

MATERIAL SAFETY DATA SHEET

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: **MOLYTAC II GREASE**
Product description: Petroleum based Lithium complex grease

MANUFACTURER:

Northland Products Company
1000 Rainbow Drive
Waterloo, IA 50704
319-234-5585, 1-800-772-1724

EMERGENCY TELEPHONE NUMBERS:

Chemtrec: 1-800-424-9300

2. COMPOSITION/INFORMATION ON INGREDIENTS

	<u>wt. Percent</u>	<u>CAS Registry #</u>
Distillates (Petroleum), hydrotreated heavy naphthenic	15 - 30	64741-96-4
Distillates (Petroleum) solvent-refined heavy paraffinic	15 - 30	64742-63-8
Residual oils (Petroleum) solvent-refined	30 - 50	64742-62-7
Lithium Carboxylate Soap	1 - 15	1310-66-3
Molybdenum disulfide	3 - 5	1317-33-5
Stearic Acid	<3	57-11-4
Proprietary Additives	<5	Proprietary

3. HAZARD IDENTIFICATION

Emergency Overview:

Smooth Dark Gray grease with a mild to bland odor.
Health studies have shown that petroleum hydrocarbons pose potential human health risks which may vary from person to person. Exposure to liquids, mists, vapors and fumes should be minimized.

POTENTIAL HEALTH EFFECTS:

INHALATION:

Vapors are minimal under normal conditions but should be avoided, at temperatures above the flash point, concentrations may reach levels that could cause slight irritation.

EYE CONTACT:

May cause mild eye irritation. Corneal injury is unlikely.

SKIN CONTACT:

May cause skin irritation or dermatitis. Discontinue use if irritation persists. Injections of petroleum hydrocarbons under the skin requires immediate medical attention.

3. HAZARD IDENTIFICATION (Continued)

INGESTION:

This product has a low order of acute oral and dermal toxicity, however minute amounts aspirated into the lungs during ingestion or vomiting may cause mild to severe pulmonary injury and possibly death.

OTHER:

Acute oral LD50 (Rat) greater than 5 g/kg of body weight.

Acute dermal LD50 (Rabbit) > 3.16 g/kg of body weight.

Hazardous Material Identification System (HMIS):

Health-1, Flammability-1, Reactivity-0 (Based on components)

4. FIRST AID MEASURES

INHALATION:

Normal use should not result in exposure. If overcome by vapor from hot product, immediately remove person from exposure and call a physician. Administer oxygen or resuscitation if breathing is irregular or has stopped.

EYE CONTACT:

Flush eyes with large amounts of water immediately for 15 minutes or until irritation subsides. If irritation persists, get medical attention.

SKIN CONTACT:

Wash affected areas thoroughly with soap and water. Remove contaminated clothing and wash them before wearing again. Call a physician if irritation persists. High pressure injection of this product into or under the skin should be evaluated by a physician as a surgical emergency. Treatment within the first few hours may significantly reduce the ultimate extent of the injury.

INGESTION:

Call a doctor immediately. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person.

5. FIRE FIGHTING MEASURES

Flash point : 392°F (COC)
Upper flammability limit : No Data
Lower flammability limit : No Data
Autoignition temperature : Not Available

GENERAL HAZARD:

May release vapors that form flammable mixtures when temperatures are at or above the flash point. Toxic gases will form upon combustion.

5. FIRE FIGHTING MEASURES (Continued)

FIRE FIGHTING INSTRUCTIONS:

Either allow fire to burn out under controlled conditions or extinguish with foam, CO₂, or dry chemical. Try to cover liquid spills with foam. Shut off fuel to fire if possible to do so without hazard.

FIRE FIGHTING EQUIPMENT:

NIOSH approved self-contained breathing apparatus and eye protection are required for fire fighting personnel on all indoor fires and any significant outdoor fires.

HAZARDOUS COMBUSTION PRODUCTS:

Smoke, fumes, carbon monoxide, carbon dioxide, sulfur oxides, phosphorus oxides, metal oxides and water.

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)

Health-0, Flammability-1, Reactivity-0 (Based on components)

6. ACCIDENTAL RELEASE MEASURES

Notify the appropriate authorities immediately. Take all actions necessary to prevent adverse effects of the spill. Eliminate ignition sources. Shut off leak if safe to do so. Dike spilled liquid with sand/earth and dispose of properly. DO NOT use sawdust or other combustible materials. Prevent product from entering sewers or waterways. National Response Center 1-800-424-8802

7. HANDLING AND STORAGE

STORAGE TEMPERATURE: Ambient STORAGE PRESSURE: Atmospheric

GENERAL:

Keep container closed. Loosen closure cautiously before opening. Store in well ventilated area away from incompatible materials. (See Section 10) Keep away from heat, sparks and flames. Empty container may still retain hazardous properties.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

ENGINEERING CONTROLS:

Use mechanical ventilation to control vapor concentrations in confined spaces. General ventilation should be sufficient for most operations.

PERSONAL PROTECTION:

Personal protective equipment should be selected based upon the conditions under which this material is being used. A hazard assessment of the work area for PPE requirements should be conducted by a qualified professional pursuant to OSHA regulations. Gloves, Glasses and protective clothing represent the minimum requirements for PPE. Use good hygiene practices.

9. PHYSICAL AND CHEMICAL PROPERTIES

Boiling point	: Not available
Vapor pressure	: < 1 mm Hg @ 20°C
Vapor density	: > 1
Solubility in water	: Insoluble
Specific gravity	: 0.93 approximately
pH	: Not available
Odor	: Mild/Bland petroleum odor
Appearance	: Smooth Gray
Physical state	: Semi-solid, tacky (Grease)

10. STABILITY AND REACTIVITY

GENERAL:

This product is stable and will not polymerize.

INCOMPATIBLE MATERIALS AND CONDITIONS TO AVOID:

Strong oxidizing agents.

HAZARDOUS DECOMPOSITION:

None.

11. TOXICOLOGICAL INFORMATION

No component of this product present at levels greater than 0.1% is identified as a carcinogen by NTP, IARC or OSHA.

Distillates, petroleum, hydrotreated heavy naphthenic:

ORAL (LD50): Acute: >5000 mg/kg [Rat].

DERMAL (LD50): Acute: >2000 mg/kg [Rabbit].

Distillates, petroleum, solvent-refined heavy paraffinic:

ORAL (LD50): Acute: >5000 mg/kg [Rat].

DERMAL (LD50): Acute: >2000 mg/kg [Rabbit].

Residual oils, petroleum, solvent-refined:

ORAL (LD50): Acute: >5000 mg/kg [Rat].

DERMAL (LD50): Acute: >2000 mg/kg [Rabbit].

Molybdenum Disulfide:

ORAL (LD50): Acute: >6000 mg/kg [Rat].

Distillates, petroleum, hydrotreated heavy naphthenic:

Mineral oil mists derived from highly refined oils are reported to have low acute and sub-acute toxicities in animals. Effects from single and short-term repeated exposures to high concentrations of mineral oil mists well above applicable workplace exposure levels include lung inflammatory reaction,

11. TOXICOLOGICAL INFORMATION (Continued)

lipoid granuloma formation and lipoid pneumonia. In acute and sub-acute studies involving exposures to lower concentrations of mineral oil mists at or near current work place exposure levels produced no significant toxicological effects.

Distillates, petroleum, solvent-refined heavy paraffinic:

Mineral oil mists derived from highly refined oils are reported to have low acute and sub-acute toxicities in animals. Effects from single and short-term repeated exposures to high concentrations of mineral oil mists well above applicable workplace exposure levels include lung inflammatory reaction, lipoid granuloma formation and lipoid pneumonia. In acute and sub-acute studies involving exposures to lower concentrations of mineral oil mists at or near current work place exposure levels produced no significant toxicological effects. In long term studies (up to two years) no carcinogenic effects have been reported in any animal species tested.

Residual oils, petroleum, solvent-refined:

Mineral oil mists derived from highly refined oils are reported to have low acute and sub-acute toxicities in animals. Effects from single and short-term repeated exposures to high concentrations of mineral oil mists well above applicable workplace exposure levels include lung inflammatory reaction, lipoid granuloma formation and lipoid pneumonia. In acute and sub-acute studies involving exposures to lower concentrations of mineral oil mists at or near current work place exposure levels produced no significant toxicological effects. In long term studies (up to two years) no carcinogenic effects have been reported in any animal species tested.

Molybdenum Disulfide:

In general, insoluble compounds of molybdenum, such as molybdenum disulfide, exhibit a low order of toxicity. Molybdenum disulfide dust can cause eye, skin and respiratory tract irritation due to frictional action. Other effects of molybdenum disulfide dusts and mists are similar to those of nuisance particulates. In acute ingestion studies with rats and guinea pigs, no fatalities were reported when doses of molybdenum disulfide as high as 6.0 grams per kilogram of body weight. In a subchronic oral study, no signs of toxicity appeared in rats receiving molybdenum disulfide at 10 to 500 milligrams of molybdenum disulfide per animal per day. In an experimental study, guinea pigs were exposed to an average concentration of 286 milligrams of molybdenum disulfide dust per cubic meter for one hour per day, five days per week for five weeks. Of the 25 animals studied, one animal died within three days; the appearance of the other animals was normal.

11. TOXICOLOGICAL INFORMATION (Continued)

Greases:

Injection of pressurized hydrocarbons under the skin, in muscle or into the blood stream can cause irritation, inflammation, swelling, fever, and systemic effects, including mild central nervous system depression. Injection of pressurized hydrocarbons can cause severe, permanent tissue damage.

12. ECOLOGICAL INFORMATION

Ecotoxicity

Ecological effects testing has not been conducted on this material. Discharges are expected to cause only localized and non-persistent environmental damage.

Environmental Fate

An environmental fate analysis has not been conducted on this specific product. Plants and animals may experience harmful or fatal effects when coated with petroleum-based products. Petroleum-based (mineral) lube oils will normally float on water. In stagnant or slow-flowing waterways, an oil layer can cover a large surface area. As a result, this oil layer might limit or eliminate natural atmospheric oxygen transport into the water. With time, if not removed, oxygen depletion in the waterway can result in a loss of marine life or create an anaerobic environment. This material contains phosphorus which is a controlled element for disposal in effluent waters in most sections of North America. Phosphorus is known to enhance the formation of algae. Severe algae growth can reduce oxygen content in the water possibly below levels necessary to support marine life. Ecological effects testing has not been conducted on this material. Discharges are expected to cause only localized and non-persistent environmental damage.

13. DISPOSAL CONSIDERATIONS

Hazard characteristic and regulatory waste stream classification can change with product use. Accordingly, it is the responsibility of the user to determine the proper storage, transportation, treatment and/or disposal methodologies for spent materials and residues at the time of disposition.

Conditions of use may cause this material to become a "hazardous waste", as defined by federal or state regulations. It is the responsibility of the user to determine if the material is a RCRA "hazardous waste" at the time of disposal. Transportation, treatment, storage and disposal of waste material must be conducted in accordance with RCRA regulations (see 40 CFR 260)

13. DISPOSAL CONSIDERATIONS (Continued)

through 40 CFR 271). State and/or local regulations may be more restrictive. Contact the RCRA/Superfund Hotline at (800) 424-9346 or your regional US EPA office for guidance concerning case specific disposal issues.

14. TRANSPORTATION INFORMATION

DOT (Department of Transportation):

Proper shipping name	: Not regulated
Hazard class	: Not regulated
Identification number	: Not regulated
Labeling	: Not regulated

15. REGULATORY INFORMATION

TSCA Inventory

This product and/or its components are listed on the Toxic Substances Control Act (TSCA) inventory.

SARA 302/304

The Superfund Amendments and Reauthorization Act of 1986 (SARA) Title III requires facilities subject to Subparts 302 and 304 to submit emergency planning and notification information based on Threshold Planning Quantities (TPQs) and Reportable Quantities (RQs) for "Extremely Hazardous Substances" listed in 40 CFR 302.4 and 40 CFR 355. No components were identified.

SARA 311/312

The Superfund Amendments and Reauthorization Act of 1986 (SARA) Title III requires facilities subject to this subpart to submit aggregate information on chemicals by "Hazard Category" as defined in 40 CFR 370.2. This material would be classified under the following hazard categories:

No SARA 311/312 hazard categories identified.

SARA 313

This product contains the following components in concentrations above de minimis levels that are listed as toxic chemicals in 40 CFR Part 372 pursuant to the requirements of Section 313 of SARA:

No components were identified.

15. REGULATORY INFORMATION (Continued)

CERCLA

The Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) requires notification of the National Response Center concerning release of quantities of "hazardous substances" equal to or greater than the reportable quantities (RQ's) listed in 40 CFR 302.4. As defined by CERCLA, the term "hazardous substance" does not include petroleum, including crude oil or any fraction thereof which is not otherwise specifically designated in 40 CFR 302.4. Chemical substances present in this product or refinery stream that may be subject to this statute are:

Zinc and Zinc Compounds, Concentration: 0 - 1%

Antimony and Antimony Compounds, Concentration: 0 - 1%

CWA

This material is classified as an oil under Section 311 of the Clean Water Act (CWA) and the Oil Pollution Act of 1990 (OPA). Discharges or spills which produce a visible sheen on waters of the United States, their adjoining shorelines, or into conduits leading to surface waters must be reported to the EPA's National Response Center at (800) 424-8802.

California Proposition 65

This material may contain the following components which are known to the State of California to cause cancer, birth defects or other reproductive harm, and may be subject to the requirements of California Proposition 65 (CA Health & Safety Code Section 25249.5):

None identified.

New Jersey Right-to-Know Label

Petroleum Oil (Grease)

Additional Regulatory Remarks

No additional regulatory remarks.

16. OTHER INFORMATION

THE INFORMATION PRESENTED HEREIN HAS BEEN COMPILED FROM SOURCES CONSIDERED TO BE DEPENDABLE AND IS ACCURATE TO THE BEST OF NORTHLAND PRODUCTS COMPANY'S KNOWLEDGE; HOWEVER, NORTHLAND PRODUCTS COMPANY MAKES NO WARRANTY WHATSOEVER, EXPRESSED OR IMPLIED, OF MERCHANTABILITY OR FITNESS FOR THE PARTICULAR PURPOSE, REGARDING THE ACCURACY OF SUCH DATA OR THE RESULTS TO BE OBTAINED FROM THE USE THEREOF. NORTHLAND PRODUCTS COMPANY ASSUMES NO RESPONSIBILITY FOR THE INJURY TO THE RECIPIENT OR TO THIRD PARTY PERSONS OR FOR ANY DAMAGE TO ANY PROPERTY AND RECIPIENT ASSUMES ALL SUCH RISKS.