MATERIAL SAFETY DATA SHEET
LITHIUM GREASE EP
#0 - #00 - #1 - #2

1. PRODUCT AND COMPANY IDENTIFICATION

TRADE NAME
LITHIUM GREASE EP (ALL GRADES)

SYNONYMS
LITHIUM GREASE EP-0, LITHIUM GREASE EP-00, LITHIUM GREASE EP-1,

PRODUCT USE
Lubricating Grease

SUPPLIER
Varouh Oil, Inc.
970 Griswold Road
Elyria, OH 44036-44035 USA
Tel: (440) 324-5025
Fax: (440) 459-4155

EMERGENCY TELEPHONE
Infotrac
U.S. and Canada - (800) 535-5053
Outside the U.S. and Canada - +01-352-323-3500

Date of last issue
2005-01-20

2. COMPOSITION AND INFORMATION ON INGREDIENTS

INGREDIENT NAME
DISTILLATES, PETROLEUM, REFINED HEAVY NAPHTHENIC (CAS 64741-96-4 OR
64742-52-5) Variable 85-97 %
*OCTADECANOIC ACID, 12-HYDROXY-, MONOLITHIUM SALT 7620-77-1 2-12 %
*PHOSPHORODITHIOIC ACID, O,O-DI-C14-ALKYL ESTERS, ZINC SALTS 68649-42-3 0.5-1.5 %

* This chemical(s) is hazardous according to OSHA/WHIMIS criteria

COMPOSITION COMMENTS
Refer to section eight for exposure limits on ingredients.
Chemical ingredients not regulated by OSHA or SARA are treated confidentially.
3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW
Exposure to vapors generated at high temperatures may cause respiratory irritation. For further information, please refer to section 11. Not regarded as a health hazard under current legislation.

SENSITIZATION
No known information.

CARCINOGENICITY
IARC: Not listed as a Group 1, 2A, or 2B agent. OSHA: Not regulated. NTP: Not listed.

TERATOGENICITY
No data available to indicate product or any components contained at greater than 0.1% may cause birth defects.

HEALTH WARNINGS
INHALATION. Heating can generate vapors that may cause respiratory irritation, nausea and headaches. Inhalation hazard at room temperature is unlikely due to the low volatility of this product. SKIN CONTACT. Repeated or prolonged contact can result in drying of the skin. EYE CONTACT. Slightly irritating. INGESTION. Can cause stomach ache and vomiting. Main hazard, if ingested, is aspiration into the lungs and subsequent pneumonitis.

ROUTE OF ENTRY
Inhalation. Skin and/or eye contact. Ingestion.

4. FIRST AID MEASURES

INHALATION
Vapor inhalation under ambient conditions is normally not a problem. If overcome by vapor of hot product, immediately remove from source of exposure. Move the exposed person to fresh air at once. For breathing difficulties oxygen may be necessary. Get medical attention if any discomfort continues.

EYES
Rinse the eye with water immediately. Continue to rinse for at least 15 minutes. Contact physician if discomfort continues.

SKIN
Remove contaminated clothing. Wash skin thoroughly with soap and water. Get medical attention if any discomfort continues.

INGESTION
DO NOT INDUCE VOMITING! Get medical attention immediately!

5. FIRE FIGHTING MEASURES

FLASH POINT (°C)
224 (435°F) Cd OC (Cleveland open cup).

FLAMMABILITY LIMIT - LOWER(%) N/D

FLAMMABILITY LIMIT - UPPER(%) N/D

EXTINGUISHING MEDIA
Use: Carbon dioxide (CO2). Dry chemicals, sand, dolomite etc. Alcohol resistant foam. Water spray, fog or mist.

SPECIAL FIRE FIGHTING PROCEDURES
Use water to keep fire exposed containers cool and disperse vapors. Water spray may be used to flush spills away from exposures and dilute spills to non-flammable mixtures. Avoid water in straight hose stream; will scatter and spread fire. Keep run-off water out of sewers and water sources. Dike for water control.
### UNUSUAL FIRE & EXPLOSION HAZARDS
- Pressure will increase in over heated, closed containers.

### HAZARDOUS COMBUSTION PRODUCTS

### PROTECTIVE MEASURES IN CASE OF FIRE
- Self-contained breathing equipment and chemical resistant clothing recommended.

## 6. ACCIDENTAL RELEASE MEASURES

### PERSONAL PRECAUTIONS
- Minimize skin contact.

### PRECAUTIONS TO PROTECT THE ENVIRONMENT
- Keep product out of sewers and watercourses by diking or impounding. Advise authorities if product has entered or may enter sewers, watercourses or extensive land areas. Assure conformity with applicable government regulations.

### SPILL CLEAN-UP PROCEDURES
- Keep all sources of ignition and hot metal surfaces away from spill. Avoid contact with eyes or skin. Place leaking containers in well ventilated area. If fire potential exists, blanket spill with foam or use water spray to disperse vapors. Contain spill to minimize contaminated area and facilitate salvage or disposal. To clean up spill, flush area sparingly with water or use absorbent material. Avoid discharge to natural water ways.

## 7. HANDLING AND STORAGE

### HANDLING PRECAUTIONS
- Keep away from heat, sparks and open flame. Ventilate well, avoid breathing vapors. Use approved respirator if air contamination is above accepted level. Do not reuse container. Keep lid closed when not in use. Do not store or mix with strong oxidizers. Avoid spilling, skin and eye contact. Eye wash and emergency shower must be available at the work place.

### STORAGE PRECAUTIONS
- Store separate from strong acids and oxidizers. Keep away from heat, sparks and open flame.

### STORAGE CRITERIA
- Chemical storage.

## 8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

<table>
<thead>
<tr>
<th>COMPONENT</th>
<th>STD</th>
<th>TWA</th>
<th>STEL</th>
<th>TWA</th>
<th>STEL</th>
</tr>
</thead>
<tbody>
<tr>
<td>DISTILLATES, PETROLEUM, REFINED HEAVY NAPHTHENIC (CAS 64741-96-4 OR 64742-52-5)</td>
<td>OSHA</td>
<td>5 mg/m³ (oil mist)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>ACGIH</td>
<td>5 mg/m³ (oil mist) 10 mg/m³ (oil mist)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### PROTECTIVE EQUIPMENT

ENGINEERING CONTROLS
Use engineering controls to reduce air contamination to permissible exposure level.

VENTILATION
No specific ventilation requirements noted, but forced ventilation may still be required if air contamination exceeds acceptable level.

RESPIRATORS
No specific recommendation made, but respiratory protection may still be required under exceptional circumstances when excessive air contamination exists.

PROTECTIVE GLOVES
Chemical resistant gloves recommended preventing prolonged or repeated contact. Use protective gloves made of: Neoprene, nitrile, polyethylene or PVC. or latex.

EYE PROTECTION
Use eye protection.

PROTECTIVE CLOTHING
Wear appropriate clothing to prevent repeated or prolonged skin contact.

HYGIENIC WORK PRACTICES
Wash at the end of each work shift and before eating, smoking and using the toilet.

9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE/PHYSICAL STATE
Grease.

COLOR
Amber.

ODOR
Mild (or faint). Petroleum.

SOLUBILITY DESCRIPTION
Insoluble in water.

DENSITY
0.90

Temperature (°C) 15.6 (60°F)

VAPOR DENSITY (air=1)
> 5

VAPOR PRESSURE
< 0.1 mmHg

Temperature (°C) 20 (68°F)

EVAPORATION RATE
< 1

Reference BuAc=1

10. STABILITY AND REACTIVITY

STABILITY
Normally stable.

CONDITIONS TO AVOID
Avoid contact with acids and oxidizing substances.

HAZARDOUS POLYMERIZATION
Will not occur.

POLYMERIZATION DESCRIPTION
Not applicable

HAZARDOUS DECOMPOSITION PRODUCTS
**11. TOXICOLOGICAL INFORMATION**

<table>
<thead>
<tr>
<th>TOXICOLOGICAL INFORMATION COMPONENT</th>
<th>COMPONENT</th>
<th>TOXICOLOGICAL DATA</th>
<th>TOXIC DOSE - LD 50</th>
<th>TOXIC DOSE - LD 50 SKIN</th>
<th>TOXIC CONC. - LC 50</th>
<th>CARCINOGENICITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>DISTILLATES, PETROLEUM, Refined Heavy Naphthenic (CAS 64741-96-4 or 64742-52-5)</td>
<td>DISTILLATES, PETROLEUM, Refined Heavy Naphthenic (CAS 64741-96-4 or 64742-52-5)</td>
<td>Carcinogenicity. IP 346 1.2-2.93%</td>
<td>Corrosive effects. Eye. Rabbit. &lt; 15/110</td>
<td>Corrosive effects. Skin. Rabbit. &lt; 0.5/8</td>
<td>N/A.</td>
<td>Base oils in this product contain &lt; 3% DMSO Extractable total polycyclic aromatic compound (PAC) per IP 346.</td>
</tr>
</tbody>
</table>

**12. ECOLOGICAL INFORMATION**

ECOLOGICAL INFORMATION: There is no ecological data on the product itself.

**13. DISPOSAL CONSIDERATIONS**

**DISPOSAL METHODS**

- Spilled material, unused contents and empty containers must be disposed of in accordance with local, state and federal regulations.

**14. TRANSPORT INFORMATION**

**DOT HAZARD CLASS**

- Not regulated.

**U.S. DOT HAZARD LABEL**

- No DOT label requirement

**SEA TRANSPORT NOTES**

- Not regulated per IMDG.

**AIR TRANSPORT NOTES**

- Not regulated per IATA.

**15. REGULATORY INFORMATION**

<table>
<thead>
<tr>
<th>COMPONENT</th>
<th>SARA 302</th>
<th>CERCLA</th>
<th>SARA 313</th>
</tr>
</thead>
<tbody>
<tr>
<td>DISTILLATES, PETROLEUM, Refined Heavy Naphthenic (CAS 64741-96-4 or 64742-52-5)</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>OCTADECANOIC ACID, 12-HYDROXY-, MONOLITHIUM SALT</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>
PHOSPHORODITHIOIC ACID, O,O-DI-C1-14-ALKYL ESTERS, ZINC SALTS

REGULATORY STATUS

*** Indicates that no RQ is assigned to this generic or broad class, although the class is a CERCLA hazardous substance. See 50 Federal Register 13456 (April 4, 1985). Values in Section 313 column represent Category Codes for reporting under Section 313.

CLEAN AIR ACT

SARA HAZARD CATEGORIES

None

US STATE REGULATIONS

STATE REGULATORY STATUS

PROPOSITION 65 REPRODUCTIVE HAZARD: This product may contain the following chemical(s) considered by the State of California's Safe Drinking Water and Toxic Enforcement Act of 1986 as causing reproductive toxicity, and for which warnings are now required:

N-Methylpyrrolidone, developmental hazard, CAS# 872-50-4 traces < 35 ppm

WORKPLACE HAZARDOUS MATERIALS INFORMATION SYSTEM - WHMIS

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

CONTROLLED PRODUCT

Not a controlled product.

CLASSIFICATION

Risk phrases

No R-phrases required

GLOBAL INVENTORIES

CAN US EU AUS JAP KOR PHLP CHN

DISTILLATES, PETROLEUM, REFINED HEAVY NAPHTHENIC (CAS 64741-96-4 OR 64742-52-5) DSL Yes EINECS Yes Yes Yes Yes Yes Yes

OCTADECANOIC ACID, 12-HYDROXY-, MONOLITHIUM SALT DSL Yes EINECS Yes 2-1416 Yes Yes Yes

PHOSPHORODITHIOIC ACID, O,O-DI-C1-14-ALKYL ESTERS, ZINC SALTS NPRI Yes EINECS Yes Yes Yes Yes Yes

CANADA CEPA: All components of this product comply with new substance notification requirements under the Canadian Environmental Protection Act (CEPA).

CANADA NPRI: The National Pollutant Release Inventory (NPRI) requires companies in Canada to report information on releases and transfers of pollutants to the Government of Canada on an annual basis.

AUSTRALIA (AICS)

All components in this product are listed on the Australian Inventory of Chemical Substances (AICS) or are exempt from AICS requirements.

16. OTHER INFORMATION
**NFPA-HMIS HAZARD RATING**

**HEALTH**
Irritation, minor residual injury (1) - HMIS/NFPA

**FLAMMABILITY**
Burns only if pre-heated (1) - HMIS/NFPA

**REACTIVITY**
Normally Stable (0) - HMIS/NFPA

**PERSONAL PROTECTION INDEX**
B - Safety Eyewear and Gloves

**REVISION COMMENTS**
Section 2: Ingredients
Section 15: US Regulatory Status.
Section 15: Inventory Status

**DATE**
2005-01-20

**DISCLAIMER**
While the information and recommendations set forth herein are believed to be accurate as of the date thereof, the company makes no warranty with respect thereto and disclaims all liability from reliance therein.

* Information revised since previous MSDS version

**PRINTING DATE:**
2006-10-19