

SAFETY DATA SHEET

1. Identification

Product identifier	AFJ GREASE
Other means of identification	
SDS number	1030-T20960-2
Product code	AFJ+70, AFJ+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	Serious eye damage/eye irritation	Category 1
	Sensitization, respiratory	Category 1
	Reproductive toxicity	Category 1B
Environmental hazards	Hazardous to the aquatic environment, acute hazard	Category 1
	Hazardous to the aquatic environment, long-term hazard	Category 1
OSHA defined hazards	Not classified.	
Label elements		



Signal word	Danger
Hazard statement	Causes serious eye damage. May cause allergy or asthma symptoms or breathing difficulties if inhaled. May damage fertility or the unborn child. Very toxic 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. Avoid breathing mist/vapor. Avoid release to the environment. Wear protective gloves/protective clothing/eye protection/face protection. In case of inadequate ventilation wear respiratory protection.
Response	If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center/doctor. If experiencing respiratory symptoms: Call a poison center/doctor. If inhaled: If breathing is difficult, remove person to fresh air and keep comfortable for breathing. Collect spillage.
Storage	Store locked up.
Disposal	Dispose of contents/container at a disposal facility in accordance with local regulations.
Hazard(s) not otherwise classified (HNOC)	None known.
Supplemental information	None.

3. Composition/information on ingredients

Mixtures

Chemical name	CAS number	%
Distillates (petroleum), hydrotreated heavy paraffinic	64742-54-7	80 - 90
N,N'' -(methylenedi-4,1-phenylene)bis[N' -octyl]urea	122886-55-9	5 - 15
Molybdenum, N,N-bis(C11-14-branched and linear alkyl)carbamodithioate oxo thioxo complexes	-	2 - 5
Zinc bis(dinonylnaphthalenesulphonate)	28016-00-4	2 - 5
Molybdenum, bis (dibutylcarbamodithioato) di-mu-oxodioxodi-, sulfurized	68412-26-0	2 - 4
Phenol, dodecyl-, branched	121158-58-5	< 0.2

Composition comments

All concentrations are in percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume. The exact concentrations of the above listed chemicals are being withheld as a trade secret.

4. First-aid measures

Inhalation

If breathing is difficult, remove to fresh air and keep at rest in a position comfortable for breathing. Oxygen or artificial respiration if needed. Do not use mouth-to-mouth method if victim inhaled the substance. Induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. If experiencing respiratory symptoms: Call a poison center or doctor/physician.

Skin contact

Wash off with soap and water. Get medical attention if irritation develops and persists.

Eye contact

Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention immediately.

Ingestion

Rinse mouth. Get medical attention if symptoms occur.

Most important symptoms/effects, acute and delayed

Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result. Difficulty in breathing.

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 exposed or concerned: Get medical advice/attention. 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. Show this safety data sheet to the doctor in attendance.

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 water spray to cool unopened containers. Use standard firefighting procedures and consider the hazards of other involved materials.

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. 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. In case of spills, beware of slippery floors and surfaces. 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

The product is insoluble in water and will spread on water surfaces. Prevent product from entering drains.

Large Spills: Stop the flow of material, if this is without risk. Following product recovery, flush area with water.

Small Spills: Clean surface thoroughly to remove residual contamination.

Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.

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

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not get this material in contact with eyes. Avoid breathing mist/vapor. Avoid prolonged and repeated contact with grease, particularly used grease. Pregnant or breastfeeding women must not handle this product. Should be handled in closed systems, if possible. Provide adequate ventilation. Wear appropriate personal protective equipment. Avoid release to the environment. Be aware of potential for surfaces to become slippery. Always remove grease with soap and water or skin cleaning agent, never use organic solvents. Observe good industrial hygiene practices.

Conditions for safe storage, including any incompatibilities

Store locked up. Store in tightly closed container. Store in a well-ventilated place. 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.
Molybdenum compounds	PEL	5 mg/m3	

US. ACGIH Threshold Limit Values

Components	Type	Value	Form
Base oils	TWA	5 mg/m3	Inhalable fraction.
Molybdenum compounds	TWA	0.5 mg/m3	Respirable fraction.

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value	Form
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).

Exposure guidelines

Occupational Exposure Limits are not relevant to the current physical form of the product.

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. If exposure limits have not been established, maintain airborne levels to an acceptable level. General ventilation normally adequate. Provide eyewash station.

Individual protection measures, such as personal protective equipment

Eye/face protection

Wear safety glasses with side shields (or goggles) and a face shield.

Skin protection**Hand protection**

Wear appropriate chemical resistant 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 oil mist, suitable respiratory equipment with particulate filter and organic vapor cartridges can be used. 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.

9. Physical and chemical properties**Appearance****Physical state**

Solid.

Form

Paste.

Color

Dark yellow.

Odor

Slight.

Odor threshold

Not available.

pH

Material is non soluble in water.

Melting point/freezing point

365 °F (185 °C)

Initial boiling point and boiling range

Property has not been measured.

Flash point

410 °F (210 °C) Setaflash

Evaporation rate

Not applicable, material is a solid.

Flammability (solid, gas)

Not flammable. 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

0.87

Solubility(ies)**Solubility (water)**

Insoluble.

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.
Flash point class	Combustible IIIB
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	May cause allergy or asthma symptoms or breathing difficulties if inhaled. Inhalation of oil mist or vapors formed during heating of the product will irritate the respiratory system and provoke coughing.
Skin contact	Prolonged skin contact may cause irritation.
Eye contact	Causes serious eye damage.
Ingestion	Expected to be a low ingestion hazard.

Symptoms related to the physical, chemical and toxicological characteristics
Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result. Difficulty in breathing.

Information on toxicological effects

Acute toxicity Not expected to be acutely toxic.

Components	Species	Test Results
Molybdenum, N,N-bis(C11-14-branched and linear alkyl)carbamodithioate oxo thioxo complexes (CAS -)		
<u>Acute</u>		
Oral		
LD50	Rat	> 2000 mg/kg (OECD 401)
N,N'' -(methylenedi-4,1-phenylene)bis[N' -octyl]urea (CAS 122886-55-9)		
<u>Acute</u>		
Dermal		
LD50	Rat	> 2000 mg/kg
Oral		
LD50	Rat	> 2000 mg/kg
Phenol, dodecyl-, branched (CAS 121158-58-5)		
<u>Acute</u>		
Dermal		
LD50	Rabbit	15000 mg/kg (OECD 402)
Oral		
LD50	Rat	2100 mg/kg (OECD 401)
Skin corrosion/irritation	None known.	
Corrosivity		
Phenol, dodecyl-, branched (CAS 121158-58-5)	OECD Test Guideline 404 Result: Irritating. Species: Rabbit	
N,N'' -(methylenedi-4,1-phenylene)bis[N' -octyl]urea (CAS 122886-55-9)	OECD Test Guideline 404, GLP Result: No skin irritation. Species: Rabbit	

Corrosivity	
Molybdenum, N,N-bis(C11-14-branched and linear alkyl)carbamodithioate oxo thioxo complexes	Skin irritation test Result: No skin irritation. Species: Human Organ: Skin model
Serious eye damage/eye irritation	Causes serious eye damage.
Eye	
Molybdenum, N,N-bis(C11-14-branched and linear alkyl)carbamodithioate oxo thioxo complexes	In Vitro Eye Irritation Test Result: No eye irritation. Species: Cattle
Phenol, dodecyl-, branched (CAS 121158-58-5)	OECD Test Guideline 405 Result: Not irritating. Species: Rabbit
N,N''-(methylenedi-4,1-phenylene)bis[N'-octyl]urea (CAS 122886-55-9)	OECD Test Guideline 405, GLP Result: Irreversible effects on the eye. Species: Rabbit
Respiratory or skin sensitization	
Respiratory sensitization	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
Skin sensitization	This product is not expected to cause skin sensitization.
Sensitization	
N,N''-(methylenedi-4,1-phenylene)bis[N'-octyl]urea (CAS 122886-55-9)	OECD Test Guideline 429, GLP Result: Not sensitizing. Species: Mouse
Skin sensitization	
Molybdenum, N,N-bis(C11-14-branched and linear alkyl)carbamodithioate oxo thioxo complexes	Maximization Test Result: Not sensitizing. Species: Guinea pig
Phenol, dodecyl-, branched (CAS 121158-58-5)	OECD Test Guideline 406 Result: Not sensitising. Species: Guinea pig
Germ cell mutagenicity	None known.
Mutagenicity	
Phenol, dodecyl-, branched (CAS 121158-58-5)	OECD Test Guideline 471 Result: Negative. Species: Salmonella typhimurium
Molybdenum, N,N-bis(C11-14-branched and linear alkyl)carbamodithioate oxo thioxo complexes	OECD Test Guideline 471, GLP Result: Negative. Species: Salmonella typhimurium
N,N''-(methylenedi-4,1-phenylene)bis[N'-octyl]urea (CAS 122886-55-9)	OECD Test Guideline 471, GLP Result: Negative. Species: Salmonella typhimurium
Phenol, dodecyl-, branched (CAS 121158-58-5)	OECD Test Guideline 474 Result: Negative. Species: Rat
Carcinogenicity	Prolonged and repeated contact with used oil may cause serious skin diseases, such as dermatitis and skin cancer.
IARC Monographs. Overall Evaluation of Carcinogenicity	
Distillates (petroleum), hydrotreated heavy paraffinic (CAS 64742-54-7)	3 Not classifiable as to carcinogenicity to humans.
NTP Report on Carcinogens	
Not listed.	
OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)	
Not listed.	
Reproductive toxicity	May damage fertility or the unborn child.
Reproductivity	
Phenol, dodecyl-, branched (CAS 121158-58-5)	OECD Test Guideline 416 Result: The NOAEL for F0 and F1 parental toxicity was considered to be 15 and 1.5 mg/kg/day, respectively. The NOAEL for male and female reproductive toxicity was considered to be 15 mg/kg/day. Species: Rat

Reproductivity

N,N''-(methylenedi-4,1-phenylene)bis[N'-octyl]urea (CAS 122886-55-9) OECD Test Guideline 421
Result: Negative.
Species: Rat

Specific target organ toxicity - single exposure None known.

Specific target organ toxicity - repeated exposure None known.

N,N''-(methylenedi-4,1-phenylene)bis[N'-octyl]urea (CAS 122886-55-9) NOAEL, Oral
Result: 450 mg/kg bw/day
Species: Rat
Molybdenum, N,N-bis(C11-14-branched and linear alkyl)carbamdithioate oxo thioxo complexes OECD Test Guideline 422
Result: NOAEL: 1000 mg/kg/day
Species: Rat

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 Very toxic to aquatic life with long lasting effects.

Components	Species		Test Results
Molybdenum, N,N-bis(C11-14-branched and linear alkyl)carbamdithioate oxo thioxo complexes (CAS -)			
Aquatic			
Crustacea	EL50	Daphnia magna	82 mg/l, 48 hours (OECD 202, GLP)
Fish	LL50	Oncorhynchus mykiss	100 mg/l, 96 hours (OECD 203, GLP)
Other	EC50	Activated sludge	> 1000 mg/l, 3 hours (OECD 209, GLP)
N,N'' -(methylenedi-4,1-phenylene)bis[N' -octyl]urea (CAS 122886-55-9)			
Aquatic			
Other	EC50	Activated sludge	> 1000 mg/l, 3 hours (OECD Guideline 209, GLP)
	NOEC	Activated sludge	1000 mg/l, 3 hours (OECD Guideline 209, GLP)
Phenol, dodecyl-, branched (CAS 121158-58-5)			
Aquatic			
Algae	EC50	Scenedesmus subspicatus	0.36 mg/l, 72 hours (OECD 201)
	NOEC	Scenedesmus subspicatus	0.07 mg/l, 72 hours (OECD 201)
Crustacea	EC50	Daphnia magna	0.37 mg/l, 48 hours (OECD 202)
			0.004 mg/l, 21 days (OECD 211)
Fish	LC50	Fathead minnow	40 mg/l, 96 hours (OECD 203)

Persistence and degradability None known.

Bioaccumulative potential None known.

Partition coefficient n-octanol / water (log Kow)
Molybdenum, N,N-bis(C11-14-branched and linear alkyl)carbamdithioate oxo thioxo complexes 24.492, (Log Pow)
N,N''-(methylenedi-4,1-phenylene)bis[N'-octyl]urea (CAS 122886-55-9) 6, (78.8°F (26°C))
Phenol, dodecyl-, branched (CAS 121158-58-5) 7.14

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)

Zinc bis(dinonylnaphthalenesulphonate) Listed.
(CAS 28016-00-4)

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not listed.

Toxic Substances Control Act (TSCA) One or more components of the mixture are not on the TSCA 8(b) inventory or are designated "inactive".

Superfund Amendments and Reauthorization Act of 1986 (SARA)

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical Yes

Classified hazard categories Serious eye damage or eye irritation
Respiratory or skin sensitization
Reproductive toxicity

SARA 313 (TRI reporting)

Chemical name	CAS number	% by wt.
Zinc bis(dinonylnaphthalenesulphonate)	28016-00-4	2 - 5

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) Contains component(s) regulated under the Safe Drinking Water Act.

US state regulations

US. Massachusetts RTK - Substance List

Distillates (petroleum), hydrotreated heavy paraffinic (CAS 64742-54-7)

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

Distillates (petroleum), hydrotreated heavy paraffinic (CAS 64742-54-7)

Zinc bis(dinonylnaphthalenesulphonate) (CAS 28016-00-4)

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

Distillates (petroleum), hydrotreated heavy paraffinic (CAS 64742-54-7)

Zinc bis(dinonylnaphthalenesulphonate) (CAS 28016-00-4)

US. Rhode Island RTK

Distillates (petroleum), hydrotreated heavy paraffinic (CAS 64742-54-7)

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.

US. California. Candidate Chemicals List. Safer Consumer Products Regulations (Cal. Code Regs, tit. 22, 69502.3, subd. (a))

Distillates (petroleum), hydrotreated heavy paraffinic (CAS 64742-54-7)

N,N''-(methylenedi-4,1-phenylene)bis[N'-octyl]urea (CAS 122886-55-9)

Phenol, dodecyl-, branched (CAS 121158-58-5)

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)	Yes
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	No
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	No
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	19-December-2022
Version #	02
Further information	HMIS® is a registered trade and service mark of the ACA.
HMIS® ratings	Health: 3* Flammability: 1 Physical hazard: 0

NFPA ratings

List of abbreviations

CAS: Chemical Abstract Service.
DOT: Department of Transportation.
EC50: Effective Concentration, 50%.
EL50: Effective level, 50%.
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.
LC50: Lethal Concentration, 50%.
LD50: Lethal Dose, 50%.
LL50: Lethal level, 50%.
MARPOL: International Convention for the Prevention of Pollution from Ships.
NOAEL: No observed adverse effect level.
NOEC: No observed effect concentration.
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
EPA: AQUIRE database
HSDB® - Hazardous Substances Data Bank
IARC Monographs. Overall Evaluation of Carcinogenicity

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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