



MATERIAL SAFETY DATA SHEET

LUBRIMATIC MULTI-PURPOSE LITHIUM GREASE (11300-11302-11306-11315-11316-11328-11330-11332)

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

TRADE NAME	LUBRIMATIC MULTI-PURPOSE LITHIUM GREASE
PART No.	329050
PRODUCT USE	Lubricating Grease
SUPPLIER	Chemtool Incorporated P.O. Box 538 8200 Ridgefield Road Crystal Lake, IL 60039-0538 USA Tel: (815) 459-1250 Fax: (815) 459-1955
EMERGENCY TELEPHONE	Infotrac U.S. and Canada - (800) 535-5053 Outside the U.S. and Canada - +01-352-323-3500

2. COMPOSITION, INFORMATION ON INGREDIENTS

INGREDIENT NAME	CAS No.	WEIGHT
LUBRICANT BASE OIL (PETROLEUM), HIGHLY REFINED**(2)	Mixture	70-90 %
*LITHIUM SOAP AND MIXED BASE THICKENERS	Proprietary	5-15 %
*PHOSPHORODITHIOIC ACID, O,O-DI-C1-14-ALKYL ESTERS, ZINC SALTS	68649-42-3	<1 %
*BENZENESULFONIC ACID, DODECYL-, CALCIUM SALT	26264-06-2	<0.5 %
*CARBON BLACK	1333-86-4	<0.2 %
*ANTIMONY DIALKYL DITHIOCARBAMATE (NJTSRN 800983-5015P OR CAS# 15890-25-2)	Proprietary	<0.1 %

* 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.

** (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. None of the oils used are listed as a carcinogen by NTP, IARC, or OSHA.

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

HEALTH HAZARDS, GENERAL	Exposure to vapors generated at high temperatures may cause respiratory irritation.
SENSITIZATION	No known information.
CARCINOGENICITY	See Section 11 for carcinogenicity data of ingredients.
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. 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.
MEDICAL SYMPTOMS	MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: Not determined

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 (CO ₂). 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	Oxides of: Carbon.
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	Contain spill. Absorb small amounts. Collect and return large amounts to shipping container. Rinse area with water.

7. HANDLING AND STORAGE

HANDLING PRECAUTIONS	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, PERSONAL PROTECTION

COMPONENT	STD	TWA	STEL	TWA	STEL
LUBRICANT BASE OIL (PETROLEUM), HIGHLY REFINED**(2)	OSHA			5 mg/m3 (oil mist)	
CARBON BLACK	ACGIH			5 mg/m3 (oil mist)	10 mg/m3 (oil mist)
	OSHA			3.5 mg/m3	
	ACGIH			3.5 mg/m3	**A4
ANTIMONY DIALKYLDITHIOCARBAMATE (NJTSRN 800983-5015P OR CAS# 15890-25-2)	NIOSH	3.5 mg/m3	**Ca		
	OSHA			0.5 mg/m3 as Sb	
	ACGIH			0.5 mg/m3 as Sb	

INGREDIENT COMMENTS **ACGIH A4: Not Classifiable as a Human Carcinogen.
 **NIOSH Ca: Potential Occupational Carcinogen.

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 to prevent prolonged or repeated contact.
EYE PROTECTION	Wear splash-proof eye goggles to prevent any possibility of eye contact.
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	Black.		
ODOR	Mild (or faint). Petroleum.		
SOLUBILITY DESCRIPTION	Insoluble in water.		
DENSITY	0.89	Temperature (°C)	15.6 (60°F)
VAPOR DENSITY (air=1)	> 5		
VAPOR PRESSURE	< 0.1 mmHg	Temperature (°C)	20 (68°F)
EVAPORATION RATE	< 0.01	Reference	BuAc=1
pH-VALUE, CONC. SOLUTION	N/A		

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	Oxides of: Carbon.

11. TOXICOLOGICAL INFORMATION

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

COMPONENT **LUBRICANT BASE OIL (PETROLEUM), HIGHLY REFINED**(2)**

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)
TOXIC CONC. - LC 50 N/A.

COMPONENT **CARBON BLACK**

TOXICOLOGICAL DATA Carcinogenicity. WHMIS (Canada) D2A
Acute toxicity. TCl_o 6 hours. Inhalation. Rat. 7 mg/m³
TOXIC DOSE - LD 50 > 15400 mg/kg (oral rat)
TOXIC DOSE - LD 50 SKIN > 3000 mg/kg (skn rbt)
CARCINOGENICITY NTP: Not listed. MAK-3 designation: Substances which cause concern that they could be carcinogenic for man. IARC-2B: The agent is possibly carcinogenic to humans (limited evidence of carcinogenicity in humans).

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.
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 302	CERCLA	SARA 313
LUBRICANT BASE OIL (PETROLEUM), HIGHLY REFINED**(2)	No	No	No
LITHIUM SOAP AND MIXED BASE THICKENERS	No	No	No
BENZENESULFONIC ACID, DODECYL-, CALCIUM SALT	No	1 000 lbs	No
CARBON BLACK	No	No	No
ANTIMONY DIALKYLDITHIOCARBAMATE (NJTSRN 800983-5015P OR CAS# 15890-25-2)	No	***	N010 - Sb
PHOSPHORODITHIOIC ACID, O,O-DI-C1-14-ALKYL ESTERS, ZINC SALTS	No	***	N982 - Zn

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

COMPONENT	CA	MA	FL	MN	NJ	PA	RI
LUBRICANT BASE OIL (PETROLEUM), HIGHLY REFINED**(2)					Yes	Yes	
PHOSPHORODITHIOIC ACID, O,O-DI-C1-14-ALKYL ESTERS, ZINC SALTS				Yes	Yes	EH	
BENZENESULFONIC ACID, DODECYL-, CALCIUM SALT						EH	
CARBON BLACK	C	Yes			Yes	HS	
ANTIMONY DIALKYLDITHIOCARBAMATE (NJTSRN 800983-5015P OR CAS# 15890-25-2)				Yes		EH	

STATE REGULATORY STATUS

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:

Carbon black (airborne, unbound particles of respirable size), cancer hazard, CAS# 1333-86-4.

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
Antimony compounds regulated under CERCLA and SARA 313, Environmental Hazard

Benzenesulfonic acid, dodecyl-, sodium salt, Environmental Hazard, CAS# 25155-30-0

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 CLASSIFICATION Not a controlled product.

COMPONENT	GLOBAL INVENTORIES								
	CAN	US	EU	AUS	JAP	KOR	PHLP	CHN	
BENZENESULFONIC ACID, DODECYL-, CALCIUM SALT	DSL	Yes	EINECS	Yes	Yes	Yes	Yes	Yes	
CARBON BLACK	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	
LUBRICANT BASE OIL (PETROLEUM), HIGHLY REFINED**(2)	DSL	Yes	EINECS	Yes	Yes	Yes	Yes	Yes	
LITHIUM SOAP AND MIXED BASE THICKENERS	DSL	Yes	EINECS	No	No	No	No	No	
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).

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 8: Exposure Limits. Section 11: Toxicological Information Section 15: WHMIS
PREPARED BY	John Dingess James W. Hermann
Replacement MSDS of	2003-09-03
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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