

SAFETY DATA SHEET

1. Identification

Product identifier	AFF GREASE
Other means of identification	
SDS number	1030-T25002-2
Product code	AFF+70, AFF+400
Recommended use	Industrial 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 Emergency telephone: (847) 310-1111 (THK America) between the hours of 8 am - 5 pm E-mail: chicago@thk.com, thk022@thk.co.jp

2. Hazard(s) identification

Physical hazards	Not classified.	
Health hazards	Sensitization, skin	Category 1
	Germ cell mutagenicity	Category 2
	Specific target organ toxicity, repeated exposure	Category 2 (Blood, Kidney, Nervous system)
Environmental hazards	Hazardous to the aquatic environment, acute hazard	Category 3
	Hazardous to the aquatic environment, long-term hazard	Category 3
OSHA defined hazards	Not classified.	
Label elements		

Signal word	Warning
Hazard statement	May cause an allergic skin reaction. Suspected of causing genetic defects. May cause damage to organs (Blood, Kidney, Nervous system) through prolonged or repeated exposure. Harmful to aquatic life with long lasting effects.
Precautionary statement	
Prevention	Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not breathe mist/vapors. Contaminated work clothing must not be allowed out of the workplace. Wear protective gloves/protective clothing/eye protection/face protection. Avoid release to the environment.
Response	If on skin: Wash with plenty of water. If skin irritation or rash occurs: Get medical advice/attention. If exposed or concerned: Get medical advice/attention. Wash contaminated clothing before reuse.
Storage	Store locked up.
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	%
N-1-naphthylaniline	Proprietary	1 - 5
Hydrocarbon waxes (petroleum), oxidized, Me esters	Proprietary	2
Diphenyl phosphonate	Proprietary	1
2,6-di-tert-butyl-p-cresol	Proprietary	< 1

Composition comments

All concentrations are in percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume. Components not listed are either non-hazardous or are below reportable limits. The specific chemical identity and/or exact percentage of component(s) have been withheld as a trade secret.

4. First-aid measures

Inhalation

Move to fresh air. Call a physician if symptoms develop or persist.

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.

Eye contact

Rinse with water. Get medical attention if irritation develops and persists.

Ingestion

Rinse mouth. Get medical attention if symptoms occur.

Most important symptoms/effects, acute and delayed

May cause an allergic skin reaction. Dermatitis. Rash. Edema. Prolonged exposure may cause chronic effects.

Indication of immediate medical attention and special treatment needed

Provide general supportive measures and treat symptomatically. Keep victim under observation. Symptoms may be delayed.

General information

If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Wash contaminated clothing before reuse.

5. Fire-fighting measures

Suitable extinguishing media

Extinguish with foam, carbon dioxide or dry powder.

Unsuitable extinguishing media

Do not use water or halogenated extinguishing media.

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.

Special protective equipment and precautions for firefighters

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. Use water spray to cool unopened containers.

General fire hazards

Will burn if involved in a fire.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Keep unnecessary personnel away. In case of spills, beware of slippery floors and surfaces. Wear appropriate protective equipment and clothing during clean-up. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.

Methods and materials for containment and cleaning up

Prevent product from entering drains. Stop the flow of material, if this is without risk. Following product recovery, flush area with water. For waste disposal, see section 13 of the SDS. The product is insoluble in water and will spread on water surfaces.

Environmental precautions

Avoid release to the environment. Inform appropriate managerial or supervisory personnel of all environmental releases. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling

Avoid breathing mist/vapor. Avoid contact with eyes, skin, and clothing. Provide adequate ventilation. Wear appropriate personal protective equipment. Avoid release to the environment. Observe good industrial hygiene practices. Avoid prolonged and repeated contact with grease, particularly used grease. When working with heated grease, mechanical ventilation may be required. Be aware of potential for surfaces to become slippery. Always remove grease with soap and water or skin cleaning agent, never use organic solvents.

Conditions for safe storage, including any incompatibilities

Store in tightly closed container. Store away from incompatible materials (see Section 10 of the SDS).

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
Base oils	PEL	5 mg/m3 2000 mg/m3 500 ppm	Mist.

US. ACGIH Threshold Limit Values

Components	Type	Value	Form
2,6-di-tert-butyl-p-cresol	TWA	2 mg/m3	Inhalable fraction and vapor.
Base oils	TWA	5 mg/m3	Inhalable fraction.
Lithium stearate	TWA	3 mg/m3 10 mg/m3	Respirable fraction. Inhalable fraction.

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value	Form
2,6-di-tert-butyl-p-cresol	TWA	10 mg/m3	
Base oils	Ceiling	1800 mg/m3	
	STEL	10 mg/m3	Mist.
	TWA	5 mg/m3	Mist.

Biological limit values

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

Appropriate engineering controls

Good general ventilation should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits.

Individual protection measures, such as personal protective equipment

Eye/face protection

Wear safety glasses with side shields (or goggles).

Skin protection

Hand protection

Wear protective gloves. Where hand contact with the product may occur the use of gloves approved to relevant standards (e.g. Europe: EN374, US: F739) made from the following materials may provide suitable chemical protection. PVC, neoprene or nitrile rubber gloves. Suitability and durability of a glove is dependent on usage, e.g. frequency and duration of contact, chemical resistance of glove material, dexterity. Always seek advice from glove suppliers. Contaminated gloves should be replaced. Personal hygiene is a key element of effective hand care. Gloves must only be worn on clean hands. After using gloves, hands should be washed and dried thoroughly. Application of a non-perfumed moisturizer is recommended. For continuous contact we recommend gloves with breakthrough time of more than 240 minutes with preference for > 480 minutes where suitable gloves can be identified. For short-term/splash protection we recommend the same, but recognize that suitable gloves offering this level of protection may not be available and in this case a lower breakthrough time maybe acceptable so long as appropriate maintenance and replacement rules are followed. Glove thickness is not a good predictor of glove resistance to a chemical as it is dependent on the exact composition of the glove material. Glove thickness should be typically greater than 0.35 mm depending on the glove manufacturer and model. 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 or risk of inhalation of vapors, use suitable respiratory equipment with combination filter. In the United States of America, if respirators are used, a program should be instituted to assure compliance with OSHA 29 CFR 1910.134.
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. Contaminated work clothing should not be allowed out of the workplace.

9. Physical and chemical properties

Appearance

Physical state	Solid.
Form	Paste.
Color	Light yellow.
Odor	Slight.
Odor threshold	Not available.
pH	Material is non soluble in water.
Melting point/freezing point	Property has not been measured.
Initial boiling point and boiling range	Property has not been measured.
Flash point	Property has not been measured.
Evaporation rate	Not applicable, material is a solid.
Flammability (solid, gas)	Will burn if involved in a fire.

Upper/lower flammability or explosive limits

Explosive limit - lower (%)	Property has not been measured.
Explosive limit - upper (%)	Property has not been measured.
Vapor pressure	Not applicable, material is a solid.
Vapor density	Not applicable, material is a solid.
Relative density	Property has not been measured.
Solubility(ies)	
Solubility (water)	Insoluble in water.
Partition coefficient (n-octanol/water)	Not applicable, product is a mixture
Auto-ignition temperature	Not applicable, material is a solid.
Decomposition temperature	Not applicable as the product is not unstable.
Viscosity	Not applicable, material is a solid.
Other information	
Density	Property has not been measured.
Explosive properties	Not explosive.
Kinematic viscosity	Not applicable, material is a solid.
Oxidizing properties	Not oxidizing.

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	Will not occur.
Conditions to avoid	Heat, sparks, flames, elevated temperatures. Contact with incompatible materials.
Incompatible materials	Strong oxidizing agents.
Hazardous decomposition products	No hazardous decomposition products are known.

11. Toxicological information

Information on likely routes of exposure

Inhalation	Inhalation of oil mist or vapors formed during heating of the product will irritate the respiratory system and provoke coughing.
Skin contact	May cause an allergic skin reaction.
Eye contact	Direct contact with eyes may cause temporary irritation.
Ingestion	Expected to be a low ingestion hazard.

Symptoms related to the physical, chemical and toxicological characteristics May cause an allergic skin reaction. Dermatitis. Rash. Edema.

Information on toxicological effects

Acute toxicity The harmful effects may increase when exposed to used grease.

Components	Species	Test Results
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N-1-naphthylaniline (CAS Proprietary)

Acute

Oral

LD50	Rat	1625 mg/kg
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Skin corrosion/irritation None known.

Serious eye damage/eye irritation None known.

Respiratory or skin sensitization

Respiratory sensitization None known.

Skin sensitization May cause an allergic skin reaction.

Germ cell mutagenicity Suspected of causing genetic defects.

Carcinogenicity None known.

IARC Monographs. Overall Evaluation of Carcinogenicity

2,6-di-tert-butyl-p-cresol (CAS Proprietary)	3 Not classifiable as to carcinogenicity to humans.
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NTP Report on Carcinogens

Not listed.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not listed.

Reproductive toxicity None known.

Specific target organ toxicity - single exposure None known.

Specific target organ toxicity - repeated exposure May cause damage to organs (Blood, Kidney, Nervous system) through prolonged or repeated exposure.

Aspiration hazard Due to the physical form of the product it is not expected to be an aspiration hazard.

Chronic effects The harmful effects may increase in used grease.

12. Ecological information

Ecotoxicity Harmful to aquatic life with long lasting effects.

Persistence and degradability None known.

Bioaccumulative potential None known.

Partition coefficient n-octanol / water (log Kow)

2,6-di-tert-butyl-p-cresol	5.1
N-1-naphthylaniline	4.2

Mobility in soil The product is insoluble in water and will spread on water surfaces.

Other adverse effects Greases are generally hazardous to the environment.

13. Disposal considerations

Disposal instructions	Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations.
Local disposal regulations	Dispose in accordance with all applicable regulations.
Hazardous waste code	The waste code should be assigned in discussion between the user, the producer and the waste disposal company.
Waste from residues / unused products	Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).
Contaminated packaging	Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

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 applicable.

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.	
CERCLA Hazardous Substance List (40 CFR 302.4)	Not listed.	
SARA 304 Emergency release notification	Not regulated.	
OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)	Not listed.	
Toxic Substances Control Act (TSCA)	All components of the product are either listed on the TSCA 8(b) inventory or exempted.	
Superfund Amendments and Reauthorization Act of 1986 (SARA)		
SARA 302 Extremely hazardous substance	Not listed.	
SARA 311/312 Hazardous chemical	Yes	
Classified hazard categories	Respiratory or skin sensitization Germ cell mutagenicity Specific target organ toxicity (single or repeated exposure)	
SARA 313 (TRI reporting)	Not regulated.	
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

2,6-di-tert-butyl-p-cresol (CAS Proprietary)

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

2,6-di-tert-butyl-p-cresol (CAS Proprietary)

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

2,6-di-tert-butyl-p-cresol (CAS Proprietary)

US. Rhode Island RTK

2,6-di-tert-butyl-p-cresol (CAS Proprietary)

California Proposition 65

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins. For more information go to www.P65Warnings.ca.gov.

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Industrial Chemicals (AICIS)	No
Canada	Domestic Substances List (DSL)	No
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)	No
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	No
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	No
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
Taiwan	Taiwan Chemical Substance Inventory (TCSI)	Yes
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)

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	24-February-2022
Revision date	18-January-2023
Version #	02
Further information	HMIS® is a registered trade and service mark of the ACA.
HMIS® ratings	Health: 2* Flammability: 1 Physical hazard: 0

NFPA ratings



List of abbreviations

Ceiling: Short Term Exposure Limit Ceiling value.
DOT: Department of Transportation.
IATA: International Air Transport Association.
IBC Code: International Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk.
IMDG: International Maritime Dangerous Goods.
LD50: Lethal Dose, 50%.
MARPOL: International Convention for the Prevention of Pollution from Ships.
PEL: Permissible Exposure Limit.
STEL: Short-Term Exposure Limit.
TWA: Time Weighted Average.

References

ACGIH Documentation of the Threshold Limit Values and Biological Exposure Indices
HSDB® - Hazardous Substances Data Bank
IARC Monographs. Overall Evaluation of Carcinogenicity
National Toxicology Program (NTP) Report on Carcinogens

Disclaimer

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