

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[®]* ES

2. COMPOSITION AND INFORMATION ON INGREDIENTS

	CAS Number	Weight %	OSHA PEL	ACGIH TLV
n-Propyl bromide	106-94-5	80 -90	25 ppm**	Not est.
1,2 Epoxybutane	106-88-7	< 1	Not est.	Not est.
2-Methyl-2-propanol	75-65-0	< 2	100 ppm	100 ppm
Dimethoxymethane	109-87-5	< 2	1000 ppm	1000 ppm
2-Propanol	67-63-0	5 - 10	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 a self-contained breathing apparatus and personal protective equipment to avoid skin and eyes contact in fire situations.

Unusual Fire and Explosions Hazard: In fires, toxic and corrosive gases may be released.

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.

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.

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.

9. PHYSICAL AND CHEMICAL PROPERTIES

Boiling Point (760 mm Hg):	154°F (68°C)	Vapor Density (Air = 1):	>1
% Volatile (By weight):	100	Evaporation Rate (BUAC = 1):	< 1
Specific Gravity (H₂O = 1):	1.25 @ 77°F (25°C)	Solubility in Water:	Negligible
Vapor Pressure (20°C):	> 100 mm Hg	Appearance and Odor:	Clear colorless liquid with a strong characteristic odor.
Flash Point:	None (ASTM D93-85, Pensky-Martens Closed Cup)	Flammable Limits (% By Volume in Air):	Not determined

10. STABILITY AND REACTIVITY

Stability: LENIUM ES is stable.

Conditions to Avoid: Storage temperatures above the boiling point (150°F). Operating temperatures above 185°F and decomposition temperatures above 400°F.

Incompatibility: Strong mineral acids and strong oxidizing agents. Prolonged contact with aluminum, magnesium, and zinc metals should be avoided.

Hazardous Decomposition: Thermal decomposition produces carbon monoxide, carbon dioxide, and hydrogen halides.

Hazardous Polymerization: Will not occur

11. TOXICOLOGICAL INFORMATION

n-Propyl bromide

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

LC50/rat = 253,000 mg/m³/0.5 hour

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)

2-Methyl-2-propanol

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

11. TOXICOLOGICAL INFORMATION CONTINUED

Dimethoxymethane
LC50/rat = 15,000 ppm

1,2 epoxybutane
LD50/oral/rat = 500 mg/kg
LD50/dermal/ rabbit = 2,100 ul/kg

12. ECOLOGICAL INFORMATION

No information available.

13. DISPOSAL CONSIDERATIONS

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

14. TRANSPORT INFORMATION

Non-regulated.

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 ES 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.

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.