


SAFETY DATA SHEET

1. Identification

Product identifier	L500 GREASE
Other means of identification	None.
Recommended use	Lubricating grease.
Recommended restrictions	None known.
Manufacturer/Importer/Supplier/Distributor information	THK Co., LTD HEAD OFFICE: 2-12-10, Shibaura, Minato-ku, Tokyo, 108-8506 Japan THK America, Inc.: 200 E. Commerce Drive, Schaumburg, IL 60173, U.S.A. Telephone: (847) 310-1111 (THK America) between the hours of 8 am - 5 pm CT Emergency telephone: (847) 310-1111 (THK America) between the hours of 8 am - 5 pm CT E-mail: chicago@thk.com, thk022@thk.co.jp

2. Hazard(s) identification

Physical hazards	Not classified.	
Health hazards	Serious eye damage/eye irritation	Category 2
	Sensitization, skin	Category 1
	Specific target organ toxicity, repeated exposure	Category 2 (Blood)
Environmental hazards	Hazardous to the aquatic environment, long-term hazard	Category 3
OSHA defined hazards	Not classified.	
Label elements		

Signal word	Warning
Hazard statement	Causes serious eye irritation. May cause an allergic skin reaction. May cause damage to organs (Blood) through prolonged or repeated exposure. Harmful to aquatic life with long lasting effects.
Precautionary statement	
Prevention	Wear protective gloves/protective clothing/eye protection/face protection. Do not breathe dust/fume/gas/mist/vapors/spray. Wash thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace. Avoid release to the environment.
Response	If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention. If on skin: Wash with plenty of water. If skin irritation or rash occurs: Get medical advice/attention. Take off contaminated clothing and wash it before reuse. Get medical advice/attention if you feel unwell.
Storage	Not available.
Disposal	Dispose of contents/container in accordance with local/regional/national/international regulations.
Hazard(s) not otherwise classified (HNOC)	None known.
Supplemental information	None.

3. Composition/information on ingredients

Mixtures

Chemical name	CAS number	%
Lubricating oils	74869-22-0	70 - 80

Molybdenum, bis (dibutylcarbamodithioato) di-mu-oxodioxodi-, sulfurized	68412-26-0	1 - 3
N-1-naphthylaniline	90-30-2	1 - 3
Zinc, bis[O,O-bis(1,3-dimethylbutyl) phosphorodithioato-S,S']-, (T-4)-	84605-29-8	1 - 3

Lubricating oils: Contains less than 3 % DMSO extract as measured by IP 346.

Composition comments All concentrations are in percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

4. First-aid measures

Inhalation	Move injured person into fresh air and keep person calm under observation. Get medical attention if any discomfort continues.
Skin contact	Remove contaminated clothing immediately and wash skin with soap and water. In case of eczema or other skin disorders: Seek medical attention and take along these instructions. Thermal burns: Flush with water immediately. While flushing, remove clothes which do not adhere to affected area. Call an ambulance. Continue flushing during transport to hospital.
Eye contact	Immediately flush with plenty of water for up to 15 minutes. Remove any contact lenses and open eyelids wide apart. Get medical attention if irritation develops and persists.
Ingestion	Rinse mouth thoroughly. Do not induce vomiting. If vomiting occurs, the head should be kept low so that stomach vomit doesn't enter the lungs. Get medical attention.
Most important symptoms/effects, acute and delayed	May cause skin irritation. Severe eye irritation. Dermatitis.
Indication of immediate medical attention and special treatment needed	Treat symptomatically.
General information	First aid personnel must be aware of own risk during rescue.

5. Fire-fighting measures

Suitable extinguishing media	Extinguish with foam, carbon dioxide, dry powder or water fog.
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards arising from the chemical	By heating and fire, harmful vapors/gases may be formed.
Special protective equipment and precautions for firefighters	Selection of respiratory protection for firefighting: follow the general fire precautions indicated in the workplace. Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
Fire fighting equipment/instructions	Use standard firefighting procedures and consider the hazards of other involved materials. Move container from fire area if it can be done without risk. Cool containers exposed to flames with water until well after the fire is out.
General fire hazards	Will burn if involved in a fire.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Stay upwind. Eliminate all sources of ignition. Avoid inhalation of vapors and spray mists. Avoid prolonged and repeated contact. Avoid contact with used oils. Wear appropriate personal protective equipment.
Methods and materials for containment and cleaning up	Remove sources of ignition. Stop the flow of material, if this is without risk. Absorb spillage with non-combustible, absorbent material. In case of spills, beware of slippery floors and surfaces.
Environmental precautions	Avoid discharge into drains, water courses or onto the ground. Contact local authorities in case of spillage to drain/aquatic environment.

7. Handling and storage

Precautions for safe handling	Provide adequate ventilation. Avoid inhalation of vapors and spray mists. Avoid prolonged and repeated contact. Avoid contact with used oils. Wear appropriate personal protective equipment. Do not eat, drink or smoke when using the product. Observe good industrial hygiene practices.
Conditions for safe storage, including any incompatibilities	Keep away from heat, sparks and open flame. Keep containers tightly closed in a cool, well-ventilated place.

8. Exposure controls/personal protection

Occupational exposure limits

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value	Form
Lubricating oils (CAS 74869-22-0)	PEL	5 mg/m ³	Mist.
Molybdenum, bis (dibutylcarbamodithioato) di-mu-oxodioxodi-, sulfurized (CAS 68412-26-0)	PEL	15 mg/m ³	Total dust.

US. ACGIH Threshold Limit Values

Components	Type	Value	Form
Lubricating oils (CAS 74869-22-0)	TWA	5 mg/m ³	Inhalable fraction.
Molybdenum, bis (dibutylcarbamodithioato) di-mu-oxodioxodi-, sulfurized (CAS 68412-26-0)	TWA	3 mg/m ³	Respirable fraction.
		10 mg/m ³	Inhalable fraction.

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value	Form
Lubricating oils (CAS 74869-22-0)	STEL	10 mg/m ³	Mist.
	TWA	5 mg/m ³	Mist.

Biological limit values

No biological exposure limits noted for the ingredient(s).

Appropriate engineering controls

Provide adequate ventilation and minimize the risk of inhalation of vapors and oil mist.

Individual protection measures, such as personal protective equipment

Eye/face protection

Risk of splashes: Wear approved safety goggles.

Skin protection

Hand protection

Wear protective gloves. Nitrile gloves are recommended. Glove thickness approx > 0.3 mm. Frequent change is advisable. Suitable gloves can be recommended by the glove supplier.

Skin protection

Other

Wear appropriate clothing to prevent repeated or prolonged skin contact.

Respiratory protection

In case of inadequate ventilation, use suitable respiratory equipment with gas filter for organic gas.

Thermal hazards

When material is heated, wear gloves to protect against thermal burns.

General hygiene considerations

Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance

Physical state

Solid.

Form

Semi solid.

Color

Yellow.

Odor

Slight.

Odor threshold

Not available.

pH

Not available.

Melting point/freezing point

Dropping point: >=250°C

Initial boiling point and boiling range

Not available.

Flash point

Not available.

Evaporation rate

Not available.

Flammability (solid, gas) Not available.

Upper/lower flammability or explosive limits

Flammability limit - lower (%) 1 %

Flammability limit - upper (%) 7 %

Explosive limit - lower (%) Not available.

Explosive limit - upper (%) Not available.

Vapor pressure Not available.

Vapor density Not available.

Relative density Not available.

Solubility(ies)

Solubility (water) Insoluble in water.

Partition coefficient (n-octanol/water) Not available.

Auto-ignition temperature 392 - 770 °F (200 - 410 °C) (Estimated)

Decomposition temperature Not available.

Viscosity Not available.

10. Stability and reactivity

Reactivity The product is stable and non-reactive under normal conditions of use, storage and transport.

Chemical stability Stable at normal conditions.

Possibility of hazardous reactions Will not occur.

Conditions to avoid Heat, sparks, flames. High temperatures.

Incompatible materials Strong oxidizing agents.

Hazardous decomposition products Carbon oxides.

11. Toxicological information

Information on likely routes of exposure

Inhalation In high concentrations, vapors are narcotic and may cause headache, fatigue, dizziness and nausea.

Skin contact May cause eczema-like skin disorders (dermatitis).

Eye contact Irritating to eyes.

Ingestion May cause discomfort if swallowed.

Symptoms related to the physical, chemical and toxicological characteristics May cause skin irritation. Severe eye irritation. Dermatitis.

Information on toxicological effects

Acute toxicity May cause discomfort if swallowed.

Skin corrosion/irritation Prolonged skin contact may cause temporary irritation.

Serious eye damage/eye irritation Causes eye irritation.

Respiratory or skin sensitization

Respiratory sensitization No data available.

Skin sensitization May cause an allergic skin reaction.

Germ cell mutagenicity No data available.

Carcinogenicity This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.

IARC Monographs. Overall Evaluation of Carcinogenicity

Lubricating oils (CAS 74869-22-0) 3 Not classifiable as to carcinogenicity to humans.

NTP Report on Carcinogens

Lubricating oils (CAS 74869-22-0) Known To Be Human Carcinogen.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not regulated.

Reproductive toxicity	No data available.
Specific target organ toxicity - single exposure	No data available.
Specific target organ toxicity - repeated exposure	May cause damage to organs (Blood) through prolonged or repeated exposure.
Aspiration hazard	No data available.
Chronic effects	Prolonged and repeated contact with used oil may cause serious skin diseases, such as dermatitis and skin cancer.
Further information	The harmful effects may increase in used oil.

12. Ecological information

Ecotoxicity	Harmful to aquatic life with long lasting effects.
Persistence and degradability	No data available.
Bioaccumulative potential	No data available.

Partition coefficient n-octanol / water (log Kow)

N-1-naphthylaniline (CAS 90-30-2) 4.2

Mobility in soil	Not available.
Mobility in general	The product is insoluble in water and will spread on water surfaces.
Other adverse effects	Not available.

13. Disposal considerations

Disposal instructions	Collect and reclaim or dispose in sealed containers at licensed waste disposal site.
Hazardous waste code	Not regulated.
Waste from residues / unused products	Dispose of in accordance with local regulations. Do not discharge into drains, water courses or onto the ground.
Contaminated packaging	Since emptied containers retain product residue, follow label warnings even after container is emptied.

14. Transport information

DOT

Not regulated as dangerous goods.

IATA

Not regulated as dangerous goods.

IMDG

Not regulated as dangerous goods.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not available.

15. Regulatory information

US federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Zinc, bis[O,O-bis(1,3-dimethylbutyl)phosphorodithioato-S,S']-, (T-4)- (CAS 84605-29-8) LISTED

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories
Immediate Hazard - Yes
Delayed Hazard - Yes
Fire Hazard - No
Pressure Hazard - No
Reactivity Hazard - No

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical Yes**SARA 313 (TRI reporting)**

Chemical name	CAS number	% by wt.
Zinc, bis[O,O-bis(1,3-dimethylbutyl) phosphorodithioato-S,S']-, (T-4)-	84605-29-8	1 - 3

Other federal regulations**Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List**

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA) Not regulated.**US state regulations****US. Massachusetts RTK - Substance List**

Lubricating oils (CAS 74869-22-0)

US. New Jersey Worker and Community Right-to-Know Act

Zinc, bis[O,O-bis(1,3-dimethylbutyl) phosphorodithioato-S,S']-, (T-4)- (CAS 84605-29-8)

US. Pennsylvania Worker and Community Right-to-Know Law

Lubricating oils (CAS 74869-22-0)

Zinc, bis[O,O-bis(1,3-dimethylbutyl) phosphorodithioato-S,S']-, (T-4)- (CAS 84605-29-8)

US. Rhode Island RTK

Zinc, bis[O,O-bis(1,3-dimethylbutyl) phosphorodithioato-S,S']-, (T-4)- (CAS 84605-29-8)

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	No
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	No
Korea	Existing Chemicals List (ECL)	No
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	No
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	No

*A "Yes" indicates this product complies with the inventory requirements administered by the governing country(s).

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date	02-November-2016
Revision date	-
Version #	01
HMIS® ratings	Health: 2 Flammability: 1 Physical hazard: 0

NFPA ratings

Disclaimer

This information is provided without warranty. The information is believed to be correct. This information should be used to make an independent determination of the methods to safeguard workers and the environment.

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