

Revision date 24-Oct-2025

Revision Number 5

## 1. Identification

### Product identifier

**Product Name** ZN-50

### Other means of identification

**Product Code(s)** 622240

**UN number or ID number** UN3077

**Synonyms** None

### Recommended use of the chemical and restrictions on use

**Recommended use** Lubricant and sealant used for threaded connections

**Restrictions on use** Do not use on oxygen lines or in oxygen enriched atmospheres.

### Details of the supplier of the safety data sheet

#### Supplier Address

Bestolife Corporation  
 2126 Vanco Drive  
 Irving TX 75061  
 855-243-9164/972-865-8961  
 Telefax 214-631-3047  
 www.bestolife.com

#### Manufacturer Address

Bestolife Corporation  
 2126 Vanco Drive  
 Irving TX 75061  
 855-243-9164/972-865-8961  
 Telefax 214-631-3047  
 www.bestolife.com

### Emergency telephone number

**Emergency Telephone** CHEMTREC U.S.: 800-424-9300, International +1 703-527-3887 (24-hours/7 days)

## 2. Hazard(s) identification

### Classification

Acute toxicity - Oral	Category 4
Serious eye damage/eye irritation	Category 2A
Skin sensitization	Category 1
Carcinogenicity	Category 1B
Reproductive toxicity	Category 1A
Effects on or via lactation	Yes
Specific target organ toxicity (repeated exposure)	Category 1

**Appearance** Viscous semi-solid

**Physical state** Solid

**Odor** Petroleum

### Label elements

#### **Danger**

#### **Hazard statements**

Harmful if swallowed  
 Causes serious eye irritation

May cause an allergic skin reaction  
 May cause cancer  
 May damage fertility or the unborn child  
 May cause harm to breast-fed children  
 Effects on or via lactation  
 May cause damage to organs through prolonged or repeated exposure



#### Precautionary Statements - Prevention

Obtain special instructions before use  
 Do not handle until all safety precautions have been read and understood  
 Wear protective gloves, protective clothing, eye protection and face protection  
 Do not breathe dust  
 Avoid contact during pregnancy and while nursing  
 Wash face, hands and any exposed skin thoroughly after handling  
 Do not eat, drink or smoke when using this product  
 Contaminated work clothing should not be allowed out of the workplace

#### Precautionary Statements - Response

IF exposed or concerned: Get medical advice/attention

##### Eyes

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing  
 If eye irritation persists: Get medical advice and attention

##### Skin

IF ON SKIN: Wash with plenty of water and soap  
 If skin irritation or rash occurs: Get medical advice and attention  
 Take off contaminated clothing and wash it before reuse

##### Ingestion

IF SWALLOWED: Call a POISON CENTER or doctor if you feel unwell  
 Rinse mouth

#### Precautionary Statements - Storage

Store locked up

#### Precautionary Statements - Disposal

Dispose of contents and container in accordance with local, regional, national, and international regulations as applicable

#### Other information

May be harmful in contact with skin. Very toxic to aquatic life with long lasting effects.

#### Unknown acute toxicity

12.72152 % of the mixture consists of ingredient(s) of unknown acute oral toxicity

### 3. Composition/information on ingredients

#### Substance

Not applicable.

#### Mixture

Chemical name	CAS No.	Weight-%	Hazardous Material Information Review Act registry number (HMIRA registry #)	Date HMIRA filed and date exemption granted (if applicable)
Zinc	7440-66-6	>= 50 - < 70	-	-

Distillates (petroleum), hydrotreated heavy naphthenic	64742-52-5	>= 30 - < 50	-	-
Talc	14807-96-6	>= 5 - < 10	-	-
Zinc oxide	1314-13-2	>= 1 - < 5	-	-
12-Hydroxy lithium stearate	7620-77-1	>= 1 - < 5	-	-
Dolomite	16389-88-1	>= 1 - < 5	-	-
Calcium oxide	1305-78-8	>= 1 - < 5	-	-
Calcium bis(dinonylnaphthalenesulphonate)	1474044-79-5	>= 1 - < 5	-	-
Calcium petroleum sulfonates	61789-86-4	>= 0 - < 1.0	-	-
Quartz	14808-60-7	>= 0 - < 1.0	-	-
Lead	7439-92-1	>= 0 - < 1.0	-	-
Cadmium	7440-43-9	>= 0 - < 1.0	-	-
Copper metal powder	7440-50-8	>= 0 - < 1.0	-	-

\*The exact percentage (concentration) of composition has been withheld as a trade secret.

#### Additional information

These substance(s) are inextricably bound in the product and therefore do not contribute to a dust inhalation hazard

## 4. First-aid measures

### Description of first aid measures

<b>General advice</b>	Show this safety data sheet to the doctor in attendance. IF exposed or concerned: Get medical advice/attention.
<b>Inhalation</b>	Remove to fresh air.
<b>Eye contact</b>	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Keep eye wide open while rinsing. Do not rub affected area. Get medical attention if irritation develops and persists.
<b>Skin contact</b>	Wash with soap and water. May cause an allergic skin reaction. In the case of skin irritation or allergic reactions see a physician.
<b>Ingestion</b>	Do NOT induce vomiting. Rinse mouth. Never give anything by mouth to an unconscious person. Call a physician.
<b>Self-protection of the first aider</b>	Avoid contact with skin, eyes or clothing. Wear personal protective clothing (see section 8).

### Most important symptoms and effects, both acute and delayed

**Symptoms** Itching. Rashes. Hives. May cause redness and tearing of the eyes. Burning sensation.

### Indication of any immediate medical attention and special treatment needed

**Note to physicians** May cause sensitization in susceptible persons. Treat symptomatically.

## 5. Fire-fighting measures

<b>Suitable Extinguishing Media</b>	Dry chemical, CO2, water spray or alcohol-resistant foam.
<b>Large Fire</b>	CAUTION: Use of water spray when fighting fire may be inefficient.
<b>Unsuitable extinguishing media</b>	Do not scatter spilled material with high pressure water streams.

<b>Specific hazards arising from the chemical</b>	Product is or contains a sensitizer. May cause sensitization by skin contact.
<b>Hazardous combustion products</b>	Carbon oxides. Metal oxides. Oxides of sulfur.
<b>Explosion data</b>	
<b>Sensitivity to mechanical impact</b>	None.
<b>Sensitivity to static discharge</b>	None.
<b>Special protective equipment and precautions for fire-fighters</b>	Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

## 6. Accidental release measures

### Personal precautions, protective equipment and emergency procedures

<b>Personal precautions</b>	Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Use personal protective equipment as required. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.
<b>Other information</b>	Refer to protective measures listed in Sections 7 and 8.

### Methods and material for containment and cleaning up

<b>Methods for containment</b>	Prevent further leakage or spillage if safe to do so.
<b>Methods for cleaning up</b>	Use appropriate personal protective equipment (PPE). Carefully shovel or sweep up spilled material and place in suitable container. Avoid generating dust.

## 7. Handling and storage

### Precautions for safe handling

<b>Advice on safe handling</b>	Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. In case of insufficient ventilation, wear suitable respiratory equipment. Do not eat, drink or smoke when using this product. Take off contaminated clothing and wash before reuse. Remove contaminated clothing and shoes.
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### Conditions for safe storage, including any incompatibilities

<b>Storage Conditions</b>	Keep containers tightly closed in a dry, cool and well-ventilated place. Store locked up. Keep in properly labeled containers. Store in accordance with the particular national regulations.
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## 8. Exposure controls/personal protection

### Control Parameters Exposure Limits

Chemical name	ACGIH TLV	OSHA PEL	NIOSH
Distillates (petroleum), hydrotreated heavy naphthenic 64742-52-5	TWA: 5 mg/m <sup>3</sup> inhalable particulate matter excluding metal working fluids, highly & severely refined	TWA: 5 mg/m <sup>3</sup> (vacated) TWA: 5 mg/m <sup>3</sup>	IDLH: 2500 mg/m <sup>3</sup> TWA: 5 mg/m <sup>3</sup> STEL: 10 mg/m <sup>3</sup>

	Exposure by all routes should be carefully controlled to levels as low as possible			
Talc 14807-96-6	TWA: 2 mg/m <sup>3</sup> respirable particulate matter particulate matter containing no Asbestos and <1% Crystalline silica	TWA: 20 mppcf if 1% Quartz or more, use Quartz limit (vacated) TWA: 2 mg/m <sup>3</sup> respirable dust <1% Crystalline silica, containing no Asbestos TWA: 20 mppcf if 1% Quartz or more, use Quartz limit		IDLH: 1000 mg/m <sup>3</sup> TWA: 2 mg/m <sup>3</sup> containing no Asbestos and <1% Quartz respirable dust
Zinc oxide 1314-13-2	TWA: 2 mg/m <sup>3</sup> respirable particulate matter STEL: 10 mg/m <sup>3</sup> respirable particulate matter	TWA: 5 mg/m <sup>3</sup> fume TWA: 15 mg/m <sup>3</sup> total dust TWA: 5 mg/m <sup>3</sup> respirable fraction (vacated) TWA: 5 mg/m <sup>3</sup> fume (vacated) TWA: 10 mg/m <sup>3</sup> total dust (vacated) TWA: 5 mg/m <sup>3</sup> respirable fraction (vacated) STEL: 10 mg/m <sup>3</sup> fume		IDLH: 500 mg/m <sup>3</sup> Ceiling: 15 mg/m <sup>3</sup> dust TWA: 5 mg/m <sup>3</sup> dust and fume STEL: 10 mg/m <sup>3</sup> fume
Calcium oxide 1305-78-8	TWA: 2 mg/m <sup>3</sup>	TWA: 5 mg/m <sup>3</sup> (vacated) TWA: 5 mg/m <sup>3</sup> not in effect as a result of reconsideration		IDLH: 25 mg/m <sup>3</sup> TWA: 2 mg/m <sup>3</sup>
Quartz 14808-60-7	TWA: 0.025 mg/m <sup>3</sup> respirable particulate matter	TWA: 50 µg/m <sup>3</sup> (vacated) TWA: 0.1 mg/m <sup>3</sup> respirable dust : (250)/(%SiO <sub>2</sub> + 5) mppcf TWA respirable fraction : (10)/(%SiO <sub>2</sub> + 2) mg/m <sup>3</sup> TWA respirable fraction		IDLH: 50 mg/m <sup>3</sup> respirable dust TWA: 0.05 mg/m <sup>3</sup> respirable dust
Lead 7439-92-1	TWA: 0.05 mg/m <sup>3</sup>	TWA: 50 µg/m <sup>3</sup>		IDLH: 100 mg/m <sup>3</sup> TWA: 0.050 mg/m <sup>3</sup>
Cadmium 7440-43-9	TWA: 0.01 mg/m <sup>3</sup> TWA: 0.002 mg/m <sup>3</sup> respirable particulate matter	TWA: 5 µg/m <sup>3</sup> (vacated) STEL: 0.3 ppm fume Ceiling: 0.3 mg/m <sup>3</sup> fume applies to any operations or sectors for which the Cadmium standard is stayed or otherwise not in effect Ceiling: 0.6 mg/m <sup>3</sup> dust applies to any operations or sectors for which the Cadmium standard is stayed or otherwise not in effect		IDLH: 9 mg/m <sup>3</sup> dust
Copper metal powder 7440-50-8	TWA: 0.2 mg/m <sup>3</sup> fume	TWA: 0.1 mg/m <sup>3</sup> fume TWA: 1 mg/m <sup>3</sup> dust and mist (vacated) TWA: 0.1 mg/m <sup>3</sup> Cu dust, fume, mist		IDLH: 100 mg/m <sup>3</sup> dust, fume and mist TWA: 1 mg/m <sup>3</sup> dust and mist TWA: 0.1 mg/m <sup>3</sup> fume
Chemical name	Alberta	British Columbia	Ontario	Quebec
Distillates (petroleum), hydrotreated heavy naphthenic 64742-52-5	TWA: 5 mg/m <sup>3</sup> STEL: 10 mg/m <sup>3</sup>	TWA: 0.2 mg/m <sup>3</sup> TWA: 1 mg/m <sup>3</sup>	TWA: 5 mg/m <sup>3</sup> TWA:	TWA: 5 mg/m <sup>3</sup> STEL: 10 mg/m <sup>3</sup>
Talc 14807-96-6	TWA: 2 mg/m <sup>3</sup>	TWA: 2 mg/m <sup>3</sup>	TWA: 2 mg/m <sup>3</sup>	TWA: 2 mg/m <sup>3</sup>
Zinc oxide 1314-13-2	TWA: 2 mg/m <sup>3</sup> STEL: 10 mg/m <sup>3</sup>	TWA: 2 mg/m <sup>3</sup> STEL: 10 mg/m <sup>3</sup>	TWA: 2 mg/m <sup>3</sup> STEL: 10 mg/m <sup>3</sup>	TWA: 2 mg/m <sup>3</sup> STEL: 10 mg/m <sup>3</sup>
Calcium oxide 1305-78-8	TWA: 2 mg/m <sup>3</sup>	TWA: 2 mg/m <sup>3</sup>	TWA: 2 mg/m <sup>3</sup>	TWA: 2 mg/m <sup>3</sup>
Quartz 14808-60-7	TWA: 0.025 mg/m <sup>3</sup>	TWA: 0.025 mg/m <sup>3</sup>	TWA: 0.10 mg/m <sup>3</sup>	TWA: 0.1 mg/m <sup>3</sup>

Lead 7439-92-1	TWA: 0.05 mg/m <sup>3</sup>	TWA: 0.05 mg/m <sup>3</sup> Adverse reproductive effect	TWA: 0.05 mg/m <sup>3</sup>	TWA: 0.05 mg/m <sup>3</sup>
Cadmium 7440-43-9	TWA: 0.01 mg/m <sup>3</sup>	TWA: 0.01 mg/m <sup>3</sup> TWA: 0.002 mg/m <sup>3</sup>	TWA: 0.01 mg/m <sup>3</sup> TWA: 0.002 mg/m <sup>3</sup>	TWA: 0.025 mg/m <sup>3</sup>
Copper metal powder 7440-50-8	TWA: 0.2 mg/m <sup>3</sup> TWA: 1 mg/m <sup>3</sup>	TWA: 1 mg/m <sup>3</sup> TWA: 0.2 mg/m <sup>3</sup>	TWA: 0.2 mg/m <sup>3</sup> TWA: 1 mg/m <sup>3</sup>	TWA: 0.2 mg/m <sup>3</sup> TWA: 1 mg/m <sup>3</sup>

**Other information**

These substance(s) are inextricably bound in the product and therefore do not contribute to a dust inhalation hazard

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**Biological occupational exposure limits**

Chemical name	ACGIH
Lead 7439-92-1	200 µg/L - blood (Lead) - not critical
Cadmium 7440-43-9	5 µg/g creatinine - urine (Cadmium) - not critical 5 µg/L - blood (Cadmium) - not critical

**Appropriate engineering controls****Engineering controls**

Showers  
Eyewash stations  
Ventilation systems.

**Individual protection measures, such as personal protective equipment****Eye/face protection**

Wear safety glasses with side shields (or goggles).

**Hand protection**

PPE16 - Wear chemically resistant gloves (tested to EN 374) in combination with 'basic' employee training; Nitrile or neoprene preferred.

REMARKS: Inspect gloves before use. Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. (Refer to manufacturer/supplier information). Change gloves often! For special applications, we recommend clarifying the resistance to chemicals of the aforementioned protective gloves with the glove manufacturer. Remove gloves with care avoiding skin contamination. Wash hands before breaks and at the end of workday. Wear suitable gloves.

Gloves			
Duration of contact	PPE - Glove material	Glove thickness	Break through time
n/a	Wear protective nitrile rubber gloves	0.50 - 0.70 mm	> 60 minutes
n/a	Wear protective Neoprene™ gloves	0.50 - 0.70 mm	> 60 minutes

**Skin and body protection**

Wear suitable protective clothing.

**Respiratory protection**

Use appropriate respiratory protection. When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.

**General hygiene considerations** Do not eat, drink or smoke when using this product. Wash hands before breaks and immediately after handling the product. Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection. Contaminated work clothing should not be allowed out of the workplace. Take off contaminated clothing and wash before reuse.

## 9. Physical and chemical properties

### Information on basic physical and chemical properties

<b>Appearance</b>	Viscous semi-solid
<b>Physical state</b>	Solid
<b>Color</b>	gray
<b>Odor (includes odor threshold)</b>	Petroleum

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
<b>Melting point / freezing point</b>	No data available	None known
<b>Boiling point (or initial boiling point or boiling range)</b>	No data available	None known
<b>Flammability</b>	No data available	None known
<b>Flammability Limit in Air</b>		None known
<b>Upper flammability or explosive limits</b>	No data available	
<b>Lower flammability or explosive limits</b>	No data available	
<b>Flash point</b>	>= 252 °C / 485.6 °F	Method ASTM D 92, Cleveland open cup Distillates (petroleum), hydrotreated heavy naphthenic
<b>Autoignition temperature</b>	No data available	None known
<b>Decomposition temperature</b>	No data available	None known
<b>SADT (°C)</b>	No data available	None known
<b>pH</b>	No data available	None known
<b>pH (as aqueous solution)</b>	No data available	None known
<b>Kinematic viscosity</b>	No data available	None known
<b>Dynamic viscosity</b>		None known
<b>Solubility</b>		None known
<b>Water solubility</b>	Negligible	None known
<b>Partition coefficient n-octanol/water (log value)</b>		None known
<b>Vapor pressure (includes evaporation rate)</b>		None known
<b>Evaporation rate</b>		None known
<b>Density and/or relative density</b>	1.8	None known
<b>Bulk density</b>		
<b>Liquid Density</b>		
<b>Relative vapor density</b>	No data available	None known
<b>Particle characteristics</b>		No information available
<b>Particle Size</b>		
<b>Particle Size Distribution</b>		

### Other information

## 10. Stability and reactivity

<b>Reactivity</b>	Not classified as a reactivity hazard.
<b>Chemical stability</b>	Stable under normal conditions.
<b>Possibility of hazardous reactions</b>	Can react with strong oxidizing agents.
<b>Conditions to avoid</b>	None known based on information supplied.

**Incompatible materials** Strong oxidizing agents.

**Hazardous decomposition products** None known based on information supplied.

## 11. Toxicological information

### Information on likely routes of exposure

#### Product Information

<b>Inhalation</b>	Specific test data for the substance or mixture is not available. May cause irritation of respiratory tract.
<b>Eye contact</b>	Specific test data for the substance or mixture is not available. Causes serious eye irritation. (based on components). May cause redness, itching, and pain.
<b>Skin contact</b>	May cause sensitization by skin contact. Specific test data for the substance or mixture is not available. Repeated or prolonged skin contact may cause allergic reactions with susceptible persons. (based on components). May cause irritation. Prolonged contact may cause redness and irritation. May be harmful in contact with skin.
<b>Ingestion</b>	Specific test data for the substance or mixture is not available. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. Harmful if swallowed. (based on components).

### Symptoms related to the physical, chemical and toxicological characteristics

**Symptoms** Itching. Rashes. Hives. May cause redness and tearing of the eyes. Burning sensation.

**Acute toxicity** Harmful if swallowed.

### Numerical measures of toxicity

The following ATE values have been calculated for the mixture

ATEmix (oral)	953.60 mg/kg
ATEmix (dermal)	3,820.70 mg/kg
ATEmix (inhalation-gas)	99,999.00 ppm
ATEmix (inhalation-vapor)	99,999.00 mg/l
ATEmix (inhalation-dust/mist)	116.60 mg/l

### Unknown acute toxicity

12.72152 % of the mixture consists of ingredient(s) of unknown acute oral toxicity

### Component Information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Zinc CAS: 7440-66-6 ID: C7440666 >= 50 - < 70 %	= 630 mg/kg ( Rat )	-	-
Distillates (petroleum), hydrotreated heavy naphthenic CAS: 64742-52-5 ID: C64742525 >= 30 - < 50 %	> 5000 mg/kg ( Rat )	> 5000 mg/kg ( Rabbit )	-
Zinc oxide CAS: 1314-13-2 ID: C1314132 >= 1 - < 5 %	> 5000 mg/kg ( Rat )	> 2000 mg/kg ( Rat )	> 5700 mg/m <sup>3</sup> ( Rat ) 4 h
12-Hydroxy lithium stearate CAS: 7620-77-1	-	> 3000 mg/kg ( Rabbit )	-

ID: C7620771 >= 1 - < 5 %			
Calcium oxide CAS: 1305-78-8 ID: C1305788 >= 1 - < 5 %	= 500 mg/kg ( Rat )	-	> 6.04 mg/L ( Rat ) 4 h
Calcium petroleum sulfonates CAS: 61789-86-4 ID: C61789864 >= 0 - < 1.0 %	> 20 g/kg ( Rat )	> 5000 mg/kg ( Rabbit )	> 1.9 mg/L ( Rat ) 4 h
Cadmium CAS: 7440-43-9 ID: C7440439 >= 0 - < 1.0 %	= 1140 mg/kg ( Rat )	-	= 25 mg/m <sup>3</sup> ( Rat ) 30 min
Copper metal powder CAS: 7440-50-8 ID: C7440508 >= 0 - < 1.0 %	-	-	> 5.11 mg/L ( Rat ) 4 h

### Delayed and immediate effects as well as chronic effects from short and long-term exposure

**Skin corrosion/irritation** No information available.

**Serious eye damage/eye irritation** Classification based on data available for ingredients. Causes serious eye irritation.

**Respiratory or skin sensitization** May cause an allergic skin reaction.

**Germ cell mutagenicity** No information available.

### **Carcinogenicity**

NOTE: As per Note L, the carcinogen classification does NOT apply to this preparation because the producer of "Petroleum distillates, hydrotreated heavy naphthenic" declares that it contains less than 3% DMSO extractable material by IP-346

These substance(s) are inextricably bound in the product and therefore do not contribute to a dust inhalation hazard

Contains a known or suspected carcinogen. Classification based on data available for ingredients. May cause cancer.

The table below indicates whether each agency has listed any ingredient as a carcinogen.

Chemical name	ACGIH	IARC	NTP	OSHA
Distillates (petroleum), hydrotreated heavy naphthenic CAS: 64742-52-5 ID: C64742525 >= 30 - < 50 %	A2	Group 1	Known	X
Talc CAS: 14807-96-6 ID: C14807966 >= 5 - < 10 %	-	Group 3	-	X
Quartz CAS: 14808-60-7 ID: C14808607 >= 0 - < 1.0 %	A2	Group 1	Known	X
Lead CAS: 7439-92-1 ID: C7439921 >= 0 - < 1.0 %	A3	Group 2A	Reasonably Anticipated	X
Cadmium CAS: 7440-43-9	A2	Group 1	Known	X

ID: C7440439 >= 0 - < 1.0 %				
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<b>Reproductive toxicity</b>	Contains a known or suspected reproductive toxin. Classification based on data available for ingredients. May damage fertility or the unborn child. May cause harm to breast-fed children.
<b>STOT - single exposure</b>	No information available.
<b>STOT - repeated exposure</b>	Causes damage to organs through prolonged or repeated exposure.
<b>Aspiration hazard</b>	No information available.

## 12. Ecological information

**Ecotoxicity** Very toxic to aquatic life with long lasting effects.

Chemical name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
Zinc 7440-66-6	EC50: 0.11 - 0.271mg/L (96h, Pseudokirchneriella subcapitata) EC50: 0.09 - 0.125mg/L (72h, Pseudokirchneriella subcapitata)	LC50: 2.16 - 3.05mg/L (96h, Pimephales promelas) LC50: 0.211 - 0.269mg/L (96h, Pimephales promelas) LC50: =2.66mg/L (96h, Pimephales promelas) LC50: =30mg/L (96h, Cyprinus carpio) LC50: =0.45mg/L (96h, Cyprinus carpio) LC50: =7.8mg/L (96h, Cyprinus carpio) LC50: =3.5mg/L (96h, Lepomis macrochirus) LC50: =0.24mg/L (96h, Oncorhynchus mykiss) LC50: =0.59mg/L (96h, Oncorhynchus mykiss) LC50: =0.41mg/L (96h, Oncorhynchus mykiss)	-	EC50: 0.139 - 0.908mg/L (48h, Daphnia magna)
Distillates (petroleum), hydrotreated heavy naphthenic 64742-52-5	-	LC50: >5000mg/L (96h, Oncorhynchus mykiss)	-	EC50: >1000mg/L (48h, Daphnia magna)
Talc 14807-96-6	-	LC50: >100g/L (96h, Brachydanio rerio)	-	-
Zinc oxide 1314-13-2	-	LC50: =1.55mg/L (96h, Danio rerio)	-	-
Calcium oxide 1305-78-8	-	LC50: =1070mg/L (96h, Cyprinus carpio)	-	-
Calcium petroleum sulfonates 61789-86-4	-	LC50: 5.7 - 9.7mg/L (96h, Pimephales promelas) LC50: 1.0 - 10.0mg/L (96h, Pimephales promelas)	-	EC50: 6.2 - 12mg/L (48h, Daphnia magna)
Lead 7439-92-1	-	LC50: =0.44mg/L (96h, Cyprinus carpio)	-	EC50: =600µg/L (48h, water flea)

		LC50: =1.17mg/L (96h, Oncorhynchus mykiss) LC50: =1.32mg/L (96h, Oncorhynchus mykiss)		
Cadmium 7440-43-9	-	LC50: =0.003mg/L (96h, Oncorhynchus mykiss) LC50: =0.006mg/L (96h, Oncorhynchus mykiss) LC50: =0.002mg/L (96h, Cyprinus carpio) LC50: =4.26mg/L (96h, Cyprinus carpio) LC50: =0.24mg/L (96h, Cyprinus carpio) LC50: =21.1mg/L (96h, Lepomis macrochirus) LC50: =0.016mg/L (96h, Oryzias latipes) LC50: 0.0004 - 0.003mg/L (96h, Pimephales promelas)	-	EC50: =0.0244mg/L (48h, Daphnia magna)
Copper metal powder 7440-50-8	EC50: 0.0426 - 0.0535mg/L (72h, Pseudokirchneriella subcapitata) EC50: 0.031 - 0.054mg/L (96h, Pseudokirchneriella subcapitata)	LC50: 0.0068 - 0.0156mg/L (96h, Pimephales promelas) LC50: <0.3mg/L (96h, Pimephales promelas) LC50: =0.2mg/L (96h, Pimephales promelas) LC50: =0.052mg/L (96h, Oncorhynchus mykiss) LC50: =1.25mg/L (96h, Lepomis macrochirus) LC50: =0.3mg/L (96h, Cyprinus carpio) LC50: =0.8mg/L (96h, Cyprinus carpio) LC50: =0.112mg/L (96h, Poecilia reticulata)	-	EC50: =0.03mg/L (48h, Daphnia magna)

**Persistence and degradability****Bioaccumulative potential**

There is no data for this product.

Chemical name	Partition coefficient
Calcium bis(dinonylnaphthalenesulphonate) 1474044-79-5	6.6

**Mobility in soil****Other adverse effects**

No information available.

**13. Disposal considerations****Disposal methods****Waste from residues/unused products**

Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

<b>Contaminated packaging</b>	Do not reuse empty containers.
<b>California waste information</b>	This product contains one or more substances that are listed with the State of California as a hazardous waste.

## 14. Transport information

**Note:** DG for domestic (ground) transport applies to containers over 119 gallons or 450 litres.

IMDG Clause 2.10.2.7 / IATA Special Provision A197: Marine pollutants or dangerous goods packaged in single or combination packages containing a net quantity per single or inner package of 5 L or less for liquids or 5 kg for solids are not subject to any other transport regulations, provided the packaging meets general provisions.

### DOT

<b>UN number or ID number</b>	UN3077
<b>Proper shipping name</b>	Environmentally hazardous substance, solid, n.o.s.
<b>Transport hazard class(es)</b>	9
<b>Packing group</b>	III
<b>Reportable quantity (lbs)</b>	Zinc: RQ (lb)= 1000.00, Lead: RQ (lb)= 10.00, Cadmium: RQ (lb)= 10.00
<b>Reportable quantity (lbs) (calculated)</b>	Zinc: RQ (lb)= 2000.00, Lead: RQ (lb)= 10000.00, Cadmium: RQ (lb)= 28571.00
<b>Reportable quantity (kg)</b>	(Zinc: RQ (kg)= 454.00, Lead: RQ (kg)= 4.54, Cadmium: RQ (kg)= 4.54)
<b>Reportable quantity (kg) (calculated)</b>	Zinc: RQ (kg)= 908.00, Lead: RQ (kg)= 4540.00, Cadmium: RQ (kg)= 12971.43
<b>DOT Marine Pollutant</b>	M
<b>Marine pollutant</b>	Zinc, Zinc oxide
<b>Description</b>	UN3077, Environmentally hazardous substance, solid, n.o.s. (Zinc, Zinc oxide), 9, III
<b>Special Provisions</b>	8, 146, 335, 384, 441, A112, B54, B120, IB8, IP3, N20, N91, T1, TP33
<b>Emergency Response Guide Number</b>	171

### TDG

<b>UN number or ID number</b>	UN3077
<b>UN proper shipping name</b>	Environmentally hazardous substance, solid, n.o.s.
<b>Transport hazard class(es)</b>	9
<b>Packing group</b>	III
<b>Special Provisions</b>	16, 99
<b>Marine pollutant name</b>	Zinc.
<b>Description</b>	UN3077, Environmentally hazardous substance, solid, n.o.s. (Zinc, Zinc oxide), 9, III

### MEX

<b>UN number or ID number</b>	UN3077
<b>UN proper shipping name</b>	Environmentally hazardous substance, solid, n.o.s.
<b>Transport hazard class(es)</b>	9
<b>Packing group</b>	III
<b>Description</b>	UN3077, Environmentally hazardous substance, solid, n.o.s. (Zinc, Zinc oxide), 9, III
<b>Special Provisions</b>	274, 331, 335, 375

### ICAO (air)

<b>UN number or ID number</b>	UN3077
<b>UN proper shipping name</b>	Environmentally hazardous substance, solid, n.o.s.
<b>Transport hazard class(es)</b>	9
<b>Packing group</b>	III
<b>Description</b>	UN3077, Environmentally hazardous substance, solid, n.o.s. (Zinc, Zinc oxide), 9, III
<b>Special Provisions</b>	A97, A158, A179, A197, A215

### IATA

<b>UN number or ID number</b>	UN3077
<b>UN proper shipping name</b>	Environmentally hazardous substance, solid, n.o.s.
<b>Technical Name</b>	Zinc, Zinc oxide

<b>Transport hazard class(es)</b>	9
<b>Packing group</b>	III
<b>Environmental hazards</b>	Yes
<b>Special Provisions</b>	A97, A158, A179, A197, A215
<b>ERG Code</b>	9L
<b>Description</b>	UN3077, Environmentally hazardous substance, solid, n.o.s. (Zinc, Zinc oxide), 9, III

**IMDG**

<b>UN number or ID number</b>	UN3077
<b>UN proper shipping name</b>	Environmentally hazardous substance, solid, n.o.s.
<b>Technical Name</b>	Zinc, Zinc oxide
<b>Transport hazard class(es)</b>	9
<b>Packing group</b>	III
<b>Marine pollutant indicator</b>	M
<b>Marine pollutant name</b>	Zinc, Zinc oxide
<b>Special Provisions</b>	274, 335, 375, 966, 967, 969
<b>EmS-No.</b>	F-A S-F
<b>Description</b>	UN3077, Environmentally hazardous substance, solid, n.o.s. (Zinc, Zinc oxide), 9, III, Marine pollutant

**15. Regulatory information****Safety, health and environmental regulations/legislation specific for the substance or mixture****International Regulations**

**The Montreal Protocol on Substances that Deplete the Ozone Layer** Not applicable

**The Stockholm Convention on Persistent Organic Pollutants** Not applicable

**The Rotterdam Convention** Not applicable

**International Inventories**

**TSCA** All chemical substances in this product are either listed on the TSCA Inventory or are in compliance with a TSCA Inventory exemption.

Chemical name	CAS No.	Inventory Listing Status	Commercial Activity Designation
Zinc	7440-66-6	Present	Active
Distillates (petroleum), hydrotreated heavy naphthenic	64742-52-5	Present	Active
Talc	14807-96-6	Present	Active
Zinc oxide	1314-13-2	Present	Active
12-Hydroxy lithium stearate	7620-77-1	Present	Active
Dolomite	16389-88-1	Present	Active
Calcium oxide	1305-78-8	Present	Active
Calcium bis(dinonylnaphthalenesulphonate)	1474044-79-5	-	Unknown *
Ethenylbenzene polymer with 2-methyl-1,3-butadiene, hydrogenated	68648-89-5	Present	Active
Calcium petroleum sulfonates	61789-86-4	Present	Active
Quartz	14808-60-7	Present	Active
Lead	7439-92-1	Present	Active
Magnesium oxide	1309-48-4	Present	Active
Iron	7439-89-6	Present	Active
Lubricating oils (petroleum), hydrotreated spent	64742-58-1	Present	Active

Chemical name	CAS No.	Inventory Listing Status	Commercial Activity Designation
Cadmium	7440-43-9	Present	Active
Distillates (petroleum), solvent-dewaxed heavy paraffinic	64742-65-0	Present	Active
Distillates (petroleum), hydrotreated heavy paraffinic	64742-54-7	Present	Active
Distillates (petroleum), solvent-refined light paraffinic	64741-89-5	Present	Active
Polyisobutylene	9003-27-4	Present	Active
Copper metal powder	7440-50-8	Present	Active
Polybutene	9003-29-6	Present	Active

\*Contact supplier for details. One or more substances in this product are either not listed on the US TSCA inventory, listed on the confidential US TSCA inventory or are otherwise exempted from inventory listing requirements

<b>DSL/NDSL</b>	All components of this product are on the Canadian DSL.
<b>EINECS/ELINCS</b>	All components are listed or exempted.
<b>ENCS</b>	All components are listed or exempted.
<b>IECSC</b>	All components are listed or exempted.
<b>KECL</b>	All components are listed or exempted.
<b>PICCS</b>	All components are listed or exempted.
<b>AIIC</b>	All components are listed on AICIS, or are exempt.
<b>NZIoC</b>	All components are listed or exempted.
<b>TCSI</b>	All components are listed or exempted.

**Legend:**

- TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory
- DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List
- EINECS/ELINCS** - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
- ENCS** - Japan Existing and New Chemical Substances
- IECSC** - China Inventory of Existing Chemical Substances
- KECL** - Korean Existing and Evaluated Chemical Substances
- PICCS** - Philippines Inventory of Chemicals and Chemical Substances
- AIIC** - Australian Inventory of Industrial Chemicals
- NZIoC** - New Zealand Inventory of Chemicals
- TCSI** - Taiwan Chemical Substance Inventory

**US Federal Regulations**

**SARA 313**

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

Chemical name	SARA 313 - Threshold Values %
Zinc CAS: 7440-66-6 ID: C7440666 >= 50 - < 70 %	1.0
Zinc oxide CAS: 1314-13-2 ID: C1314132 >= 1 - < 5 %	1.0
Lead CAS: 7439-92-1 ID: C7439921 >= 0.1 - < 1 %	0.1

**SARA 311/312 Hazard Categories**

Should this product meet EPCRA 311/312 Tier reporting criteria at 40 CFR 370, refer to Section 2 of this SDS for appropriate

classifications.

### CWA (Clean Water Act)

This product contains the following substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

Chemical name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Zinc CAS: 7440-66-6 ID: C7440666 >= 50 - < 70 %	-	X	X	-
Zinc oxide CAS: 1314-13-2 ID: C1314132 >= 1 - < 5 %	-	X	-	-

### CAA (Clean Air Act)

This product does not contain any substances regulated as pollutants pursuant to Clean Air Act (CAA).

### CERCLA

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302).

Chemical name	Hazardous Substances RQs	Extremely Hazardous Substances RQs
Zinc CAS: 7440-66-6 ID: C7440666 >= 50 - < 70 %	1000 lb	-

### US State Regulations

#### California Proposition 65

This product contains the following Proposition 65 chemicals:

Chemical name	California Proposition 65
Quartz CAS: 14808-60-7 ID: C14808607 >= 0.1 - < 1 %	Carcinogen
Lead CAS: 7439-92-1 ID: C7439921 >= 0.1 - < 1 %	Carcinogen Developmental Female Reproductive Male Reproductive
Cadmium CAS: 7440-43-9 ID: C7440439 >= 0.01 - < 0.1 %	Carcinogen Developmental Male Reproductive

#### U.S. State Right-to-Know Regulations

Chemical name	New Jersey	Massachusetts	Pennsylvania
Zinc CAS: 7440-66-6 ID: C7440666 >= 50 - < 70 %	X	X	X
Distillates (petroleum), hydrotreated heavy naphthenic CAS: 64742-52-5 ID: C64742525 >= 30 - < 50 %	X	X	X
Talc CAS: 14807-96-6 ID: C14807966	X	X	X

>= 5 - < 10 %			
Zinc oxide CAS: 1314-13-2 ID: C1314132 >= 1 - < 5 %	X	X	X
Calcium oxide CAS: 1305-78-8 ID: C1305788 >= 1 - < 5 %	X	X	X
Quartz CAS: 14808-60-7 ID: C14808607 >= 0.1 - < 1 %	X	X	X
Lead CAS: 7439-92-1 ID: C7439921 >= 0.1 - < 1 %	X	X	X
Magnesium oxide CAS: 1309-48-4 ID: C1309484 >= 0.01 - < 0.1 %	X	X	X
Cadmium CAS: 7440-43-9 ID: C7440439 >= 0.01 - < 0.1 %	X	X	X
Distillates (petroleum), hydrotreated heavy paraffinic CAS: 64742-54-7 ID: C64742547 >= 0.01 - < 0.1 %	X	X	X
Distillates (petroleum), solvent-dewaxed heavy paraffinic CAS: 64742-65-0 ID: C64742650 >= 0.01 - < 0.1 %	X	X	X
Distillates (petroleum), solvent-refined light paraffinic CAS: 64741-89-5 ID: C64741895 >= 0.01 - < 0.1 %	-	X	-
Copper metal powder CAS: 7440-50-8 ID: C7440508 >= 0.01 - < 0.1 %	X	X	X

**U.S. EPA Label Information**

EPA Pesticide Registration Number Not applicable

**16. Other information**

**NFPA** Health hazards 2 Flammability 1 Instability 0 Special hazards -  
**HMIS** Health hazards 4\* Flammability 1 Physical hazards 0 Personal protection X  
 Chronic Hazard Star Legend \* = Chronic Health Hazard

**Key or legend to abbreviations and acronyms used in the safety data sheet**

Legend Section 8: Exposure controls/personal protection

TWA Ceiling	TWA (time-weighted average) Maximum limit value	STEL Sk*	STEL (Short Term Exposure Limit) Skin designation
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**Key literature references and sources for data used to compile the SDS**

U.S. Agency for Toxic Substances and Disease Registry (ATSDR)  
U.S. Environmental Protection Agency ChemView Database  
European Food Safety Authority (EFSA)  
U.S. Environmental Protection Agency  
Acute Exposure Guideline Level(s) (AEGl(s))  
U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act  
U.S. Environmental Protection Agency High Production Volume Chemicals  
Food Research Journal  
Hazardous Substance Database  
International Uniform Chemical Information Database (IUCLID)  
Japan National Institute of Technology and Evaluation (NITE)  
Australia National Industrial Chemicals Notification and Assessment Scheme (NICNAS)  
NIOSH (National Institute for Occupational Safety and Health)  
National Library of Medicine's ChemID Plus (NLM CIP)  
National Library of Medicine's PubMed database (NLM PUBMED)  
U.S. National Toxicology Program (NTP)  
New Zealand's Chemical Classification and Information Database (CCID)  
International Organization for Economic Co-operation and Development (OECD) Environment, Health, and Safety Publications  
International Organization for Economic Co-operation and Development (OECD) High Production Volume Chemicals Program  
International Organization for Economic Co-operation and Development (OECD) Screening Information Data Set  
United Nations World Health Organization (WHO)

**Revision date** 24-Oct-2025

**Revision Note****Disclaimer**

**The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.**

**End of Safety Data Sheet**