MICROLUBE GB 00

Version	Revision Date:	Date of last issue: -	Print Date:
1.0	05/12/2021	Date of first issue: 05/12/2021	10/22/2021

SECTION 1. IDENTIFICATION

Product name : MICROLUBE GB 00

Article-No. : 020236

Manufacturer or supplier's details

Company name of supplier : Klüber Lubrication NA LP
9010 CR 2120
Tyler, Texas 75707
Phone: (903) 534-8021
Fax: (903) 581-4376

32 Industrial Drive
Londonderry, NH 03053
Phone: (603) 647-4104
Fax: (603) 647-4106

E-mail address of person responsible for the SDS : mcm@us.kluber.com
Material Compliance Management

Emergency telephone number : +1-517-545-7070 NCEC

Recommended use of the chemical and restrictions on use

Recommended use : Grease

Restrictions on use : Restricted to professional users.

SECTION 2. HAZARDS IDENTIFICATION

GHS classification in accordance with the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Eye irritation : Category 2A

Skin sensitisation : Category 1

GHS label elements

Hazard pictograms :

Signal word : Warning

Hazard statements : May cause an allergic skin reaction.
Causes serious eye irritation.

Precautionary statements :

Prevention:

Wash skin thoroughly after handling.
Wear protective gloves/ eye protection/ face protection.

Response:

If skin irritation or rash occurs: Get medical advice/ attention.
If eye irritation persists: Get medical advice/ attention.
Take off contaminated clothing and wash it before reuse.

Disposal:

Dispose of contents/ container to an approved waste disposal plant.

Other hazards

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Chemical nature : Mineral oil.
lithium soap
silicate

Components

Chemical name	CAS-No.	Concentration (% w/w)
Residual oils (petroleum), solvent-dewaxed	64742-62-7	Trade secret (>= 60 - < 80)
Distillates (petroleum), hydrotreated heavy paraffinic	64742-54-7	Trade secret (>= 5 - < 10)
Silicon dioxide	7631-86-9	Trade secret (>= 1 - < 5)
Distillates (petroleum), hydrotreated heavy naphthenic	64742-52-5	Trade secret (>= 1 - < 5)
Reaction products of 4-methyl-2-pentanol and diphosphorus pentasulfide, propoxylated, esterified with diphosphorus pentaoxide, and salted by amines, C12-14- tert-alkyl	Not Assigned	Trade secret (>= 1 - < 5)
zinc O,O,O',O'-tetrakis(1,3-dimethylbutyl) bis(phosphorodithioate)	2215-35-2	Trade secret (>= 1 - < 5)
lithium 12-hydroxystearate	7620-77-1	Trade secret (>= 1 - < 5)

Actual concentration is withheld as a trade secret

SECTION 4. FIRST AID MEASURES

If inhaled : Remove person to fresh air. If signs/symptoms continue, get

medical attention.
Keep patient warm and at rest.
If unconscious, place in recovery position and seek medical advice.
Keep respiratory tract clear.
If breathing is irregular or stopped, administer artificial respiration.

In case of skin contact	:	Take off all contaminated clothing immediately. Wash off immediately with soap and plenty of water. Get medical attention immediately if irritation develops and persists. Wash clothing before reuse. Thoroughly clean shoes before reuse.
In case of eye contact	:	Rinse immediately with plenty of water, also under the eyelids, for at least 10 minutes. Seek medical advice.
If swallowed	:	Move the victim to fresh air. If unconscious, place in recovery position and seek medical advice. Keep respiratory tract clear. Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person.
Most important symptoms and effects, both acute and delayed	:	May cause an allergic skin reaction. Allergic appearance
Notes to physician	:	The first aid procedure should be established in consultation with the doctor responsible for industrial medicine.

SECTION 5. FIREFIGHTING MEASURES

Suitable extinguishing media	:	Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
Unsuitable extinguishing media	:	High volume water jet
Hazardous combustion products	:	Carbon oxides Nitrogen oxides (NOx) Sulphur oxides Oxides of phosphorus Metal oxides
Further information	:	Standard procedure for chemical fires. Collect contaminated fire extinguishing water separately. This must not be discharged into drains.
Special protective equipment	:	In the event of fire, wear self-contained breathing apparatus.

for firefighters	Use personal protective equipment. Exposure to decomposition products may be a hazard to health.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	:	Evacuate personnel to safe areas. Use the indicated respiratory protection if the occupational exposure limit is exceeded and/or in case of product release (dust). Do not breathe vapours, aerosols. Refer to protective measures listed in sections 7 and 8.
Environmental precautions	:	Do not allow contact with soil, surface or ground water. If the product contaminates rivers and lakes or drains inform respective authorities.
Methods and materials for containment and cleaning up	:	Clean up promptly by sweeping or vacuum. Keep in suitable, closed containers for disposal.

SECTION 7. HANDLING AND STORAGE

Advice on safe handling	:	Avoid contact with skin and eyes. For personal protection see section 8. Persons with a history of skin sensitisation problems or asthma, allergies, chronic or recurrent respiratory disease should not be employed in any process in which this mixture is being used. Smoking, eating and drinking should be prohibited in the application area. Wash hands and face before breaks and immediately after handling the product. Do not get in eyes or mouth or on skin. Do not get on skin or clothing. Do not ingest. Do not repack. These safety instructions also apply to empty packaging which may still contain product residues. Keep container closed when not in use.
Conditions for safe storage	:	Store in original container. Keep container closed when not in use. Keep in a dry, cool and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Store in accordance with the particular national regulations. Keep in properly labelled containers.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
Residual oils (petroleum), solvent-dewaxed	64742-62-7	TWA (Mist)	5 mg/m3	OSHA Z-1
		TWA (Inhalable particulate matter)	5 mg/m3	ACGIH
		TWA (Mist)	5 mg/m3	OSHA P0
		TWA (Mist)	5 mg/m3	NIOSH REL
		ST (Mist)	10 mg/m3	NIOSH REL
Distillates (petroleum), hydrotreated heavy paraffinic	64742-54-7	TWA (Mist)	5 mg/m3	OSHA Z-1
		TWA (Inhalable particulate matter)	5 mg/m3	ACGIH
		TWA (Mist)	5 mg/m3	OSHA P0
		TWA (Mist)	5 mg/m3	NIOSH REL
		ST (Mist)	10 mg/m3	NIOSH REL
Silicon dioxide	7631-86-9	TWA	6 mg/m3	NIOSH REL
		TWA (Dust)	20 Million particles per cubic foot	OSHA Z-3
		TWA (Dust)	80 mg/m3 / %SiO2	OSHA Z-3
		TWA (Dust)	20 Million particles per cubic foot (Silica)	OSHA Z-3
		TWA (Dust)	80 mg/m3 / %SiO2 (Silica)	OSHA Z-3
		TWA	6 mg/m3 (Silica)	NIOSH REL
		TWA (Respirable dust)	0.05 mg/m3 (Silica)	NIOSH REL
Distillates (petroleum), hydrotreated heavy naphthenic	64742-52-5	TWA (Inhalable particulate matter)	5 mg/m3	ACGIH
		TWA (Mist)	5 mg/m3	OSHA P0
		TWA (Mist)	5 mg/m3	NIOSH REL
		ST (Mist)	10 mg/m3	NIOSH REL
		TWA (Mist)	5 mg/m3	OSHA Z-1
lithium 12-hydroxystearate	7620-77-1	TWA (Inhalable particulate matter)	10 mg/m3	ACGIH
		TWA (Respirable particulate mat-	3 mg/m3	ACGIH

		ter)		

Engineering measures : none

Personal protective equipment

Respiratory protection : Not required; except in case of aerosol formation.

Filter type : Filter type P

Hand protection
Material : Nitrile rubber
Break through time : > 10 min
Protective index : Class 1

Remarks : Wear protective gloves. The break through time depends amongst other things on the material, the thickness and the type of glove and therefore has to be measured for each case.

Eye protection : Safety glasses with side-shields

Protective measures : The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.
Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place.

Hygiene measures : Wash face, hands and any exposed skin thoroughly after handling.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : paste

Colour : red

Odour : characteristic

Odour Threshold : No data available

pH : substance/mixture is non-soluble (in water)

Melting point/range : No data available

Boiling point/boiling range : No data available

Flash point : Not applicable

Evaporation rate	:	No data available
Flammability (solid, gas)	:	Combustible Solids
Self-ignition	:	No data available
Upper explosion limit / Upper flammability limit	:	No data available
Lower explosion limit / Lower flammability limit	:	No data available
Vapour pressure	:	< 0.001 hPa (68 °F / 20 °C)
Relative vapour density	:	No data available
Relative density	:	0.93 (68 °F / 20 °C) Reference substance: Water The value is calculated
Bulk density	:	No data available
Solubility(ies)		
Water solubility	:	insoluble
Solubility in other solvents	:	No data available
Partition coefficient: n-octanol/water	:	No data available
Auto-ignition temperature	:	No data available
Decomposition temperature	:	No data available
Viscosity		
Viscosity, dynamic	:	No data available
Viscosity, kinematic	:	Not applicable
Explosive properties	:	Not explosive
Oxidizing properties	:	No data available
Sublimation point	:	No data available

SECTION 10. STABILITY AND REACTIVITY

Reactivity	:	No hazards to be specially mentioned.
Chemical stability	:	Stable under normal conditions.

Possibility of hazardous reactions	:	No dangerous reaction known under conditions of normal use.
Conditions to avoid	:	No conditions to be specially mentioned.
Incompatible materials	:	No materials to be especially mentioned.
Hazardous decomposition products	:	No decomposition if stored and applied as directed.

SECTION 11. TOXICOLOGICAL INFORMATION

Acute toxicity

Product:

Acute oral toxicity	:	Acute toxicity estimate: > 5,000 mg/kg Method: Calculation method
Acute inhalation toxicity	:	Remarks: This information is not available.
Acute dermal toxicity	:	Symptoms: Redness, Local irritation

Components:

Residual oils (petroleum), solvent-dewaxed:

Acute oral toxicity	:	LD50 (Rat): > 5,000 mg/kg Method: OECD Test Guideline 401 GLP: yes
Acute dermal toxicity	:	LD50 (Rabbit): > 5,000 mg/kg Method: OECD Test Guideline 402 GLP: yes

Distillates (petroleum), hydrotreated heavy paraffinic:

Acute oral toxicity	:	LD50 (Rat): > 5,000 mg/kg Method: OECD Test Guideline 401 GLP: yes
Acute inhalation toxicity	:	LC50 (Rat): > 5.53 mg/l Exposure time: 4 h Test atmosphere: dust/mist Method: OECD Test Guideline 403 Assessment: The substance or mixture has no acute inhalation toxicity
Acute dermal toxicity	:	LD50 (Rabbit): > 5,000 mg/kg Method: OECD Test Guideline 402

Silicon dioxide:

Acute oral toxicity : LD50 (Rat): > 5,000 mg/kg
Method: OECD Test Guideline 401

Acute dermal toxicity : LD50 (Rabbit): > 5,000 mg/kg

Distillates (petroleum), hydrotreated heavy naphthenic:

Acute oral toxicity : LD50 (Rat): > 5,000 mg/kg
Method: OECD Test Guideline 401
GLP: yes

Acute inhalation toxicity : LC50 (Rat): > 5.53 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Method: OECD Test Guideline 403
GLP: yes
Assessment: The substance or mixture has no acute inhalation toxicity

Acute dermal toxicity : LD50 (Rabbit): > 5,000 mg/kg
Method: OECD Test Guideline 402
GLP: yes

Reaction products of 4-methyl-2-pentanol and diphosphorus pentasulfide, propoxylated, esterified with diphosphorus pentaoxide, and salted by amines, C12-14- tert-alkyl**:**

Acute oral toxicity : LD50 (Rat): 2,000 mg/kg
Assessment: The component/mixture is moderately toxic after single ingestion.

zinc O,O,O',O'-tetrakis(1,3-dimethylbutyl) bis(phosphorodithioate):

Acute oral toxicity : LD50 (Rat): 2,230 mg/kg
Method: OECD Test Guideline 401

Acute inhalation toxicity : LC50 (Rat, male): > 2.0 mg/l
Exposure time: 1 h
Test atmosphere: dust/mist
Method: OECD Test Guideline 403
Assessment: The substance or mixture has no acute inhalation toxicity
Remarks: An LC50/inhalation/4h/rat could not be determined because no mortality of rats was observed at the maximum achievable concentration.

Acute dermal toxicity : LD50 (Rabbit): > 25,000 mg/kg
Method: OECD Test Guideline 402

lithium 12-hydroxystearate:

Acute oral toxicity : LD50 (Rat): > 5,000 mg/kg
Method: OECD Test Guideline 401

Acute dermal toxicity : LD50 (Rabbit): > 3,000 mg/kg

Assessment: The substance or mixture has no acute dermal toxicity

Skin corrosion/irritation

Product:

Remarks : This information is not available.

Components:

Residual oils (petroleum), solvent-dewaxed:

Species : Rabbit
Assessment : No skin irritation
Method : OECD Test Guideline 404
Result : No skin irritation
GLP : yes

Distillates (petroleum), hydrotreated heavy paraffinic:

Species : Rabbit
Assessment : No skin irritation
Method : OECD Test Guideline 404
Result : No skin irritation
GLP : yes

Silicon dioxide:

Species : Rabbit
Assessment : No skin irritation
Method : OECD Test Guideline 404
Result : No skin irritation
GLP : yes

Distillates (petroleum), hydrotreated heavy naphthenic:

Species : Rabbit
Assessment : No skin irritation
Method : OECD Test Guideline 404
Result : No skin irritation

Reaction products of 4-methyl-2-pentanol and diphosphorus pentasulfide, propoxylated, esterified with diphosphorus pentaoxide, and salted by amines, C12-14- tert-alkyl**:**

Result : Mild skin irritation

zinc O,O,O',O'-tetrakis(1,3-dimethylbutyl) bis(phosphorodithioate):

Species : Rabbit
Assessment : Irritating to skin.
Method : OECD Test Guideline 404
Result : Irritating to skin.
GLP : yes

lithium 12-hydroxystearate:

Assessment	:	No skin irritation
Method	:	OECD Test Guideline 439
Result	:	No skin irritation

Serious eye damage/eye irritation

Product:

Remarks	:	Irritating to eyes.

Components:

Residual oils (petroleum), solvent-dewaxed:

Species	:	Rabbit
Result	:	No eye irritation
Assessment	:	No eye irritation
Method	:	OECD Test Guideline 405
GLP	:	yes

Distillates (petroleum), hydrotreated heavy paraffinic:

Species	:	Rabbit
Result	:	No eye irritation
Assessment	:	No eye irritation
Method	:	OECD Test Guideline 405
GLP	:	yes

Silicon dioxide:

Species	:	Rabbit
Result	:	No eye irritation
Assessment	:	No eye irritation
Method	:	OECD Test Guideline 405
GLP	:	yes

Distillates (petroleum), hydrotreated heavy naphthenic:

Species	:	Rabbit
Result	:	No eye irritation
Assessment	:	No eye irritation
Method	:	OECD Test Guideline 405
GLP	:	yes

Reaction products of 4-methyl-2-pentanol and diphosphorus pentasulfide, propoxylated, esterified with diphosphorus pentaoxide, and salted by amines, C12-14- tert-alkyl**:**

Result	:	Risk of serious damage to eyes.
Assessment	:	Risk of serious damage to eyes.

zinc O,O,O',O'-tetrakis(1,3-dimethylbutyl) bis(phosphorodithioate):

Species	:	Rabbit
Result	:	Risk of serious damage to eyes.

Assessment : Risk of serious damage to eyes.
Method : OECD Test Guideline 405
GLP : yes

lithium 12-hydroxystearate:

Species : Rabbit
Result : No eye irritation
Assessment : No eye irritation
Method : OECD Test Guideline 405

Respiratory or skin sensitisation

Product:

Remarks : This information is not available.

Components:

Residual oils (petroleum), solvent-dewaxed:

Species : Guinea pig
Assessment : Did not cause sensitisation on laboratory animals.
Method : OECD Test Guideline 406
Result : Did not cause sensitisation on laboratory animals.
GLP : yes

Distillates (petroleum), hydrotreated heavy paraffinic:

Species : Guinea pig
Assessment : Does not cause skin sensitisation.
Method : OECD Test Guideline 406
Result : Does not cause skin sensitisation.
GLP : yes

Silicon dioxide:

Assessment : Does not cause skin sensitisation.
Result : Does not cause skin sensitisation.

Distillates (petroleum), hydrotreated heavy naphthenic:

Species : Guinea pig
Assessment : Does not cause skin sensitisation.
Method : OECD Test Guideline 406
Result : Does not cause skin sensitisation.

Reaction products of 4-methyl-2-pentanol and diphosphorus pentasulfide, propoxylated, esterified with diphosphorus pentaoxide, and salted by amines, C12-14- tert-alkyl**:**

Assessment : Probability or evidence of skin sensitisation in humans
Result : May cause sensitisation by skin contact.

zinc O,O,O',O'-tetrakis(1,3-dimethylbutyl) bis(phosphorodithioate):

Test Type	:	Buehler Test
Species	:	Guinea pig
Assessment	:	Does not cause skin sensitisation.
Method	:	OECD Test Guideline 406
Result	:	Does not cause skin sensitisation.

lithium 12-hydroxystearate:

Exposure routes	:	Dermal
Species	:	Mouse
Method	:	OECD Test Guideline 429
Result	:	negative

Germ cell mutagenicity

Product:

Genotoxicity in vitro	:	Remarks: No data available
Genotoxicity in vivo	:	Remarks: No data available

Components:

Residual oils (petroleum), solvent-dewaxed:

Germ cell mutagenicity - Assessment	:	Tests on bacterial or mammalian cell cultures did not show mutagenic effects.

Silicon dioxide:

Germ cell mutagenicity - Assessment	:	Tests on bacterial or mammalian cell cultures did not show mutagenic effects.

Distillates (petroleum), hydrotreated heavy naphthenic:

Genotoxicity in vitro	:	Test Type: In vitro mammalian cell gene mutation test Test system: Chinese hamster ovary cells Metabolic activation: with and without metabolic activation Method: OECD Test Guideline 473 Result: negative
Genotoxicity in vivo	:	Test Type: Micronucleus test Species: Mouse Cell type: Bone marrow Application Route: Intraperitoneal injection Method: OECD Test Guideline 474 Result: negative
Germ cell mutagenicity - Assessment	:	Tests on bacterial or mammalian cell cultures did not show mutagenic effects.

Reaction products of 4-methyl-2-pentanol and diphosphorus pentasulfide, propoxylated, esterified with diphosphorus pentaoxide, and salted by amines, C12-14- tert-alkyl**:**

Genotoxicity in vitro : Test Type: Ames test
Test system: Salmonella typhimurium
Method: OECD Test Guideline 471
Result: negative

zinc O,O,O',O'-tetrakis(1,3-dimethylbutyl) bis(phosphorodithioate):

Genotoxicity in vitro : Test Type: reverse mutation assay
Test system: Salmonella typhimurium
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 471
Result: negative

Genotoxicity in vivo : Test Type: Cytogenetic assay
Species: Mouse
Cell type: Bone marrow
Application Route: Oral
Method: OECD Test Guideline 474
Result: negative

Carcinogenicity

Product:

Remarks : No data available

Components:

Residual oils (petroleum), solvent-dewaxed:

Carcinogenicity - Assessment : No evidence of carcinogenicity in animal studies.

Distillates (petroleum), hydrotreated heavy paraffinic:

Carcinogenicity - Assessment : Not classifiable as a human carcinogen.

Silicon dioxide:

Carcinogenicity - Assessment : No evidence of carcinogenicity in animal studies.

Distillates (petroleum), hydrotreated heavy naphthenic:

Carcinogenicity - Assessment : Not classifiable as a human carcinogen.

IARC Group 1: Carcinogenic to humans
Silicon dioxide 7631-86-9
(Silica dust, crystalline)

OSHA No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

NTP	Known to be human carcinogen Silicon dioxide (Silica, Crystalline (Respirable Size))	7631-86-9

Reproductive toxicity

Product:

Effects on fertility : Remarks: No data available

Effects on foetal development : Remarks: No data available

Components:

Residual oils (petroleum), solvent-dewaxed:

Reproductive toxicity - Assessment : - Fertility -

No toxicity to reproduction
- Teratogenicity -

No effects on or via lactation

Distillates (petroleum), hydrotreated heavy paraffinic:

Reproductive toxicity - Assessment : - Fertility -

No toxicity to reproduction

Silicon dioxide:

Reproductive toxicity - Assessment : - Fertility -

No toxicity to reproduction
- Teratogenicity -

No effects on or via lactation

Distillates (petroleum), hydrotreated heavy naphthenic:

Effects on foetal development : Species: Rat
Application Route: Dermal
General Toxicity Maternal: LOAEL: 125 mg/kg body weight
Teratogenicity: NOAEL: >= 2,000 mg/kg body weight
Developmental Toxicity: NOAEL: >= 2,000 mg/kg body weight
Embryo-foetal toxicity: NOAEL: >= 2,000 mg/kg body weight
Method: OECD Test Guideline 414
Result: No effects on fertility and early embryonic development were detected.

Reproductive toxicity - Assessment : - Fertility -

No toxicity to reproduction
- Teratogenicity -

No toxicity to reproduction

Reaction products of 4-methyl-2-pentanol and diphosphorus pentasulfide, propoxylated, esterified with diphosphorus pentaoxide, and salted by amines, C12-14- tert-alkyl**:**

Reproductive toxicity - Assessment : - Fertility -

No toxicity to reproduction

zinc O,O,O',O'-tetrakis(1,3-dimethylbutyl) bis(phosphorodithioate):

Effects on foetal development : Test Type: reproductive and developmental toxicity study
Species: Rat
Application Route: Oral
General Toxicity Maternal: NOAEL: 160 mg/kg body weight
Developmental Toxicity: NOAEL: 160 mg/kg body weight
Method: OECD Test Guideline 422
Result: No effects on fertility and early embryonic development were detected.

STOT - single exposure

Components:

Silicon dioxide:

Assessment : The substance or mixture is not classified as specific target organ toxicant, single exposure.

Distillates (petroleum), hydrotreated heavy naphthenic:

Assessment : The substance or mixture is not classified as specific target organ toxicant, single exposure.

STOT - repeated exposure

Components:

Silicon dioxide:

Assessment : The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

Distillates (petroleum), hydrotreated heavy naphthenic:

Assessment : The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

Repeated dose toxicity

Product:

Remarks : This information is not available.

Components:

zinc O,O,O',O'-tetrakis(1,3-dimethylbutyl) bis(phosphorodithioate):

Species	:	Rat
NOAEL	:	160 mg/kg
Application Route	:	Oral
Method	:	OECD Test Guideline 422

Aspiration toxicity

Product:

This information is not available.

Components:

Residual oils (petroleum), solvent-dewaxed:

No aspiration toxicity classification

Distillates (petroleum), hydrotreated heavy paraffinic:

No aspiration toxicity classification

Silicon dioxide:

No aspiration toxicity classification

Distillates (petroleum), hydrotreated heavy naphthenic:

No aspiration toxicity classification

Further information

Product:

Remarks	:	Information given is based on data on the components and the toxicology of similar products.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Product:

Toxicity to fish	:	Remarks: Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
Toxicity to daphnia and other aquatic invertebrates	:	Remarks: No data available
Toxicity to algae/aquatic	:	

plants — Remarks: No data available

Toxicity to microorganisms : Remarks: No data available

Components:

Residual oils (petroleum), solvent-dewaxed:

Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): > 100 mg/l
Exposure time: 96 h
Test Type: static test
Method: OECD Test Guideline 203
GLP: yes

NOEC (Pimephales promelas (fathead minnow)): >= 100 mg/l
Exposure time: 96 h
Method: OECD Test Guideline 203
GLP: yes

Toxicity to daphnia and other aquatic invertebrates : LC50: > 10,000 mg/l
Exposure time: 96 h
Test Type: semi-static test
Method: OECD Test Guideline 202

NOEC: >= 10,000 mg/l
Exposure time: 96 h
Test Type: semi-static test
Method: OECD Test Guideline 202

Toxicity to algae/aquatic plants : NOEC (Pseudokirchneriella subcapitata (green algae)): >= 100 mg/l
Exposure time: 72 h
Test Type: static test
Method: OECD Test Guideline 201

Distillates (petroleum), hydrotreated heavy paraffinic:

Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): > 100 mg/l
Exposure time: 96 h
Test Type: static test
Method: OECD Test Guideline 203
GLP: yes

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): > 10,000 mg/l
Exposure time: 48 h
Test Type: Immobilization
Method: OECD Test Guideline 202
GLP: yes

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Daphnia magna (Water flea)): 10 mg/l
Exposure time: 21 d
Test Type: semi-static test
Method: OECD Test Guideline 211
GLP: yes

Silicon dioxide:

Toxicity to fish	:	LC50 (Brachydanio rerio (zebrafish)): > 10,000 mg/l Exposure time: 96 h Method: OECD Test Guideline 203

Distillates (petroleum), hydrotreated heavy naphthenic:

Toxicity to fish	:	LC50 (Pimephales promelas (fathead minnow)): > 100 mg/l Exposure time: 96 h Test Type: static test Method: OECD Test Guideline 203 GLP: yes
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): > 10,000 mg/l Exposure time: 48 h Test Type: static test Method: OECD Test Guideline 202
Toxicity to algae/aquatic plants	:	LC50 (Pseudokirchneriella subcapitata (green algae)): > 100 mg/l Exposure time: 72 h Method: OECD Test Guideline 201
Toxicity to fish (Chronic toxicity)	:	NOELR (Oncorhynchus mykiss (rainbow trout)): >= 1,000 mg/l Exposure time: 28 d Remarks: The value is calculated
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	NOELR (Daphnia magna (Water flea)): 10 mg/l Exposure time: 21 d Test Type: Reproduction Test Method: OECD Test Guideline 211

Reaction products of 4-methyl-2-pentanol and diphosphorus pentasulfide, propoxylated, esterified with diphosphorus pentaoxide, and salted by amines, C12-14- tert-alkyl**:**

Toxicity to fish	:	LC50 (Pimephales promelas (fathead minnow)): 8.5 mg/l Exposure time: 96 h Test Type: semi-static test Method: OECD Test Guideline 203 GLP: yes
Toxicity to daphnia and other aquatic invertebrates	:	EL50 (Daphnia magna (Water flea)): 91.4 mg/l Exposure time: 48 h Method: OECD Test Guideline 202
Toxicity to algae/aquatic plants	:	EC50 (Selenastrum capricornutum (green algae)): 6.4 mg/l Exposure time: 96 h
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	NOELR (Daphnia magna (Water flea)): 0.12 mg/l Exposure time: 21 d Method: OECD Test Guideline 211

Toxicity to microorganisms : EC50 (activated sludge): 2,433 mg/l
Exposure time: 3 h
Method: OECD Test Guideline 209

Ecotoxicology Assessment

Acute aquatic toxicity : Toxic to aquatic life.

Chronic aquatic toxicity : Toxic to aquatic life with long lasting effects.

zinc O,O,O',O'-tetrakis(1,3-dimethylbutyl) bis(phosphorodithioate):

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 4.5 mg/l
Exposure time: 96 h
Method: OECD Test Guideline 203
GLP: yes

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 23 mg/l
Exposure time: 48 h
Method: OECD Test Guideline 202
GLP: yes

Toxicity to algae/aquatic plants : EC50 (Desmodesmus subspicatus (green algae)): 21 mg/l
Exposure time: 72 h
Method: OECD Test Guideline 201
GLP: yes

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Daphnia magna (Water flea)): 0.4 mg/l
Exposure time: 21 d
Method: OECD Test Guideline 211
GLP: yes

Toxicity to microorganisms : EC50 (activated sludge): > 10,000 mg/l
Exposure time: 3 h
Test Type: Respiration inhibition
Method: OECD Test Guideline 209
GLP: yes

lithium 12-hydroxystearate:

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): > 100 mg/l
Exposure time: 96 h
Test Type: semi-static test
Method: OECD Test Guideline 203
GLP: yes

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): > 100 mg/l
Exposure time: 48 h

Toxicity to algae/aquatic plants : EC50 (Pseudokirchneriella subcapitata (green algae)): > 160 mg/l
Exposure time: 72 h
Method: OECD Test Guideline 201

NOEC (Pseudokirchneriella subcapitata (green algae)): 160 mg/l
Exposure time: 72 h
Method: OECD Test Guideline 201

Persistence and degradability

Product:

Biodegradability : Remarks: No data available

Physico-chemical removability : Remarks: No data available

Components:

Residual oils (petroleum), solvent-dewaxed:

Biodegradability : aerobic
Inoculum: activated sludge
Result: Not rapidly biodegradable
Biodegradation: 3 %
Exposure time: 28 d
Method: OECD Test Guideline 301B
GLP: yes

Distillates (petroleum), hydrotreated heavy paraffinic:

Biodegradability : aerobic
Inoculum: activated sludge
Result: Not rapidly biodegradable
Biodegradation: 3 %
Exposure time: 28 d
Method: OECD Test Guideline 301B
GLP: yes

Distillates (petroleum), hydrotreated heavy naphthenic:

Biodegradability : aerobic
Inoculum: activated sludge
Result: Not rapidly biodegradable
Biodegradation: 3 %
Exposure time: 28 d
Method: OECD Test Guideline 301B
GLP: yes

Reaction products of 4-methyl-2-pentanol and diphosphorus pentasulfide, propoxylated, esterified with diphosphorus pentaoxide, and salted by amines, C12-14- tert-alkyl**:**

Biodegradability : aerobic
Inoculum: activated sludge
Result: Not rapidly biodegradable
Biodegradation: 5.4 - 9.4 %
Exposure time: 28 d

Method: OECD Test Guideline 301B
GLP: yes

zinc O,O,O',O'-tetrakis(1,3-dimethylbutyl) bis(phosphorodithioate):

Biodegradability : aerobic
Inoculum: activated sludge
Result: Not readily biodegradable.
Biodegradation: 1.5 %
Exposure time: 28 d
Method: OECD Test Guideline 301B

lithium 12-hydroxystearate:

Biodegradability : Primary biodegradation
Inoculum: activated sludge
Result: rapidly biodegradable
Biodegradation: 74.7 %
Exposure time: 28 d
Method: OECD Test Guideline 301C

Bioaccumulative potential

Product:

Bioaccumulation : Remarks: This mixture contains no substance considered to be persistent, bioaccumulating and toxic (PBT).
This mixture contains no substance considered to be very persistent and very bioaccumulating (vPvB).

Components:

Residual oils (petroleum), solvent-dewaxed:

Bioaccumulation : Remarks: No data available

Partition coefficient: n-octanol/water : Pow: > 3.5

Distillates (petroleum), hydrotreated heavy paraffinic:

Partition coefficient: n-octanol/water : log Pow: > 2

Reaction products of 4-methyl-2-pentanol and diphosphorus pentasulfide, propoxylated, esterified with diphosphorus pentaoxide, and salted by amines, C12-14- tert-alkyl**:**

Bioaccumulation : Species: Oncorhynchus mykiss (rainbow trout)
Bioconcentration factor (BCF): 436
Exposure time: 97 d
Method: OPPTS 850.1730

zinc O,O,O',O'-tetrakis(1,3-dimethylbutyl) bis(phosphorodithioate):

Partition coefficient: n- : log Pow: 2.21 (68 °F / 20 °C)

octanol/water		pH: 5 - 6 Method: OECD Test Guideline 107 GLP: yes

lithium 12-hydroxystearate:

Partition coefficient: n-octanol/water	:	log Pow: 2.6

Mobility in soil

Product:

Mobility	:	Remarks: No data available
Distribution among environmental compartments	:	Remarks: No data available

Other adverse effects

Product:

Ozone-Depletion Potential	:	Regulation: 40 CFR Protection of Environment; Part 82 Protection of Stratospheric Ozone - CAA Section 602 Class I Substances Remarks: This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).
Additional ecological information	:	Toxic to aquatic life with long lasting effects.

Components:

Residual oils (petroleum), solvent-dewaxed:

Results of PBT and vPvB assessment	:	This substance is not considered to be very persistent and very bioaccumulating (vPvB). This substance is not considered to be persistent, bioaccumulating and toxic (PBT).

Distillates (petroleum), hydrotreated heavy paraffinic:

Results of PBT and vPvB assessment	:	Non-classified vPvB substance Non-classified PBT substance

Silicon dioxide:

Results of PBT and vPvB assessment	:	Non-classified vPvB substance Non-classified PBT substance

Distillates (petroleum), hydrotreated heavy naphthenic:

Results of PBT and vPvB assessment	:	Non-classified PBT substance Non-classified vPvB substance

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues	:	The product should not be allowed to enter drains, water courses or the soil. Do not dispose of with domestic refuse. Dispose of as hazardous waste in compliance with local and national regulations.
Contaminated packaging	:	Packaging that is not properly emptied must be disposed of as the unused product. Dispose of waste product or used containers according to local regulations.

SECTION 14. TRANSPORT INFORMATION

International Regulations

UNRTDG

UN number	:	UN 3077
Proper shipping name	:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. ((Z)-octadec-9-enylamine)
Class	:	9
Packing group	:	III
Labels	:	9

IATA-DGR

UN/ID No.	:	UN 3077
Proper shipping name	:	Environmentally hazardous substance, solid, n.o.s. ((Z)-octadec-9-enylamine)
Class	:	9
Packing group	:	III
Labels	:	Miscellaneous
Packing instruction (cargo aircraft)	:	956
Packing instruction (passenger aircraft)	:	956

IMDG-Code

UN number	:	UN 3077
Proper shipping name	:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. ((Z)-octadec-9-enylamine)
Class	:	9
Packing group	:	III
Labels	:	9
EmS Code	:	F-A, S-F
Marine pollutant	:	yes

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

National Regulations

49 CFR

UN/ID/NA number	:	UN 3077
Proper shipping name	:	Environmentally hazardous substance, solid, n.o.s. ((Z)-octadec-9-enylamine)
Class	:	9
Packing group	:	III
Labels	:	CLASS 9
ERG Code	:	171
Marine pollutant	:	no
Remarks	:	Not regulated by ground transportation in non-bulk packages less than 119 gallons. For packages greater than 119 gallons, or for air/sea shipping, refer to applicable marine pollutant regulations.

Special precautions for user

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

SECTION 15. REGULATORY INFORMATION

EPCRA - Emergency Planning and Community Right-to-Know Act

CERCLA Reportable Quantity

This material does not contain any components with a CERCLA RQ.

SARA 304 Extremely Hazardous Substances Reportable Quantity

This material does not contain any components with a section 304 EHS RQ.

SARA 302 Extremely Hazardous Substances Threshold Planning Quantity

This material does not contain any components with a section 302 EHS TPQ.

SARA 311/312 Hazards : Respiratory or skin sensitisation
Serious eye damage or eye irritation

SARA 313 : The following components are subject to reporting levels established by SARA Title III, Section 313:

zinc O,O,O',O'-tetrakis(1,3-dimethylbutyl) bis(phosphorodithioate)	2215-35-2	>= 1 - < 5 %

zinc bis[O,O-bis(2-ethylhexyl)] bis(dithiophosphate)	4259-15-8	>= 0.1 - < 1 %

Clean Air Act

This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).
This product does not contain any hazardous air pollutants (HAP), as defined by the U.S. Clean Air Act Section 112 (40 CFR 61).
This product does not contain any chemicals listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F).
This product does not contain any chemicals listed under the U.S. Clean Air Act Section 111 SOCMI Intermediate or Final VOC's (40 CFR 60.489).

Clean Water Act

This product does not contain any Hazardous Substances listed under the U.S. CleanWater Act, Section 311, Table 116.4A.
This product does not contain any Hazardous Chemicals listed under the U.S. CleanWater Act, Section 311, Table 117.3.
This product contains the following toxic pollutants listed under the U.S. Clean Water Act Section 307

zinc O,O,O',O'-tetrakis(1,3-dimethylbutyl) bis(phosphorodithioate)	2215-35-2	>= 1 - < 5 %

This product does not contain any priority pollutants related to the U.S. Clean Water Act

US State Regulations

Massachusetts Right To Know

Silicon dioxide	7631-86-9
Distillates (petroleum), solvent-refined light naphthenic	64741-97-5

Pennsylvania Right To Know

Residual oils (petroleum), solvent-dewaxed	64742-62-7
Distillates (petroleum), hydrotreated heavy paraffinic	64742-54-7
sulphurised vegetable fatty acid esters	Not Assigned
olefin sulfide	Not Assigned
Silicon dioxide	7631-86-9
zinc O,O,O',O'-tetrakis(1,3-dimethylbutyl) bis(phosphorodithioate)	2215-35-2
zinc bis[O,O-bis(2-ethylhexyl)] bis(dithiophosphate)	4259-15-8
Propan-2-ol	67-63-0
1,2,4-trimethylbenzene	95-63-6

Maine Chemicals of High Concern

Silicon dioxide	7631-86-9

Vermont Chemicals of High Concern

Product does not contain any listed chemicals

Washington Chemicals of High Concern

Product does not contain any listed chemicals

California Prop. 65

WARNING: This product can expose you to chemicals including Silicon dioxide, which is/are known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov.

California List of Hazardous Substances

Silicon dioxide	7631-86-9
zinc O,O,O',O'-tetrakis(1,3-dimethylbutyl) bis(phosphorodithioate)	2215-35-2

California Permissible Exposure Limits for Chemical Contaminants

Residual oils (petroleum), solvent-dewaxed	64742-62-7
Distillates (petroleum), hydrotreated heavy paraffinic	64742-54-7
Silicon dioxide	7631-86-9
Distillates (petroleum), hydrotreated heavy naphthenic	64742-52-5

California Regulated Carcinogens

Silicon dioxide	7631-86-9

TSCA list

No substances are subject to a Significant New Use Rule.

No substances are subject to TSCA 12(b) export notification requirements.

SECTION 16. OTHER INFORMATION

Further information

Full text of other abbreviations

ACGIH	:	USA. ACGIH Threshold Limit Values (TLV)
NIOSH REL	:	USA. NIOSH Recommended Exposure Limits
OSHA P0	:	USA. OSHA - TABLE Z-1 Limits for Air Contaminants - 1910.1000
OSHA Z-1	:	USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants
OSHA Z-3	:	USA. Occupational Exposure Limits (OSHA) - Table Z-3 Mineral Dusts
ACGIH / TWA	:	8-hour, time-weighted average
NIOSH REL / TWA	:	Time-weighted average concentration for up to a 10-hour workday during a 40-hour workweek
NIOSH REL / ST	:	STEL - 15-minute TWA exposure that should not be exceeded at any time during a workday
OSHA P0 / TWA	:	8-hour time weighted average
OSHA Z-1 / TWA	:	8-hour time weighted average
OSHA Z-3 / TWA	:	8-hour time weighted average

AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DOT - Department of Transportation; DSL - Domestic

Substances List (Canada); ECx - Concentration associated with x% response; EHS - Extremely Hazardous Substance; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; HMIS - Hazardous Materials Identification System; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; MSHA - Mine Safety and Health Administration; n.o.s. - Not Otherwise Specified; NFPA - National Fire Protection Association; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; RCRA - Resource Conservation and Recovery Act; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RQ - Reportable Quantity; SADT - Self-Accelerating Decomposition Temperature; SARA - Superfund Amendments and Reauthorization Act; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative

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