

MATERIAL SAFETY DATA SHEET

1. Product and Company Identification

Material name AFB-LF GREASE
Version # 01
Revision date 06-18-2010
CAS # Mixture
Product Code AFB-LF+70, AFB-LF+400
MSDS Number 1030-T20483-1 -USA
Product use Industrial lubricating grease (Package size 70gr and 400gr)
Manufacturer/Supplier THK Co.,LTD
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2. Hazards Identification

Physical state Solid.
Appearance Buttery.
Emergency overview WARNING! Causes skin and eye irritation.
OSHA regulatory status This product is considered hazardous under 29 CFR 1910.1200 (Hazard Communication).
Potential health effects
Routes of exposure Skin and/or eye contact.
Eyes Causes eye irritation. May cause redness and pain.
Skin Causes skin irritation. Prolonged and/or repeated skin contact with this product may cause irritation/dermatitis. The harmful effects may increase when exposed to used grease.
Inhalation Inhalation of oil mist or vapours formed during heating of the product will irritate the respiratory system and provoke coughing.
Ingestion May cause discomfort if swallowed.
Target organs Eyes. Skin.
Chronic effects Prolonged and repeated contact with used grease may cause serious skin diseases, such as dermatitis and skin cancer.
Signs and symptoms Severe eye irritation. Skin irritation.
Potential environmental effects Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

3. Composition / Information on Ingredients

Components	CAS #	Percent
Distillates (petroleum), solvent-dewaxed heavy paraffinic	Proprietary	10 - 30
Distillates (petroleum), hydrotreated heavy naphthenic	Proprietary	10 - 20
Distillates (petroleum), solvent-refined heavy naphthenic	Proprietary	10 - 20
Residual oils (petroleum), solvent-refined	Proprietary	10 - 20
Phosphorodithioic acid, O,O-di-C1-14-alkyl esters, zinc salts	Proprietary	3.2 - 4
Amines, C12-14-alkyl, reaction products with hexanol, phosphorus oxide (P2O5), phosphorus sulfide (P2S5) and propylene oxide	Proprietary	0.1 - 1

4. First Aid Measures

First aid procedures

Eye contact Immediately flush with plenty of water for at least 15 minutes. If easy to do, remove contact lenses. Get medical attention promptly if symptoms occur after washing.

Skin contact Remove contaminated clothing. Wash with soap and water. Get medical attention if irritation develops and persists.

Inhalation Move affected person into fresh air and keep warm. If breathing is difficult, administer oxygen. Get medical attention if any discomfort continues.

Ingestion Immediately rinse mouth and drink plenty of water. Never give anything by mouth to an unconscious person. Get medical attention if any discomfort continues.

Notes to physician Treat symptomatically. The effects might be delayed.

5. Fire Fighting Measures

Flammable properties The product is non-combustible.

Extinguishing media

Suitable extinguishing media Extinguish with foam, carbon dioxide or dry powder.

Unsuitable extinguishing media Do not use water or halogenated extinguishing media.

Protection of firefighters

Specific hazards arising from the chemical Thermal decomposition may produce smoke, oxides of carbon and lower molecular weight organic compounds whose composition have not been characterized.

Protective equipment and precautions for firefighters Use standard firefighting procedures and consider the hazards of other involved materials. Containers close to fire should be removed or cooled with water.

Specific methods Move container from fire area if it can be done without risk.

6. Accidental Release Measures

Personal precautions Avoid contact with skin and eyes. Wear suitable protective clothing, gloves and eye/face protection. In case of spills, beware of slippery floors and surfaces. For personal protection, see section 8 of the MSDS.

Environmental precautions Do not contaminate water. Contact local authorities in case of spillage to drain/aquatic environment.

Methods for cleaning up Absorb spillage with non-combustible, absorbent material. Clean contaminated area with oil-removing material. For waste disposal, see section 13 of the MSDS.

7. Handling and Storage

Handling Avoid contact with skin and eyes. Always remove grease with soap and water or skin cleaning agent, never use organic solvents. Wear appropriate personal protective equipment. Be aware of potential for surfaces to become slippery. Observe good industrial hygiene practices.

Storage Keep container in a well-ventilated place. Store away from incompatible materials.

8. Exposure Controls / Personal Protection

Occupational exposure limits

U.S. - OSHA

Components	Type	Value	Form
Distillates (petroleum), hydrotreated heavy naphthenic (Proprietary)	PEL	5 mg/m ³	Mist.
Distillates (petroleum), solvent-dewaxed heavy paraffinic (Proprietary)	PEL	5 mg/m ³	Mist.
Distillates (petroleum), solvent-refined heavy naphthenic (Proprietary)	PEL	5 mg/m ³	Mist.
Residual oils (petroleum), solvent-refined (Proprietary)	PEL	5 mg/m ³	Mist.

Engineering controls Provide adequate ventilation and minimize the risk of inhalation of vapors and oil mist. Provide access to washing facilities including soap, skin cleanser and fatty cream.

Personal protective equipment

Eye / face protection Wear approved safety goggles.

Skin protection Wear protective gloves. Be aware that the liquid may penetrate the gloves. Frequent change is advisable. Suitable gloves can be recommended by the glove supplier. Wear appropriate clothing to prevent repeated or prolonged skin contact.

Respiratory protection	If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn. In the United States of America, if respirators are used, a program should be instituted to assure compliance with OSHA Standard 63 FR 1152, January 8, 1998. Use a NIOSH/MSHA approved air purifying respirator as needed to control exposure. Consult with respirator manufacturer to determine respirator selection, use, and limitations. Use positive pressure, air-supplied respirator for uncontrolled releases or when air purifying respirator limitations may be exceeded. Follow respirator protection program requirements (OSHA 1910.134 and ANSI Z88.2) for all respirator use.
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 & Chemical Properties

Appearance	Buttery.
Color	Tan.
Odor	Mild.
Odor threshold	Not available.
Physical state	Solid.
Form	Soft, malleable.
pH	Not available.
Melting point	Not available.
Freezing point	Not available.
Boiling point	Not available.
Flash point	370.4 °F (188 °C) Setaflash Closed Cup (ISO 3679)
Evaporation rate	Not available.
Flammability	Not available.
Flammability limits in air, upper, % by volume	Not available.
Flammability limits in air, lower, % by volume	Not available.
Vapor pressure	Not available.
Vapor density	Not available.
Specific gravity	Not available.
Solubility (water)	Not available.
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.

10. Chemical Stability & Reactivity Information

Chemical stability	Stable at normal conditions.
Conditions to avoid	Heat, sparks, flames, elevated temperatures.
Incompatible materials	Strong oxidizing agents.
Hazardous decomposition products	Carbon oxides. Sulfur oxides. Phosphorus oxides. Formaldehyde. PAH (polycyclic aromatic hydrocarbons).
Possibility of hazardous reactions	Will not occur.

11. Toxicological Information

Acute effects	Causes skin and eye irritation. Inhalation of oil mist or vapours formed during heating of the product will irritate the respiratory system and provoke coughing. The harmful effects may increase when exposed to used grease. Ingestion may cause irritation and malaise.
Local effects	Prolonged contact causes serious eye and tissue damage.
Sensitization	Not known.
Chronic effects	Prolonged or repeated contact with skin may cause redness, itching, irritation, eczema/chapping and oil acne.

Carcinogenicity Prolonged and repeated contact with used grease may cause serious skin diseases, such as dermatitis and skin cancer.

ACGIH Carcinogens

Distillates (petroleum), solvent-dewaxed heavy paraffinic A2 Suspected human carcinogen.
(CAS Proprietary)

Epidemiology Pre-existing skin conditions including dermatitis might be aggravated by exposure to this product.
Mutagenicity None known.
Reproductive effects None known.

12. Ecological Information

Ecotoxicity Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
Persistence and degradability None known.
Bioaccumulation / Accumulation None known.
Mobility in environmental media The product contains substances, which are insoluble in water and which may spread on water surfaces.
Partition coefficient (n-octanol/water) Not available.

13. Disposal Considerations

Waste from residues / unused products Dispose in accordance with applicable federal, state, and local regulations.
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.
DOT
Not regulated as dangerous goods.
IATA
Not regulated as dangerous goods.
IMDG
Not regulated as dangerous goods.

15. Regulatory Information

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

US EPCRA (SARA Title III) Section 313 - Toxic Chemical: De minimis concentration

Phosphorodithioic acid, O,O-di-C1-14-alkyl esters, zinc salts (CAS Proprietary) 1.0 % N982

US EPCRA (SARA Title III) Section 313 - Toxic Chemical: Listed substance

Phosphorodithioic acid, O,O-di-C1-14-alkyl esters, zinc salts (CAS Proprietary) N982 Listed.

CERCLA (Superfund) reportable quantity (lbs)
None

Superfund Amendments and Reauthorization Act of 1986 (SARA)

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

Section 302 extremely hazardous substance No

Section 311 hazardous chemical Yes

Inventory status

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
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)	Yes
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	No
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	No
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

State regulations This product does not contain a chemical known to the State of California to cause cancer, birth defects or other reproductive harm.

US - California Hazardous Substances (Director's): Listed substance

Distillates (petroleum), hydrotreated heavy naphthenic (CAS Proprietary)	Listed.
Distillates (petroleum), solvent-dewaxed heavy paraffinic (CAS Proprietary)	Listed.
Distillates (petroleum), solvent-refined heavy naphthenic (CAS Proprietary)	Listed.
Phosphorodithioic acid, O,O-di-C1-14-alkyl esters, zinc salts (CAS Proprietary)	Listed.
Residual oils (petroleum), solvent-refined (CAS Proprietary)	Listed.

US - Massachusetts RTK - Substance: Listed substance

Distillates (petroleum), hydrotreated heavy naphthenic (CAS Proprietary)	Listed.
Distillates (petroleum), solvent-dewaxed heavy paraffinic (CAS Proprietary)	Listed.
Distillates (petroleum), solvent-refined heavy naphthenic (CAS Proprietary)	Listed.
Residual oils (petroleum), solvent-refined (CAS Proprietary)	Listed.

US - New Jersey Community RTK (EHS Survey): Reportable threshold

Phosphorodithioic acid, O,O-di-C1-14-alkyl esters, zinc salts (CAS Proprietary)	500 LBS
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US - New Jersey RTK - Substances: Listed substance

Distillates (petroleum), hydrotreated heavy naphthenic (CAS Proprietary)	Listed.
Distillates (petroleum), solvent-dewaxed heavy paraffinic (CAS Proprietary)	Listed.
Distillates (petroleum), solvent-refined heavy naphthenic (CAS Proprietary)	Listed.
Phosphorodithioic acid, O,O-di-C1-14-alkyl esters, zinc salts (CAS Proprietary)	Listed.
Residual oils (petroleum), solvent-refined (CAS Proprietary)	Listed.

US - Pennsylvania RTK - Hazardous Substances: Listed substance

Distillates (petroleum), hydrotreated heavy naphthenic (CAS Proprietary)	Listed.
Distillates (petroleum), solvent-refined heavy naphthenic (CAS Proprietary)	Listed.
Residual oils (petroleum), solvent-refined (CAS Proprietary)	Listed.

16. Other Information

Further information

HMIS® is a registered trade and service mark of the NPCA. C - Safety Glasses, Gloves, Apron

HMIS® ratings

Health: 2
Flammability: 1
Physical hazard: 0
Personal protection: C

NFPA ratings

Health: 2
Flammability: 1
Instability: 0

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.

Issue date

06-18-2010