
MATERIAL SAFETY DATA SHEET

U-JOINT AND GIMBAL BEARING LUBRICANT

1. PRODUCT AND COMPANY IDENTIFICATION

Mercury Marine
PO Box 1939
W6250 W Pioneer Rd
Fond du Lac, WI 54935

MSDS 084-1676K

TRADE NAME Mercury Precision U-JOINT AND GIMBAL BEARING LUBRICANT

PRODUCT DESCRIPTION LUBRICATING GREASE

Product number 92-802870A 1, 92-802871A 1

U-JOINT & GIMBAL BEARING GREASE

SYNONYMS

PRODUCT USE Lubricating Grease

EMERGENCY TELEPHONE ChemTrec Emergency (US Only)
U.S. and Canada - (800) 424-9300

Date of last issue 2008-10-09

2. COMPOSITION AND INFORMATION ON INGREDIENTS

| INGREDIENT NAME | CAS No. | WEIGHT |
|---|--------------|---------|
| LUBRICATING OILS, PETROLEUM, BASE OILS, HIGHLY REFINED | Mixture**(2) | 80-90 % |
| *OCTADECANOIC ACID, 12-HYDROXY-, MONOLITHIUM SALT | 7620-77-1 | 5-10 % |
| *PHOSPHORODITHIOIC ACID, O,O-DI-C1-14-ALKYL ESTERS, ZINC SALTS | 68649-42-3 | 1-5 % |
| *ANTIMONY DIALKYL DITHIOCARBAMATE (NJTSRN 800983-5015P OR CAS# 15890-25-2) | Proprietary | <0.5 % |
| *BORON LITHIUM OXIDE (B4Li2O7) (Common Name: LITHIUM TETRABORATE (Li2B4O7)) | 12007-60-2 | <0.5 % |
| *LITHIUM HYDROXIDE MONOHYDRATE | 1310-66-3 | <0.5 % |

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

COMPOSITION COMMENTS

Refer to section eight for exposure limits on ingredients. **(2) The base oil for this product can be a mixture of any of the following highly refined petroleum streams: CAS 64741-88-4; CAS 64741-89-5; CAS 64741-96-4; CAS 64741-97-5; CAS 64742-01-4; CAS 64742-52-5; CAS 64742-53-6; CAS 64742-54-7; CAS 64742-55-8; CAS 64742-56-9; CAS 64742-57-0; CAS 64742-62-7; CAS 64742-63-8; CAS

64742-65-0; CAS 72623-83-7; CAS 72623-85-9; CAS 72623-86-0; CAS 72623-87-1.
Carcinogenicity: The petroleum base oils contained in this product have been highly refined by a variety of processes including solvent extraction, solvent dewaxing and hydrotreating to remove aromatics and improve performance characteristics. All petroleum base oils contained in this product meet the IP 346 criteria of less than 3 percent PAH's and are not considered carcinogens by IARC, NTP or OSHA.
**(7) The petroleum residual oils for this product can be a mixture of any of the following highly refined petroleum streams:
CAS NO 64742-01-4, CAS NO 64742-57-0, CAS NO 64742-62-7, CAS NO 64742-65-0 and CAS NO 72623-83-7. Carcinogenicity: The petroleum base oils contained in this product have been highly refined by a variety of processes including solvent extraction, solvent dewaxing and/or hydrotreating to remove aromatics and improve performance characteristics. None of the oils used are listed as a carcinogen by NTP, IARC, or OSHA.

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

Not regarded as a health hazard under current legislation.

HEALTH HAZARDS, GENERAL

No specific health warnings noted.

SENSITIZATION

No known information.

CARCINOGENICITY

IARC-2B: Reasonably anticipated to be a carcinogen with sufficient evidence of carcinogenicity from studies in experimental animals. Naphthalene, CAS # 91-20-3, <10ppm.

TERATOGENICITY

No known information.

HEALTH WARNINGS

INHALATION. Oil mist can irritate airways and lungs. SKIN CONTACT. Repeated or prolonged contact can result in drying of the skin. EYE CONTACT. Irritating. INGESTION. Can cause stomach ache and vomiting.

ROUTE OF ENTRY

Inhalation. Skin and/or eye contact. Ingestion.

4. FIRST AID MEASURES

INHALATION

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 with water. 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)

> 200 C (392°F) Cd OC (Cleveland open cup).

FLAMMABILITY LIMIT - LOWER(%)

N/D

FLAMMABILITY LIMIT - UPPER(%)

N/D

FLAMMABILITY CLASS

No Uniform Fire Code noted.

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| EXTINGUISHING MEDIA | Use: Foam. Carbon dioxide (CO2). Dry chemicals, sand, dolomite etc. |
| 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. Keep run-off water out of sewers and water sources. Dike for water control. |
| UNUSUAL FIRE & EXPLOSION HAZARDS | Volume and pressure increases strongly when heated. Risk of container explosion in fire. Explosion risk when heated. Aerosol cans may explode in case of fire. |
| HAZARDOUS COMBUSTION PRODUCTS | Acrid smoke/fumes. Oxides of: Carbon. Sulfur. |

6. ACCIDENTAL RELEASE MEASURES

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| SPILL CLEAN-UP PROCEDURES | Carefully collect spilled material in closed containers and leave for disposal according to local regulations. Provide good ventilation. Use appropriate protective clothing. Rinse area with water. Do not let washing down water contaminate ponds or waterways. |
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7. HANDLING AND STORAGE

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| HANDLING PRECAUTIONS | Avoid spilling, skin and eye contact. Keep away from heat, sparks and open flame. Ventilate well, avoid breathing vapors. Use approved respirator if air contamination is above accepted level. Containers to be kept tightly closed. Eye wash and emergency shower must be available at the work place. |
| STORAGE PRECAUTIONS | Keep away from heat, sparks and open flame. Store separated from: Oxidizing materials. Acids. |

8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

| COMPONENT | STD | TWA | STEL | TWA | STEL |
|---|-------|-----------------|------|--------------------|---------------------|
| LUBRICATING OILS, PETROLEUM, BASE OILS, HIGHLY REFINED | OSHA | | | 5 mg/m3 (oil mist) | |
| | ACGIH | | | 5 mg/m3 (oil mist) | 10 mg/m3 (oil mist) |
| ANTIMONY DIALKYL DITHIOCARBAMATE (NJTSRN 800983-5015P OR CAS# 15890-25-2) | OSHA | | | 0.5 mg/m3 as Sb | |
| | ACGIH | | | 0.5 mg/m3 as Sb | |
| LITHIUM HYDROXIDE MONOHYDRATE | OSHA | | | N/E | |
| | ACGIH | | | N/E | |
| | AIHA | 1 mg/m3 as LiOH | WEEL | | |

PROTECTIVE EQUIPMENT



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| ENGINEERING CONTROLS | Use engineering controls to reduce air contamination to permissible exposure level. |
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| 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 required for prolonged or repeated contact. |
| 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

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|----------------------------------|---------------------|-------------------------|-----------|
| APPEARANCE/PHYSICAL STATE | Grease. | | |
| COLOR | Dark. Green. | | |
| ODOR | Mild (or faint). | | |
| SOLUBILITY DESCRIPTION | Insoluble in water. | | |
| SPECIFIC GRAVITY | 0.90 | | |
| VAPOR DENSITY (air=1) | > 5 | | |
| VAPOR PRESSURE | < 0.1 mmHg | Temperature (°C) | 20 (68°F) |
| EVAPORATION RATE | < 1 | Reference | BuAc=1 |
| pH-VALUE, CONC. SOLUTION | N/A | | |
| VISCOSITY (interval) | 13.5 - 16.5 cSt | Temperature (°C) | 100 C |

10. STABILITY AND REACTIVITY

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| STABILITY | Normally stable. |
| CONDITIONS TO AVOID | Avoid contact with acids and oxidizing substances. |
| HAZARDOUS POLYMERIZATION | Will not polymerize. |
| HAZARDOUS DECOMPOSITION PRODUCTS | Oxides of: Carbon. Sulfur. |

11. TOXICOLOGICAL INFORMATION

TOXICOLOGICAL INFORMATION No experimental toxicological data on the preparation as such is available.

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| COMPONENT | LUBRICATING OILS, PETROLEUM, BASE OILS, HIGHLY REFINED |
| TOXICOLOGICAL DATA | Carcinogenicity. IP 346 <3% |
| TOXIC DOSE - LD 50 | > 5000 mg/kg (oral rat) |
| TOXIC DOSE - LD 50 SKIN | > 2000 mg/kg (skn rbt) |

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| TOXIC CONC. - LC 50 | No Information Available (NIA). |
| COMPONENT | OCTADECANOIC ACID, 12-HYDROXY-, MONOLITHIUM SALT |
| TOXIC DOSE - LD 50 | No Information Available (NIA). |
| TOXIC CONC. - LC 50 | No Information Available (NIA). |
| COMPONENT | ANTIMONY DIALKYL DITHIOCARBAMATE (NJTSRN 800983-5015P OR CAS# 15890-25-2) |
| TOXIC CONC. - LC 50 | 100 ppm (inh-rat) |
| COMPONENT | BORON LITHIUM OXIDE (B4Li2O7) (Common Name: LITHIUM TETRABORATE (Li2B4O7)) |
| COMPONENT | LITHIUM HYDROXIDE MONOHYDRATE |

12. ECOLOGICAL INFORMATION

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| ECOLOGICAL INFORMATION | No data on possible environmental effects have been found. |
| COMPONENT | LUBRICATING OILS, PETROLEUM, BASE OILS, HIGHLY REFINED |
| COMPONENT | OCTADECANOIC ACID, 12-HYDROXY-, MONOLITHIUM SALT |
| COMPONENT | ANTIMONY DIALKYL DITHIOCARBAMATE (NJTSRN 800983-5015P OR CAS# 15890-25-2) |
| COMPONENT | BORON LITHIUM OXIDE (B4Li2O7) (Common Name: LITHIUM TETRABORATE (Li2B4O7)) |
| COMPONENT | LITHIUM HYDROXIDE MONOHYDRATE |

13. DISPOSAL CONSIDERATIONS

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| DISPOSAL METHODS | Dispose of in accordance with Local Authority requirements. |
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14. TRANSPORT INFORMATION

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|---------------------------------|------------------------------------|
| CLASSIFICATION COMMENT | Not regulated by US DOT. |
| DOT HAZARD CLASS | Non-Hazardous (No label required). |
| IDENTIFICATION No. | N/A |
| REPORTABLE QUANTITY (RQ) | No |
| U.S. DOT HAZARD LABEL | No DOT label requirement |
| TDGR CLASS | Not Regulated. |

SEA TRANSPORT NOTES Not regulated per IMDG.

AIR TRANSPORT NOTES Not regulated per IATA.

15. REGULATORY INFORMATION

US FEDERAL REGULATIONS

| COMPONENT | SARA 30 | CERCLA | SARA 313 |
|--|---------|--------|-----------|
| LUBRICATING OILS, PETROLEUM, BASE OILS, HIGHLY REFINED | No | No | No |
| OCTADECANOIC ACID, 12-HYDROXY-, MONOLITHIUM SALT | No | No | No |
| PHOSPHORODITHIOIC ACID, O,O-DI-C1-14-ALKYL ESTERS, ZINC SALTS | No | *** | N982 - Zn |
| ANTIMONY DIALKYL DITHIOCARBAMATE (NJTSRN 800983-5015P OR CAS# 15890-25-2) | No | *** | N010 - Sb |
| BORON LITHIUM OXIDE (B4Li2O7) (Common Name: LITHIUM TETRABORATE (Li2B4O7)) | No | No | No |
| LITHIUM HYDROXIDE MONOHYDRATE | No | No | No |

CLEAN AIR ACT

SARA HAZARD CATEGORIES Acute Chronic

US STATE REGULATIONS

| COMPONENT | CA | MA | FL | MN | NJ | PA | RI |
|---|----|----|----|-----|-----|-----|----|
| LUBRICATING OILS, PETROLEUM, BASE OILS, HIGHLY REFINED | | | | | Yes | Yes | |
| PHOSPHORODITHIOIC ACID, O,O-DI-C1-14-ALKYL ESTERS, ZINC SALTS | | | | Yes | Yes | EH | |
| ANTIMONY DIALKYL DITHIOCARBAMATE (NJTSRN 800983-5015P OR CAS# 15890-25-2) | | | | Yes | | EH | |

STATE REGULATORY STATUS

PENNSYLVANIA RIGHT-TO-KNOW: This product contains the following chemicals that the state of Pennsylvania has identified as Special Hazardous Substances (SHS), Environmental Hazards (EH), or both (ESHS). The PA regulations require that the MSDS identify all SHS or EH chemicals by chemical name, common name, and CAS Number if they comprise 0.01% or more.

Zinc compounds regulated under CERCLA and SARA 313, Environmental Hazard
CALIFORNIA PROPOSITION 65: 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 cancer or reproductive toxicity, and for which warnings are now required:

Naphthalene, cancer hazard, CAS # 91-20-3 <10 ppm

Toluene, developmental hazard, CAS # 108-88-3 <10 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.

LABEL(S) FOR SUPPLY



CONTROLLED PRODUCT CLASSIFICATION

D2B - Irritating and/or Chronically Toxic Materials

Risk phrases

R-20 Harmful by inhalation.
R-22 Harmful if swallowed.
R-36/37/38 Irritating to eyes, respiratory system and skin.
R-50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R-65 Harmful: may cause lung damage if swallowed.
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GLOBAL INVENTORIES

| COMPONENT | CAN | US | EU | AUS | JAP | KOR | PHLP | CHN |
|--|------|-----|--------|-----|--------|-----|------|-----|
| 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 | DSL | Yes | EINECS | Yes | Yes | Yes | Yes | Yes |
| ANTIMONY DIALKYL DITHIOCARBAMATE (NJTSRN 800983-5015P OR CAS# 15890-25-2) | NPRI | Yes | EINECS | Yes | Yes | Yes | Yes | Yes |
| BORON LITHIUM OXIDE (B4Li2O7) (Common Name: LITHIUM TETRABORATE (Li2B4O7)) | DSL | Yes | EINECS | Yes | PRTR1 | Yes | Yes | Yes |
| LITHIUM HYDROXIDE MONOHYDRATE | DSL | Yes | EINECS | Yes | Yes | Yes | Yes | Yes |
| LUBRICATING OILS, PETROLEUM, BASE OILS, HIGHLY REFINED | DSL | 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).

USA (TSCA)

All components in this product are listed on the US Toxic Substances Control Act (TSCA) Inventory or are exempt from TSCA Inventory requirements.

CANADA (DSL)

All components in this product are listed on the Canada Domestic Substances List (DSL) or are exempt from DSL requirements.

EUROPE (EINECS/ELINCS/NLP)

All components in this product are listed on the European Inventory of New and Existing Chemical Substances (EINECS), the European List of Notified Chemical Substances (ELINCS), or the No Longer Polymers (NLP) list, or are exempt from EU listing requirements.

JAPAN (ENCS)

All components in this product are listed on the Japan Inventory of Existing and New Chemical Substances (ENCS) or are exempt from ENCS requirements.

PHILIPPINES (PICCS)

All components in this product are listed on the Philippines Inventory of Chemicals and Chemical Substances (PICCS) or are exempt from PICCS requirements.

AUSTRALIA (AICS)

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

KOREA (ECL)

All components in this product are listed on the Korea Existing Chemicals List (ECL) or are exempt from KECL requirements.

CHINA (IECS)

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

16. OTHER INFORMATION

NFPA-HMIS HAZARD RATING

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| HEALTH | Irritation, minor residual injury (1) - HMIS/NFPA |
| FLAMMABILITY | Burns only if pre-heated (1) - HMIS/NFPA |
| REACTIVITY | Normally Stable (0) - HMIS/NFPA |
| NPCA HMIS HAZARD INDEX | Slight: Slightly Toxic - May cause slight irritation (1). |
| PERSONAL PROTECTION INDEX | B - Safety Eyewear and Gloves |
| NPCA HMIS FLAMMABILITY INDEX | Burns only if pre-heated (1). |
| NPCA HMIS REACTIVITY INDEX | Normally stable (0). |
| Tariff Code (Schedule B) | 2710.19.3750 Lubricating greases, with or without additives. |
| REVISION COMMENTS | Section 2: Ingredients Section 15: US Regulatory Status. Section 15: WHMIS Section 15: Inventory Status |
| PREPARED BY | Chemtool Incorporated P.O.Box 538 8200 Ridgefield Road Crystal Lake, IL 60039-0538 |
| 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: | 2008-10-09 |