ACCIDENTAL RELEASE MEASURES**  
 Absorb spill with inert material, then place in chemical waste container. Clean up residue with an appropriate organic solvent. For large spills, dike for later disposal. Observe government regulations.
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7. **HANDLING AND STORAGE**  
 Store in original container, preferably in a cool ventilated, fire-resistant building. Avoid overheating or freezing. Avoid open flames and sparks. Since empty containers may retain product residues (vapor, liquid, or solid) all label precautions must be observed.
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8. **EXPOSURE CONTROLS – PERSONAL PROTECTION**  
 Respiratory: Use NIOSH/MSHA approved respirator if ventilation is not sufficient and if mists are generated.  
 Ventilation: If desirable to reduce odor, local exhaust can also be effective in minimizing odor. Provide sufficient ventilation to maintain emissions below recommended exposure limits.  
 Clothing/Glove: Chemically resistant gloves should be used with all industrial chemicals.  
 Eye Protection: Safety glasses/goggles are recommended. Provide eye bath near work site.
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9. **PHYSICAL AND CHEMICAL PROPERTIES**
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|--|---|---|---|
| Boiling Point (760 mm Hg):               | 130°F<br>(54°C)                               | Vapor Density (Air = 1):                  | >1  |
| % Volatile (By weight):                  | 100   | Evaporation Rate (BUAC = 1):              | < 1   |
| Specific Gravity (H <sub>2</sub> O = 1): | 1.43 @ 77°F<br>(25°C)                         | Solubility in Water:                      | Negligible  |
| Vapor Pressure (20°C):                   | 150 mm Hg                                     | Appearance and Odor:                      | Clear colorless liquid with a slight ethereal odor. |
| Flash Point:                             | None (ASTM D93-85, Pensky-Martens Closed Cup) | Flammable Limits<br>(% By Volume in Air): | Not determined                                      |
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10. **STABILITY AND REACTIVITY**  
 Stability: LENIUM CP is stable  
 Conditions to Avoid: Storage temperatures above 130°F.  
 Incompatibility: Strong mineral acids and strong oxidizing agents. Prolonged contact with aluminum, magnesium, and zinc metals should be avoided.  
 Hazardous Decomposition Products: Thermal decomposition products are known to be hazardous.  
 Hazardous Polymerization: Will not occur
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11. **TOXICOLOGICAL INFORMATION**  
 Methyl Nonafluorobutyl ether and Methyl Nonafluoroisobutyl ether  
 LD50/oral/rat = >5,000 mg/kg  
 Acute inhalation lethal concentration = > 100,000 ppm (rat, 4 hour).  
 Developmental toxicity: No abnormal effects observed.  
 Mutagenicity: Not a mutagen in reverse mutation or chromosomal aberration assays.  
 Cardiac sensitization: No signs of sensitization at exposures up to 100,000 ppm.  
 Dermal sensitization: Not a skin sensitizer.

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**11. TOXICOLOGICAL INFORMATION** CONTINUED**2-Propanol**

LD50/oral/rat = 5,500 mg/kg

LD50/dermal/rabbit = 12,900 mg/kg

LC50/rat = 19,000 ppm (female); 22,500 ppm (male)

**n-Propyl bromide**

LD50/oral/rat = 4,260 mg/kg

LC50/rat = 253,000 mg/m<sup>3</sup>/0.5 hour**1,2 epoxybutane**

LD50/oral/rat = 500 mg/kg

LD50/dermal/ rabbit = 2,100 ul/kg

**2-Methyl-2-propanol**

LD50/oral/rat = 3,500 mg/kg

**Dimethoxymethane**

LC50/rat = 15,000 ppm

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**12. ECOLOGICAL INFORMATION**

No information available.

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**13. DISPOSAL CONSIDERATIONS**

Waste treat or incinerate used material in compliance with all applicable government regulations.

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**14. TRANSPORT INFORMATION**

Non-regulated.

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**15. REGULATORY INFORMATION**

The product contains 1,2 epoxybutane and 2-methyl-2-propanol which are subject to the reporting requirements of SARA Title III, Section 313. No other components of LENIUM cp appears on any of the EPA's lists of toxic or hazardous substances.

None of the components of this product is listed in California's Safe Drinking Water and Toxic Enforcement Act of 1986 – Proposition 65 as a chemical known to cause cancer, birth defects or other reproductive harm.

All the components of this product are listed on the TSCA inventory.

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**16. OTHER INFORMATION**

NFPA Codes: Health: 1 Fire: 0 Reactivity: 0

We believe that the information contained herein is current as of the date of this Material Safety Data Sheet. Since the use of this information and of these opinions and the conditions of use of the product are not within the control of Petroferm Inc., it is the user's obligation to determine the conditions of safe use of the product.