



SAFETY DATA SHEET

TULP OPERATIONS AUSTRALIA PTY LTD

Product name: MOLYKOTE® 1000 Paste

Issue Date: 28.11.2018

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TULP OPERATIONS AUSTRALIA PTY LTD encourages and expects you to read and understand the entire (M)SDS, as there is important information throughout the document. We expect you to follow the precautions identified in this document unless your use conditions would necessitate other appropriate methods or actions.

SECTION 1: IDENTIFICATION: PRODUCT IDENTIFIER AND CHEMICAL IDENTITY

Product name: MOLYKOTE® 1000 Paste

Recommended use of the chemical and restrictions on use

Identified uses: Lubricants and lubricant additives

COMPANY IDENTIFICATION

TULP OPERATIONS AUSTRALIA PTY LTD
Macquarie Park
Suite 1, 97 Waterloo Road,
NSW NSW 2113
AUSTRALIA

Customer Information Number:

+61-2-9923-6111

SDSQuestion-AP@dupont.com

EMERGENCY TELEPHONE NUMBER

24-Hour Emergency Contact: +(61) 2903 72994

Local Emergency Contact: +(61) 2903 72994

For advice, contact a doctor (at once) or the Australian Poisons Information Centre: 131 126

Transport Emergency Only Dial 000

SECTION 2: HAZARD(S) IDENTIFICATION

GHS Classification

Short-term (acute) aquatic hazard - Category 1

Long-term (chronic) aquatic hazard - Category 1

GHS label elements

Hazard pictograms



Signal word: **WARNING!**

Hazard statements

Very toxic to aquatic life with long lasting effects.

Precautionary statements**Prevention**

Avoid release to the environment.

Response

Collect spillage.

Disposal

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

Other hazards

No data available

SECTION 3: COMPOSITION AND INFORMATION ON INGREDIENTS, IN ACCORDANCE WITH SCHEDULE 8

This product is a mixture.

Component	CASRN	Concentration
Calcium difluoride	7789-75-5	>= 18.0 - <= 26.0 %
Solvent dewaxed heavy paraffinic distillates	64742-65-0	<= 21.0 %
Distillates, petroleum, solvent-dewaxed light paraffinic	64742-56-9	<= 21.0 %
Graphite	7782-42-5	>= 9.0 - <= 13.0 %
Copper metal powder	7440-50-8	>= 6.0 - <= 9.0 %
Zinc	7440-66-6	>= 4.0 - <= 5.0 %
Silicon dioxide	7631-86-9	>= 1.9 - <= 2.5 %
N-Tallow Alkyltrimethylenediamine Oleate	61791-53-5	>= 0.26 - <= 0.35 %

SECTION 4: FIRST AID MEASURES

Description of first aid measures**General advice:**

First Aid responders should pay attention to self-protection and use the recommended protective clothing (chemical resistant gloves, splash protection). If potential for exposure exists refer to Section 8 for specific personal protective equipment.

Inhalation: Move person to fresh air; if effects occur, consult a physician.

Skin contact: Wash off with plenty of water. Suitable emergency safety shower facility should be available in work area.

Eye contact: Flush eyes thoroughly with water for several minutes. Remove contact lenses after the initial 1-2 minutes and continue flushing for several additional minutes. If effects occur, consult a physician, preferably an ophthalmologist. Suitable emergency eye wash facility should be available in work area.

Ingestion: No emergency medical treatment necessary.

Most important symptoms and effects, both acute and delayed:

Aside from the information found under Description of first aid measures (above) and Indication of immediate medical attention and special treatment needed (below), any additional important symptoms and effects are described in Section 11: Toxicology Information.

Indication of any immediate medical attention and special treatment needed

Notes to physician: No specific antidote. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient.

SECTION 5: FIREFIGHTING MEASURES

Hazchem Code

2Z

Suitable extinguishing media: Water spray Alcohol-resistant foam Carbon dioxide (CO₂) Dry chemical

Unsuitable extinguishing media: None known.

Special hazards arising from the substance or mixture

Hazardous combustion products: Fluorine compounds Carbon oxides Metal oxides Nitrogen oxides (NO_x)

Unusual Fire and Explosion Hazards: Exposure to combustion products may be a hazard to health.

Advice for firefighters

Fire Fighting Procedures: Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Contain fire water run-off if possible. Fire water run-off, if not contained, may cause environmental damage.

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Use water spray to cool unopened containers. Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Remove undamaged containers from fire area if it is safe to do so. Evacuate area.

Special protective equipment for firefighters: Wear self-contained breathing apparatus for firefighting if necessary. Use personal protective equipment.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures: Follow safe handling advice and personal protective equipment recommendations.

Environmental precautions: Do not release the product to the aquatic environment above defined regulatory levels. Prevent further leakage or spillage if safe to do so. Retain and dispose of contaminated wash water. Local authorities should be advised if significant spillages cannot be contained.

Methods and materials for containment and cleaning up: Wipe up or scrape up and contain for salvage or disposal. Local or national regulations may apply to releases and disposal of this material, as well as those materials and items employed in the cleanup of releases. You will need to determine which regulations are applicable. For large spills, provide dyking or other appropriate containment to keep material from spreading. If dyked material can be pumped, Sections 13 and 15 of this SDS provide information regarding certain local or national requirements. See sections: 7, 8, 11, 12 and 13.

SECTION 7: HANDLING AND STORAGE, INCLUDING HOW THE CHEMICAL MAY BE SAFELY USED

Precautions for safe handling: Take care to prevent spills, waste and minimize release to the environment. Handle in accordance with good industrial hygiene and safety practice. Use only with adequate ventilation. See Engineering measures under EXPOSURE CONTROLS/PERSONAL PROTECTION section.

Conditions for safe storage: Keep in properly labelled containers. Store in accordance with the particular national regulations.

Do not store with the following product types: Strong oxidizing agents.
Unsuitable materials for containers: None known.

SECTION 8: EXPOSURE CONTROLS AND PERSONAL PROTECTION

Control parameters

If exposure limits exist, they are listed below. If no exposure limits are displayed, then no values are applicable.

Component	Regulation	Type of listing	Value/Notation
Calcium difluoride	ACGIH	TWA	2.5 mg/m ³ , Fluorine
	AU OEL	TWA	2.5 mg/m ³ , Fluorine
Solvent dewaxed heavy paraffinic distillates	ACGIH	TWA Inhalable fraction	5 mg/m ³

Distillates, petroleum, solvent-dewaxed light paraffinic	AU OEL	TWA Mist	5 mg/m3
	ACGIH	TWA Inhalable fraction	5 mg/m3
Graphite	AU OEL	TWA Mist	5 mg/m3
	ACGIH	TWA Respirable fraction	2 mg/m3
Copper metal powder	AU OEL	TWA Respirable dust	3 mg/m3
	ACGIH	TWA	1 mg/m3 , Copper
	ACGIH	TWA	0.2 mg/m3 , Copper
	ACGIH	TWA Dust and mist	1 mg/m3 , Copper
	ACGIH	TWA Fumes	0.2 mg/m3 , Copper
	AU OEL	TWA	1 mg/m3 , Copper
	AU OEL	TWA	0.2 mg/m3
	AU OEL	TWA Fumes	0.2 mg/m3
Silicon dioxide	AU OEL	TWA Dusts and mist	1 mg/m3
	Dow IHG	TWA Respirable fraction.	0.2 mg/m3
	AU OEL	TWA Respirable dust	2 mg/m3

Although some of the components of this product may have exposure guidelines, no exposure would be expected under normal handling conditions due to the physical state of the material.

Biological occupational exposure limits

Components	CAS-No.	Control parameters	Biological specimen	Sampling time	Permissible concentration	Basis
Calcium difluoride	7789-75-5	Fluoride (Fluorine)	Urine	Prior to shift (16 hours after exposure ceases)	2 mg/l	ACGIH BEI
		Fluoride (Fluorine)	Urine	End of shift (As soon as possible after exposure ceases)	3 mg/l	ACGIH BEI

Exposure controls

Engineering controls: Use local exhaust ventilation, or other engineering controls to maintain airborne levels below exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, general ventilation should be sufficient for most operations. Local exhaust ventilation may be necessary for some operations.

Individual protection measures

Eye/face protection: Use chemical goggles.

Skin protection

Hand protection: Use chemical resistant gloves classified under standard AS/NZS 2161.10: Protective gloves against chemicals and micro-organisms. Examples of preferred glove barrier materials include: Chlorinated polyethylene. Neoprene. Nitrile/butadiene rubber ("nitrile" or "NBR"). Polyethylene. Ethyl vinyl alcohol laminate ("EVAL"). Polyvinyl alcohol ("PVA"). Viton. Examples of acceptable glove barrier materials include: Butyl rubber. Natural rubber ("latex"). Polyvinyl chloride ("PVC" or "vinyl"). When prolonged or frequently repeated contact may occur, a glove with a protection class of 4 or higher (breakthrough time greater than 120 minutes according to AS/NZS 2161.10) is recommended. When only brief contact is expected, a glove with a protection class of 1 or higher (breakthrough time greater than 10 minutes according to AS/NZS 2161.10) is recommended. NOTICE: The selection of a specific glove for a particular application and duration of use in a workplace should also take into account all relevant workplace factors such as, but not limited to: Other chemicals which may be handled, physical requirements (cut/puncture protection, dexterity, thermal protection), potential body reactions to glove materials, as well as the instructions/specifications provided by the glove supplier.

Other protection: Use protective clothing chemically resistant to this material. Selection of specific items such as face shield, boots, apron, or full body suit will depend on the task.

Respiratory protection: Respiratory protection should be worn when there is a potential to exceed the exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, wear respiratory protection when adverse effects, such as respiratory irritation or discomfort have been experienced, or where indicated by your risk assessment process. For most conditions no respiratory protection should be needed; however, if discomfort is experienced, use an approved air-purifying respirator. The following should be effective types of air-purifying respirators: Organic vapor cartridge.

Other Information: Selection and use of personal protective equipment should be in accordance with the recommendations in one or more of the relevant Australian/New Zealand Standards, including:
AS/NZS 1336: Eye and face protection – Guidelines.
AS/NZS 1337: Personal eye protection - Eye and face protectors for occupational applications.
AS/NZS 1715: Selection, use and maintenance of respiratory protective equipment.
AS/NZS 2161: Occupational protective gloves.
AS/NZS 2210: Occupational protective footwear.
AS/NZS 4501: Occupational protective clothing Set

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance	
Physical state	paste
Color	brown
Odor	slight
Odor Threshold	No data available
pH	Not applicable
Melting point/range	No data available
Freezing point	No data available
Boiling point (760 mmHg)	Not applicable

Flash point	Not applicable
Evaporation Rate (Butyl Acetate = 1)	Not applicable
Flammability (solid, gas)	Not classified as a flammability hazard
Lower explosion limit	No data available
Upper explosion limit	No data available
Vapor Pressure	Not applicable
Relative Vapor Density (air = 1)	No data available
Relative Density (water = 1)	1.26
Water solubility	No data available
Partition coefficient: n-octanol/water	No data available
Auto-ignition temperature	No data available
Decomposition temperature	No data available
Dynamic Viscosity	Not applicable
Kinematic Viscosity	Not applicable
Explosive properties	Not explosive
Oxidizing properties	The substance or mixture is not classified as oxidizing.
Molecular weight	No data available
Particle size	No data available

NOTE: The physical data presented above are typical values and should not be construed as a specification.

SECTION 10: STABILITY AND REACTIVITY

Reactivity: Not classified as a reactivity hazard.

Chemical stability: Stable under normal conditions.

Possibility of hazardous reactions: Can react with strong oxidizing agents.

Conditions to avoid: None known.

Incompatible materials: Oxidizing agents

Hazardous decomposition products: Sodium. 1-Butene.

SECTION 11: TOXICOLOGICAL INFORMATION

Toxicological information appears in this section when such data is available.

Acute toxicity

Acute oral toxicity

Very low toxicity if swallowed. Harmful effects not anticipated from swallowing small amounts.

As product: Single dose oral LD50 has not been determined.

Based on information for component(s):
LD50, Rat, > 5,000 mg/kg Estimated.

Acute dermal toxicity

Prolonged skin contact is unlikely to result in absorption of harmful amounts.

As product: The dermal LD50 has not been determined.

Based on information for component(s):
LD50, Rabbit, > 2,000 mg/kg Estimated.

Acute inhalation toxicity

Brief exposure (minutes) is not likely to cause adverse effects.

As product: The LC50 has not been determined.

Skin corrosion/irritation

Brief contact may cause slight skin irritation with local redness.

Serious eye damage/eye irritation

May cause slight eye irritation.

May cause slight corneal injury.

Sensitization

For skin sensitization:

Contains component(s) which did not cause allergic skin sensitization in guinea pigs.

Contains component(s) which have not demonstrated the potential for contact allergy in mice.

For respiratory sensitization:

No relevant data found.

Specific Target Organ Systemic Toxicity (Single Exposure)

Evaluation of available data suggests that this material is not an STOT-SE toxicant.

Specific Target Organ Systemic Toxicity (Repeated Exposure)

Contains component(s) which have been reported to cause effects on the following organs in animals:

Liver.

Lung.

Carcinogenicity

No relevant data found.

Teratogenicity

Contains component(s) which, in laboratory animals, have been toxic to the fetus only at doses toxic to the mother.

Reproductive toxicity

Contains component(s) which did not interfere with reproduction in animal studies. Contains component(s) which did not interfere with fertility in animal studies.

Mutagenicity

Contains component(s) which were negative in some animal genetic toxicity studies and positive in others. Contains component(s) which were negative in animal genetic toxicity studies.

Aspiration Hazard

Based on physical properties, not likely to be an aspiration hazard.

COMPONENTS INFLUENCING TOXICOLOGY:**Calcium difluoride****Acute inhalation toxicity**

LC50, Rat, male and female, 4 Hour, dust/mist, > 5.07 mg/l OECD Test Guideline 403 No deaths occurred at this concentration.

Solvent dewaxed heavy paraffinic distillates**Acute inhalation toxicity**

LC50, Rat, male and female, 4 Hour, dust/mist, > 5 mg/l No deaths occurred at this concentration.

Distillates, petroleum, solvent-dewaxed light paraffinic**Acute inhalation toxicity**

Based on data from similar materials LC50, Rat, 4 Hour, dust/mist, > 5.53 mg/l OECD Test Guideline 403

Graphite**Acute inhalation toxicity**

LC50, Rat, 4 Hour, dust/mist, > 2 mg/l OECD Test Guideline 403 No deaths occurred at this concentration.

Copper metal powder**Acute inhalation toxicity**

LC50, Rat, 4 Hour, dust/mist, > 5.11 mg/l OECD Test Guideline 436 No deaths occurred at this concentration.

Zinc**Acute inhalation toxicity**

LC50, Rat, male and female, 4 Hour, dust/mist, > 5.41 mg/l OECD Test Guideline 403 No deaths occurred at this concentration.

Silicon dioxide**Acute inhalation toxicity**

Maximum attainable concentration. LC50, Rat, 4 Hour, dust/mist, > 2.08 mg/l No deaths occurred at this concentration.

SECTION 12: ECOLOGICAL INFORMATION

Ecotoxicological information appears in this section when such data is available.

Ecotoxicity**Calcium difluoride****Acute toxicity to fish**

Not expected to be acutely toxic to aquatic organisms.

No toxicity at the limit of solubility

LC50, *Oncorhynchus mykiss* (rainbow trout), static test, 96 Hour, 105 - 698 mg/l

Acute toxicity to aquatic invertebrates

For similar material(s):

No toxicity at the limit of solubility

EC50, Daphnia magna (Water flea), 48 Hour, 53.4 - 98.5 mg/l

Acute toxicity to algae/aquatic plants

For similar material(s):

No toxicity at the limit of solubility

EC50, Scenedesmus capricornutum (fresh water algae), 96 Hour, 88.3 - 250 mg/l

For similar material(s):

No toxicity at the limit of solubility

NOEC, Scenedesmus capricornutum (fresh water algae), 96 Hour, 103 - 510 mg/l

For similar material(s):

No toxicity at the limit of solubility

EC50, Skeletonema costatum (marine diatom), 96 Hour, 166 mg/l

Solvent dewaxed heavy paraffinic distillates

Acute toxicity to fish

Material is practically non-toxic to aquatic organisms on an acute basis (LC50/EC50/EL50/LL50 >100 mg/L in the most sensitive species tested).

LL50, Pimephales promelas (fathead minnow), static test, 96 Hour, > 100 mg/l

Acute toxicity to aquatic invertebrates

EL50, Daphnia magna (Water flea), static test, 48 Hour, > 10,000 mg/l

Acute toxicity to algae/aquatic plants

NOEC, Pseudokirchneriella subcapitata (green algae), static test, 72 Hour, Growth rate, > 100 mg/l

Toxicity to bacteria

Based on data from similar materials

NOEC, 10 min, > 1.93 mg/l, DIN 38 412 Part 8

Chronic toxicity to aquatic invertebrates

Based on data from similar materials

NOEC, Daphnia magna (Water flea), 21 d, 10 mg/l

Distillates, petroleum, solvent-dewaxed light paraffinic

Acute toxicity to fish

Material is practically non-toxic to aquatic organisms on an acute basis (LC50/EC50/EL50/LL50 >100 mg/L in the most sensitive species tested).

Based on data from similar materials

LC50, Pimephales promelas (fathead minnow), 96 Hour, > 100 mg/l, OECD Test Guideline 203

Acute toxicity to aquatic invertebrates

Based on data from similar materials

EC50, Daphnia magna (Water flea), 48 Hour, > 10,000 mg/l, OECD Test Guideline 202

Acute toxicity to algae/aquatic plants

Based on data from similar materials

EC50, Pseudokirchneriella subcapitata (green algae), 72 Hour, > 100 mg/l, OECD Test Guideline 201

Toxicity to bacteria

Based on data from similar materials
NOEC, 10 min, > 1.93 mg/l, DIN 38 412 Part 8

Chronic toxicity to aquatic invertebrates

Based on data from similar materials
NOEC, Daphnia magna (Water flea), 21 d, 10 mg/l

Graphite

Acute toxicity to fish

Material is practically non-toxic to aquatic organisms on an acute basis
(LC50/EC50/EL50/LL50 >100 mg/L in the most sensitive species tested).
LC50, Danio rerio (zebra fish), 96 Hour, > 100 mg/l, OECD Test Guideline 203

Acute toxicity to aquatic invertebrates

EC50, Daphnia magna (Water flea), 48 Hour, > 100 mg/l, OECD Test Guideline 202

Acute toxicity to algae/aquatic plants

EC50, Pseudokirchneriella subcapitata (green algae), 72 Hour, > 100 mg/l, OECD Test Guideline 201

Toxicity to bacteria

EC50, 3 Hour, > 1,012.5 mg/l, OECD Test Guideline 209

Copper metal powder

Acute toxicity to fish

Material is very highly toxic to aquatic organisms on an acute basis (LC50/EC50 <0.1 mg/L in the most sensitive species).
LC50, 96 Hour, 8.1 µg/l

Acute toxicity to aquatic invertebrates

EC50, Daphnia magna (Water flea), 48 Hour, 0.792 mg/l

Acute toxicity to algae/aquatic plants

EC50, Chlorella vulgaris (Fresh water algae), 72 Hour, 0.333 mg/l, OECD Test Guideline 201

Chronic toxicity to fish

NOEC, Oncorhynchus mykiss (rainbow trout), 1 µg/l

Zinc

Acute toxicity to fish

Material is highly toxic to aquatic organisms on an acute basis (LC50/EC50 between 0.1 and 1 mg/L in the most sensitive species tested).
LC50, Rainbow trout (Oncorhynchus mykiss), 96 Hour, 0.59 mg/l
LC50, Fathead minnow (Pimephales promelas), 96 Hour, 0.238 g/L

Acute toxicity to aquatic invertebrates

EC50, Ceriodaphnia dubia (water flea), 48 Hour, 0.413 mg/l

Acute toxicity to algae/aquatic plants

EC50, Selenastrum capricornutum (green algae), 72 Hour, Growth rate, 0.150 mg/l

Toxicity to bacteria

EC50, 3 Hour, 5.2 mg/l, OECD Test Guideline 209

Chronic toxicity to fish

NOEC, Oncorhynchus mykiss (rainbow trout), 30 d, 0.199 mg/l

Chronic toxicity to aquatic invertebrates

NOEC, Daphnia magna, 21 d, 0.1 mg/l

Silicon dioxide

Acute toxicity to fish

Material is practically non-toxic to aquatic organisms on an acute basis (LC50/EC50/EL50/LL50 >100 mg/L in the most sensitive species tested).

LC50, Danio rerio (zebra fish), 96 Hour, 5,000 - 10,000 mg/l

Acute toxicity to aquatic invertebrates

EC50, Daphnia magna (Water flea), 24 Hour, > 1,000 mg/l

Acute toxicity to algae/aquatic plants

EC50, Pseudokirchneriella subcapitata (green algae), 72 Hour, Biomass, 440 mg/l

N-Tallow Alkyltrimethylenediamine Oleate

Acute toxicity to fish

Material is highly toxic to aquatic organisms on an acute basis (LC50/EC50 between 0.1 and 1 mg/L in the most sensitive species tested).

Based on data from similar materials

LC50, Danio rerio (zebra fish), 96 Hour, > 0.1 - 1 mg/l, OECD Test Guideline 203

Acute toxicity to aquatic invertebrates

Based on data from similar materials

EC50, Daphnia magna (Water flea), 48 Hour, > 0.1 - 1 mg/l

Acute toxicity to algae/aquatic plants

Based on data from similar materials

EC50, 72 Hour, > 0.01 - 0.1 mg/l, OECD Test Guideline 201

Based on data from similar materials

NOEC, 72 Hour, > 0.01 - 0.1 mg/l, OECD Test Guideline 201

Chronic toxicity to aquatic invertebrates

Based on data from similar materials

EC10, Daphnia (water flea), > 1 mg/l

Persistence and degradability

Calcium difluoride

Biodegradability: Biodegradability is not applicable to inorganic substances.

Solvent dewaxed heavy paraffinic distillates

Biodegradability: Material is expected to biodegrade very slowly (in the environment). Fails to pass OECD/EEC tests for ready biodegradability.

10-day Window: Fail

Biodegradation: 2 %

Exposure time: 28 d

Method: OECD Test Guideline 301B

Distillates, petroleum, solvent-dewaxed light paraffinic

Biodegradability: Based on stringent OECD test guidelines, this material cannot be considered as readily biodegradable; however, these results do not necessarily mean that the material is not biodegradable under environmental conditions.

10-day Window: Fail

Biodegradation: 2 - 4 %

Exposure time: 28 d

Method: OECD Test Guideline 301B

Graphite

Biodegradability: Biodegradation is not applicable.

Copper metal powder

Biodegradability: Biodegradability is not applicable to inorganic substances.

Zinc

Biodegradability: Biodegradation is not applicable.

Silicon dioxide

Biodegradability: Biodegradation is not applicable.

N-Tallow Alkyltrimethylenediamine Oleate

Biodegradability: Material is readily biodegradable. Passes OECD test(s) for ready biodegradability.

Based on data from similar materials 10-day Window: Pass

Biodegradation: 65 %

Exposure time: 28 d

Method: OECD Test Guideline 301D

Bioaccumulative potential

Calcium difluoride

Bioaccumulation: Partitioning from water to n-octanol is not applicable.

Solvent dewaxed heavy paraffinic distillates

Bioaccumulation: Bioconcentration potential is high (BCF > 3000 or Log Pow between 5 and 7).

Partition coefficient: n-octanol/water(log Pow): 3.9 - 6 Estimated.

Distillates, petroleum, solvent-dewaxed light paraffinic

Bioaccumulation: No relevant data found.

Graphite

Bioaccumulation: No relevant data found.

Copper metal powder

Bioaccumulation: No relevant data found.

Zinc

Bioaccumulation: No relevant data found.

Bioconcentration factor (BCF): 177 Fish

Silicon dioxide

Bioaccumulation: Partitioning from water to n-octanol is not applicable.

N-Tallow Alkyltrimethylenediamine Oleate

Bioaccumulation: No relevant data found.

Mobility in Soil

Calcium difluoride

No relevant data found.

Solvent dewaxed heavy paraffinic distillates

No relevant data found.

Distillates, petroleum, solvent-dewaxed light paraffinic

No relevant data found.

Graphite

No relevant data found.

Copper metal powder

No relevant data found.

Zinc

No relevant data found.

Silicon dioxide

No relevant data found.

N-Tallow Alkyltrimethylenediamine Oleate

No relevant data found.

Results of PBT and vPvB assessment

Calcium difluoride

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

Solvent dewaxed heavy paraffinic distillates

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

Distillates, petroleum, solvent-dewaxed light paraffinic

This substance has not been assessed for persistence, bioaccumulation and toxicity (PBT).

Graphite

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

Copper metal powder

This substance has not been assessed for persistence, bioaccumulation and toxicity (PBT).

Zinc

This substance has not been assessed for persistence, bioaccumulation and toxicity (PBT).

Silicon dioxide

This substance has not been assessed for persistence, bioaccumulation and toxicity (PBT).

N-Tallow Alkyltrimethylenediamine Oleate

This substance has not been assessed for persistence, bioaccumulation and toxicity (PBT).

Other adverse effects

Calcium difluoride

This substance is not on the Montreal Protocol list of substances that deplete the ozone layer.

Solvent dewaxed heavy paraffinic distillates

This substance is not on the Montreal Protocol list of substances that deplete the ozone layer.

Distillates, petroleum, solvent-dewaxed light paraffinic

This substance is not on the Montreal Protocol list of substances that deplete the ozone layer.

Graphite

This substance is not on the Montreal Protocol list of substances that deplete the ozone layer.

Copper metal powder

This substance is not on the Montreal Protocol list of substances that deplete the ozone layer.

Zinc

This substance is not on the Montreal Protocol list of substances that deplete the ozone layer.

Silicon dioxide

This substance is not on the Montreal Protocol list of substances that deplete the ozone layer.

N-Tallow Alkyltrimethylenediamine Oleate

This substance is not on the Montreal Protocol list of substances that deplete the ozone layer.

SECTION 13: DISPOSAL CONSIDERATIONS

Disposal methods: DO NOT DUMP INTO ANY SEWERS, ON THE GROUND, OR INTO ANY BODY OF WATER. All disposal practices must be in compliance with all Federal, State/Provincial and local laws and regulations. Regulations may vary in different locations. Waste characterizations and compliance with applicable laws are the responsibility solely of the waste generator. AS YOUR SUPPLIER, WE HAVE NO CONTROL OVER THE MANAGEMENT PRACTICES OR MANUFACTURING PROCESSES OF PARTIES HANDLING OR USING THIS MATERIAL. THE INFORMATION PRESENTED HERE PERTAINS ONLY TO THE PRODUCT AS SHIPPED IN ITS INTENDED CONDITION AS DESCRIBED IN MSDS SECTION: Composition Information. FOR UNUSED & UNCONTAMINATED PRODUCT, the preferred options include sending to a licensed, permitted: Incinerator or other thermal destruction device. For additional information, refer to: Handling & Storage Information, MSDS Section 7 Stability & Reactivity Information, MSDS Section 10 Regulatory Information, MSDS Section 15

Treatment and disposal methods of used packaging: Empty containers should be recycled or otherwise disposed of by an approved waste management facility. Waste characterizations and compliance with applicable laws are the responsibility solely of the waste generator. Do not re-use containers for any purpose.

SECTION 14: TRANSPORT INFORMATION

ADG

Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(Copper metal powder, Zinc)
UN number	UN 3077
Class	9
Packing group	III
Marine pollutant	Copper metal powder, Zinc

Classification for SEA transport (IMO-IMDG):

Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(Copper metal powder, Zinc)
UN number	UN 3077
Class	9
Packing group	III
Marine pollutant	Copper metal powder, Zinc
Transport in bulk according to Annex I or II of MARPOL 73/78 and the IBC or IGC Code	Consult IMO regulations before transporting ocean bulk

Classification for AIR transport (IATA/ICAO):

Proper shipping name	Environmentally hazardous substance, solid, n.o.s.(Copper metal powder, Zinc)
UN number	UN 3077
Class	9
Packing group	III

Hazchem Code

2Z

This information is not intended to convey all specific regulatory or operational requirements/information relating to this product. Transportation classifications may vary by container volume and may be influenced by regional or country variations in regulations. Additional transportation system information can be obtained through an authorized sales or customer service representative. It is the responsibility of the transporting organization to follow all applicable laws, regulations and rules relating to the transportation of the material.

SECTION 15: REGULATORY INFORMATION

Poison Schedule

Not Scheduled

Australia Inventory of Chemical Substances (AICS)

All ingredients in this preparation are listed in the Australian Inventory of Chemical Substances, AICS, or are exempt.

Prohibition/Licensing Requirements : There is no applicable prohibition or notification/licensing requirements, including for carcinogens under Commonwealth, State or Territory legislation.

SECTION 16: ANY OTHER RELEVANT INFORMATION

Revision

Identification Number: 1444425 / A847 / Issue Date: 28.11.2018 / Version: 3.0

Most recent revision(s) are noted by the bold, double bars in left-hand margin throughout this document.

Legend

ACGIH	USA. ACGIH Threshold Limit Values (TLV)
ACGIH BEI	ACGIH - Biological Exposure Indices (BEI)
AU OEL	Australia. Workplace Exposure Standards for Airborne Contaminants.
Dow IHG	Dow Industrial Hygiene Guideline
TWA	Exposure standard - time weighted average

Full text of other abbreviations

AICS - Australian Inventory of Chemical Substances; ANTT - National Agency for Transport by Land of Brazil; ASTM - American Society for the Testing of Materials; bw - Body weight; CMR - Carcinogen, Mutagen or Reproductive Toxicant; CPR - Controlled Products Regulations; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); EC_x - Concentration associated with x% response; EL_x - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErC_x - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; 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; n.o.s. - Not Otherwise Specified; Nch - Chilean Norm; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NOM - Official Mexican Norm; 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; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TDG - Transportation of Dangerous Goods; 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; WHMIS - Workplace Hazardous Materials Information System

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