

# SAFETY DATA SHEET



## 2000® ARCTIC GRADE

Version 4.9      Revision Date: 04/11/2019      SDS Number: 115234-00016      Date of last issue: 10/11/2018  
Date of first issue: 05/12/2015

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### SECTION 1. IDENTIFICATION

Product name : 2000® ARCTIC GRADE  
Other means of identification : No data available  
SDS-Identcode : 310G

#### Manufacturer or supplier's details

Company name of supplier : Bestolife Corporation  
Address : 2777 N. Stemmons Frwy Ste 1800  
Dallas TX 75207,  
Telephone : 855-243-9164/972-865-8961  
Telefax : 214-631-3047  
E-mail address : www.bestolife.com

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

Recommended use : Industrial use  
Thread Compound (Pipe Dope) and Jacking grease for use in  
Offshore industries  
Mining, (without offshore industries)  
Restrictions on use : Do not use on oxygen lines or in oxygen enriched atmos-  
pheres.


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### SECTION 2. HAZARDS IDENTIFICATION

#### GHS classification in accordance with the Hazardous Products Regulations

Eye irritation : Category 2A

#### GHS label elements

Hazard pictograms : 

Signal Word : Warning

Hazard Statements : H319 Causes serious eye irritation.

Precautionary Statements : **Prevention:**  
P264 Wash skin thoroughly after handling.  
P280 Wear eye protection/ face protection.  
**Response:**  
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water  
for several minutes. Remove contact lenses, if present and easy  
to do. Continue rinsing.  
P337 + P313 If eye irritation persists: Get medical advice/ atten-  
tion.

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### Other hazards

None known.

### SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

#### Components

Chemical name	CAS-No.	Concentration (% w/w)
Distillates (petroleum), hydrotreated light naphthenic	64742-53-6	>= 10 - < 30
Distillates (petroleum), hydrotreated heavy naphthenic	64742-52-5	>= 10 - < 30
Graphite	7782-42-5	>= 10 - < 30
Talc	14807-96-6	>= 5 - < 10
Copper metal powder	7440-50-8	>= 1 - < 5
Calcium oxide	1305-78-8	>= 1 - < 5
Quartz	14808-60-7	>= 1 - < 5

Actual concentration or concentration range is withheld as a trade secret

### SECTION 4. FIRST AID MEASURES

- General advice : In the case of accident or if you feel unwell, seek medical advice immediately.  
When symptoms persist or in all cases of doubt seek medical advice.
- If inhaled : If inhaled, remove to fresh air.  
Get medical attention if symptoms occur.
- In case of skin contact : In case of contact, immediately flush skin with plenty of water.  
Remove contaminated clothing and shoes.  
Get medical attention.  
Wash clothing before reuse.  
Thoroughly clean shoes before reuse.
- In case of eye contact : In case of contact, immediately flush eyes with plenty of water for at least 15 minutes.  
If easy to do, remove contact lens, if worn.  
Get medical attention.
- If swallowed : If swallowed, DO NOT induce vomiting.  
Get medical attention if symptoms occur.  
Rinse mouth thoroughly with water.
- Most important symptoms and effects, both acute and delayed : Causes serious eye irritation.
- Protection of first-aiders : First Aid responders should pay attention to self-protection, and use the recommended personal protective equipment when the potential for exposure exists.
- Notes to physician : Treat symptomatically and supportively.

### SECTION 5. FIRE-FIGHTING MEASURES

- Suitable extinguishing media : Water spray  
Alcohol-resistant foam  
Carbon dioxide (CO<sub>2</sub>)

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- Unsuitable extinguishing media : Dry chemical  
: None known.
- Specific hazards during fire fighting : Exposure to combustion products may be a hazard to health.
- Hazardous combustion products : Carbon oxides  
Fluorine compounds  
Metal oxides  
Silicon oxides
- Specific extinguishing methods : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.  
Use water spray to cool unopened containers.  
Remove undamaged containers from fire area if it is safe to do so.  
Evacuate area.
- Special protective equipment for fire-fighters : In the event of fire, wear self-contained breathing apparatus.  
Use personal protective equipment.
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### SECTION 6. ACCIDENTAL RELEASE MEASURES

- Personal precautions, protective equipment and emergency procedures : Use personal protective equipment.  
Follow safe handling advice and personal protective equipment recommendations.
- Environmental precautions : Discharge into the environment must be avoided.  
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 : Sweep up or vacuum up spillage and collect in suitable container for 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.  
Sections 13 and 15 of this SDS provide information regarding certain local or national requirements.
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### SECTION 7. HANDLING AND STORAGE

- Technical measures : See Engineering measures under EXPOSURE CONTROLS/PERSONAL PROTECTION section.
- Advice on safe handling : Do not get on skin or clothing.  
Do not swallow.  
Do not get in eyes.  
Handle in accordance with good industrial hygiene and safety practice, based on the results of the workplace exposure assessment  
Take care to prevent spills, waste and minimize release to the environment.
- Conditions for safe storage : Keep in properly labeled containers.  
Store in accordance with the particular national regulations.
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Materials to avoid : Do not store with the following product types:  
 Strong oxidizing agents

### SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

#### Ingredients with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
Distillates (petroleum), hydrotreated light naphthenic	64742-53-6	TWA (Mist)	5 mg/m <sup>3</sup>	CA AB OEL
		STEL (Mist)	10 mg/m <sup>3</sup>	CA AB OEL
		TWAEV (Mist)	5 mg/m <sup>3</sup>	CA QC OEL
		STEV (Mist)	10 mg/m <sup>3</sup>	CA QC OEL
		TWA (Mist)	1 mg/m <sup>3</sup>	CA BC OEL
Distillates (petroleum), hydrotreated heavy naphthenic	64742-52-5	TWA (Mist)	5 mg/m <sup>3</sup>	CA AB OEL
		STEL (Mist)	10 mg/m <sup>3</sup>	CA AB OEL
		TWAEV (Mist)	5 mg/m <sup>3</sup>	CA QC OEL
		STEV (Mist)	10 mg/m <sup>3</sup>	CA QC OEL
		TWA (Mist)	1 mg/m <sup>3</sup>	CA BC OEL
Graphite	7782-42-5	TWA (Inhalable fraction)	5 mg/m <sup>3</sup>	ACGIH
		TWA (Respirable)	2 mg/m <sup>3</sup>	CA BC OEL
		TWA (Respirable)	2 mg/m <sup>3</sup>	CA AB OEL
		TWAEV (respirable dust)	2 mg/m <sup>3</sup>	CA QC OEL
		TWA (Respirable fraction)	2 mg/m <sup>3</sup>	ACGIH
Talc	14807-96-6	TWAEV (respirable dust)	3 mg/m <sup>3</sup>	CA QC OEL
		TWA (Respirable particulates)	2 mg/m <sup>3</sup>	CA AB OEL
		TWA (Respirable)	2 mg/m <sup>3</sup>	CA BC OEL
		TWA	2 fibres per cubic centimeter	CA ON OEL
		TWA (Respirable fraction)	2 mg/m <sup>3</sup>	CA ON OEL

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		TWA (Respirable fraction)	2 mg/m <sup>3</sup>	ACGIH
Copper metal powder	7440-50-8	TWA (Fumes)	0.2 mg/m <sup>3</sup>	CA AB OEL
		TWA (Dust and mist)	1 mg/m <sup>3</sup> (Copper)	CA AB OEL
		TWAEV (dusts and mists)	1 mg/m <sup>3</sup> (Copper)	CA QC OEL
		TWAEV (Fumes)	0.2 mg/m <sup>3</sup> (Copper)	CA QC OEL
		TWA (Dust and mists)	1 mg/m <sup>3</sup> (Copper)	CA BC OEL
		TWA (Fumes)	0.2 mg/m <sup>3</sup> (Copper)	CA BC OEL
		TWA (Dust and mist)	1 mg/m <sup>3</sup> (Copper)	ACGIH
		TWA (Fumes)	0.2 mg/m <sup>3</sup> (Copper)	ACGIH
Calcium oxide	1305-78-8	TWA	2 mg/m <sup>3</sup>	CA AB OEL
		TWA	2 mg/m <sup>3</sup>	CA BC OEL
		TWAEV	2 mg/m <sup>3</sup>	CA QC OEL
		TWA	2 mg/m <sup>3</sup>	ACGIH
Quartz	14808-60-7	TWA (Respirable particulates)	0.025 mg/m <sup>3</sup>	CA AB OEL
		TWA (Respirable fraction)	0.1 mg/m <sup>3</sup>	CA ON OEL
		TWAEV (respirable dust)	0.1 mg/m <sup>3</sup>	CA QC OEL
		TWA (Respirable)	0.025 mg/m <sup>3</sup> (Silica)	CA BC OEL
		TWA (Respirable fraction)	0.025 mg/m <sup>3</sup> (Silica)	ACGIH

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

Quartz

**Engineering measures** : Minimize workplace exposure concentrations. Dust formation may be relevant in the processing of this product. In addition to substance-specific OELs, general limitations of concentrations of particulates in the air at workplaces have to be considered in workplace risk assessment. Relevant limits include: OSHA PEL for Particulates Not Otherwise Regulated of 15 mg/m<sup>3</sup> - total dust, 5 mg/m<sup>3</sup> - respirable fraction; and ACGIH TWA for Particles (insoluble or poorly soluble) Not Otherwise Specified of 3 mg/m<sup>3</sup> - respirable particles, 10 mg/m<sup>3</sup> - inhalable particles.

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### Personal protective equipment

- Respiratory protection : Use respiratory protection unless adequate local exhaust ventilation is provided or exposure assessment demonstrates that exposures are within recommended exposure guidelines.
- Filter type : Combined particulates and organic vapor type
- Hand protection
- Material : Chemical-resistant gloves
- Remarks : Choose gloves to protect hands against chemicals depending on the concentration specific to place of work. Breakthrough time is not determined for the product. Change gloves often! For special applications, we recommend clarifying the resistance to chemicals of the aforementioned protective gloves with the glove manufacturer. Wash hands before breaks and at the end of workday.
- Eye protection : Wear the following personal protective equipment:  
Safety goggles
- Skin and body protection : Select appropriate protective clothing based on chemical resistance data and an assessment of the local exposure potential.  
Skin contact must be avoided by using impervious protective clothing (gloves, aprons, boots, etc).
- Hygiene measures : Ensure that eye flushing systems and safety showers are located close to the working place.  
When using do not eat, drink or smoke.  
Wash contaminated clothing before re-use.
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### SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

- Appearance : Viscous semi-solid
- Color : black, copper
- Odor : Petroleum
- Odor Threshold : No data available
- pH : Not applicable (not an aqueous solution)
- Melting point/freezing point : No data available
- Initial boiling point and boiling range : No data available
- Flash point :  $\geq 162.8$  °C
- Method: ASTM D 92, Cleveland open cup  
Distillates (petroleum), hydrotreated heavy naphthenic
- Evaporation rate : Not applicable
- Flammability (solid, gas) : Not classified as a flammability hazard
- Upper explosion limit / Upper flammability limit : No data available
- Lower explosion limit / Lower : No data available
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flammability limit

Vapor pressure : Not applicable

Relative vapor density : Not applicable

Relative density : 1.3

Solubility(ies)  
Water solubility : negligible

Partition coefficient: n-octanol/water : Not applicable

Autoignition temperature : No data available

Decomposition temperature : No data available

Viscosity  
Viscosity, kinematic : Not applicable

Flow time : No data available

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

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### 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 : No hazardous decomposition products are known.

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### SECTION 11. TOXICOLOGICAL INFORMATION

#### Information on likely routes of exposure

Skin contact  
Ingestion  
Eye contact

#### Acute toxicity

Not classified based on available information.

#### Components:

#### Distillates (petroleum), hydrotreated light naphthenic:

Acute oral toxicity : LD50 (Rat): > 5,000 mg/kg

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Method: OECD Test Guideline 401

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): > 2,000 mg/kg  
Assessment: The substance or mixture has no acute dermal toxicity

**Distillates (petroleum), hydrotreated heavy naphthenic:**

Acute oral toxicity : LD50 (Rat): > 5,000 mg/kg  
Method: OECD Test Guideline 401  
Remarks: Based on data from similar materials

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  
Remarks: Based on data from similar materials

Acute dermal toxicity : LD50 (Rabbit): > 5,000 mg/kg  
Method: OECD Test Guideline 402  
Remarks: Based on data from similar materials

**Graphite:**

Acute oral toxicity : LD50 (Rat): > 2,000 mg/kg  
Method: OECD Test Guideline 423  
Assessment: The substance or mixture has no acute oral toxicity

Acute inhalation toxicity : LC50 (Rat): > 2 mg/l  
Exposure time: 4 h  
Test atmosphere: dust/mist  
Method: OECD Test Guideline 403

**Talc:**

Acute oral toxicity : LD50 (Rat): > 5,000 mg/kg  
Remarks: Based on data from similar materials

**Copper metal powder:**

Acute oral toxicity : LD50 (Rat): > 2,500 mg/kg  
Method: OECD Test Guideline 423  
Assessment: The substance or mixture has no acute oral toxicity

Acute inhalation toxicity : LC50 (Rat): > 5.11 mg/l



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Exposure time: 4 h  
Test atmosphere: dust/mist  
Method: OECD Test Guideline 436  
Assessment: The substance or mixture has no acute inhalation toxicity

Acute dermal toxicity : LD50 (Rat): > 2,000 mg/kg  
Method: OECD Test Guideline 402  
Assessment: The substance or mixture has no acute dermal toxicity

### Calcium oxide:

Acute oral toxicity : LD50 (Rat): > 2,000 mg/kg  
Method: OECD Test Guideline 425

Acute inhalation toxicity : (Rat): > 5 mg/l  
Exposure time: 4 h  
Test atmosphere: dust/mist  
Method: OECD Test Guideline 436  
Remarks: Based on data from similar materials

Acute dermal toxicity : LD50 (Rabbit): > 2,500 mg/kg  
Method: OECD Test Guideline 402  
Assessment: The substance or mixture has no acute dermal toxicity  
Remarks: Based on data from similar materials

### Quartz:

Acute oral toxicity : LD50 (Rat): > 5,000 mg/kg

### Skin corrosion/irritation

Not classified based on available information.

### Components:

#### Distillates (petroleum), hydrotreated light naphthenic:

Species : Rabbit  
Result : No skin irritation

#### Distillates (petroleum), hydrotreated heavy naphthenic:

Species : Rabbit  
Result : No skin irritation  
Remarks : Based on data from similar materials

### Graphite:

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

### Talc:

Species : Rabbit

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Result : No skin irritation

**Copper metal powder:**

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

**Calcium oxide:**

Species : Rabbit  
Method : OECD Test Guideline 404  
Result : Skin irritation  
Remarks : Based on data from similar materials

**Serious eye damage/eye irritation**

Causes serious eye irritation.

**Components:****Distillates (petroleum), hydrotreated light naphthenic:**

Species : Rabbit  
Result : No eye irritation

**Distillates (petroleum), hydrotreated heavy naphthenic:**

Species : Rabbit  
Result : No eye irritation  
Remarks : Based on data from similar materials

**Graphite:**

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

**Talc:**

Species : Rabbit  
Result : No eye irritation

**Copper metal powder:**

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

**Calcium oxide:**

Species : Rabbit  
Result : Irreversible effects on the eye  
Method : OECD Test Guideline 405

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**Respiratory or skin sensitization****Skin sensitization**

Not classified based on available information.

**Respiratory sensitization**

Not classified based on available information.

**Components:****Distillates (petroleum), hydrotreated light naphthenic:**

Test Type                                : Buehler Test  
Routes of exposure                    : Skin contact  
Species                                    : Guinea pig  
Method                                    : OECD Test Guideline 406  
Result                                     : negative

**Distillates (petroleum), hydrotreated heavy naphthenic:**

Test Type                                : Buehler Test  
Routes of exposure                    : Skin contact  
Species                                    : Guinea pig  
Result                                     : negative  
Remarks                                 : Based on data from similar materials

**Graphite:**

Test Type                                : Local lymph node assay (LLNA)  
Routes of exposure                    : Skin contact  
Species                                    : Mouse  
Result                                     : negative

**Talc:**

Routes of exposure                    : Skin contact  
Species                                    : Humans  
Result                                     : negative

**Copper metal powder:**

Test Type                                : Maximization Test  
Routes of exposure                    : Skin contact  
Species                                    : Guinea pig  
Method                                    : OECD Test Guideline 406  
Result                                     : negative

**Calcium oxide:**

Test Type                                : Local lymph node assay (LLNA)  
Routes of exposure                    : Skin contact  
Species                                    : Mouse  
Method                                    : OECD Test Guideline 429  
Result                                     : negative  
Remarks                                 : Based on data from similar materials



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**Copper metal powder:**

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)  
 Method: OECD Test Guideline 471  
 Result: negative

Genotoxicity in vivo : Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay)  
 Species: Mouse  
 Application Route: Ingestion  
 Method: Directive 67/548/EEC, Annex V, B.12.  
 Result: negative  
 Remarks: Based on data from similar materials

**Calcium oxide:**

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)  
 Method: OECD Test Guideline 471  
 Result: negative

Test Type: Chromosome aberration test in vitro  
 Method: OECD Test Guideline 473  
 Result: negative  
 Remarks: Based on data from similar materials

Test Type: In vitro mammalian cell gene mutation test  
 Method: OECD Test Guideline 476  
 Result: negative  
 Remarks: Based on data from similar materials

**Carcinogenicity**

Not classified based on available information.

**Product:**

Carcinogenicity - Assessment : Petroleum distillates have been classified as not carcinogenic based on DMSO extract content < 3% (Regulation (EC) 1272/2008, Annex VI, Part 3, Note L).

**Components:****Distillates (petroleum), hydrotreated light naphthenic:**

Species : Mouse  
 Application Route : Skin contact  
 Exposure time : 78 weeks  
 Result : negative

**Distillates (petroleum), hydrotreated heavy naphthenic:**

Species : Mouse  
 Application Route : Skin contact  
 Exposure time : 78 weeks  
 Method : OECD Test Guideline 451  
 Result : negative

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**Talc:**

Species : Mouse  
 Application Route : inhalation (dust/mist/fume)  
 Exposure time : 2 Years  
 Result : negative

**Calcium oxide:**

Species : Rat  
 Application Route : Ingestion  
 Exposure time : 104 weeks  
 Result : negative  
 Remarks : Based on data from similar materials

**Quartz:**

Species : Humans  
 Application Route : inhalation (dust/mist/fume)  
 Result : positive  
 Remarks : IARC: (International Agency for Research on Cancer)  
 These substance(s) are inextricably bound in the product and therefore do not contribute to a dust inhalation hazard.

Carcinogenicity - Assessment : Positive evidence from human epidemiological studies (inhalation)

**Reproductive toxicity**

Not classified based on available information.

**Components:****Distillates (petroleum), hydrotreated light naphthenic:**

Effects on fertility : Test Type: Reproduction/Developmental toxicity screening test  
 Species: Rat  
 Application Route: Ingestion  
 Result: negative

Effects on fetal development : Test Type: Embryo-fetal development  
 Species: Rat  
 Application Route: Skin contact  
 Result: negative

**Graphite:**

Effects on fertility : Test Type: Combined repeated dose toxicity study with the reproduction/developmental toxicity screening test  
 Species: Rat  
 Application Route: Ingestion  
 Method: OECD Test Guideline 422  
 Result: negative

Effects on fetal development : Test Type: Combined repeated dose toxicity study with the reproduction/developmental toxicity screening test  
 Species: Rat

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Application Route: Ingestion  
 Method: OECD Test Guideline 422  
 Result: negative

**Talc:**

Effects on fetal development : Test Type: Embryo-fetal development  
 Species: Rat  
 Application Route: Ingestion  
 Result: negative

**Copper metal powder:**

Effects on fertility : Test Type: Two-generation reproduction toxicity study  
 Species: Rat  
 Application Route: Ingestion  
 Result: negative  
 Remarks: Based on data from similar materials

Effects on fetal development : Test Type: Embryo-fetal development  
 Species: Rabbit  
 Application Route: Ingestion  
 Result: negative

**Calcium oxide:**

Effects on fertility : Test Type: Combined repeated dose toxicity study with the  
 reproduction/developmental toxicity screening test  
 Species: Rat  
 Application Route: Ingestion  
 Method: OECD Test Guideline 422  
 Result: negative  
 Remarks: Based on data from similar materials

Effects on fetal development : Test Type: Embryo-fetal development  
 Species: Mouse  
 Application Route: Ingestion  
 Method: OECD Test Guideline 414  
 Result: negative

**STOT-single exposure**

Not classified based on available information.

**Components:****Calcium oxide:**

Assessment : May cause respiratory irritation.

**STOT-repeated exposure**

Not classified based on available information.

**Components:****Quartz:**

Routes of exposure : inhalation (dust/mist/fume)

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Target Organs                    : Lungs  
Assessment                        : Shown to produce significant health effects in animals at concentrations of 0.02 mg/l/6h/d or less.

**Repeated dose toxicity****Components:****Distillates (petroleum), hydrotreated light naphthenic:**

Species                            : Rabbit  
NOAEL                             : 1,000 mg/kg  
Application Route                : Skin contact  
Exposure time                    : 4 Weeks  
Method                             : OECD Test Guideline 410

**Distillates (petroleum), hydrotreated heavy naphthenic:**

Species                            : Rat  
NOAEL                             : > 0.98 mg/l  
Application Route                : inhalation (dust/mist/fume)  
Exposure time                    : 28 Days  
Remarks                         : Based on data from similar materials

**Copper metal powder:**

Species                            : Rat  
NOAEL                             :  $\geq 2 \text{ mg/m}^3$   
Application Route                : inhalation (dust/mist/fume)  
Exposure time                    : 28 Days

**Calcium oxide:**

Species                            : Rat  
NOAEL                             :  $\geq 0.399 \text{ mg/l}$   
Application Route                : inhalation (dust/mist/fume)  
Exposure time                    : 90 Days  
Method                             : OECD Test Guideline 413

**Quartz:**

Species                            : Humans  
LOAEL                             :  $0.053 \text{ mg/m}^3$   
Application Route                : inhalation (dust/mist/fume)  
Remarks                         : These substance(s) are inextricably bound in the product and therefore do not contribute to a dust inhalation hazard.

**Aspiration toxicity**

Not classified based on available information.



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**SECTION 12. ECOLOGICAL INFORMATION****Ecotoxicity****Product:**

Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): 1,064,120 mg/l  
 Exposure time: 96 h  
 Method: OECD Test Guideline 203  
 Remarks: Based on data from similar materials

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 15,470 mg/l  
 Exposure time: 96 h  
 Method: OECD Test Guideline 202  
 Remarks: Based on data from similar materials

EC50 (Daphnia magna (Water flea)): 30,940 mg/l  
 Exposure time: 48 h  
 Method: OECD Test Guideline 202  
 Remarks: Based on data from similar materials

Toxicity to algae/aquatic plants : EC50 (Selenastrum capricornutum (green algae)): 11,267 mg/l  
 Exposure time: 96 h  
 Method: OECD Test Guideline 201  
 Remarks: Based on data from similar materials

NOEC (Selenastrum capricornutum (green algae)): 100 mg/l  
 Exposure time: 96 h  
 Method: OECD Test Guideline 201  
 Remarks: Based on data from similar materials

**Components:****Distillates (petroleum), hydrotreated light naphthenic:**

Toxicity to fish : LL50 (Pimephales promelas (fathead minnow)): > 100 mg/l  
 Exposure time: 96 h  
 Test substance: Water Accommodated Fraction

Toxicity to daphnia and other aquatic invertebrates : EL50 (Daphnia magna (Water flea)): > 10,000 mg/l  
 Exposure time: 48 h  
 Test substance: Water Accommodated Fraction

Toxicity to algae/aquatic plants : NOELR (Pseudokirchneriella subcapitata (green algae)): >= 100 mg/l  
 Exposure time: 72 h  
 Test substance: Water Accommodated Fraction

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Daphnia magna (Water flea)): 10 mg/l  
 Exposure time: 21 d

Toxicity to microorganisms : NOEC (Photobacterium phosphoreum): > 2.17 mg/l  
 Exposure time: 4 d

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**Distillates (petroleum), hydrotreated heavy naphthenic:**

- Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): > 100 mg/l  
 Exposure time: 96 h  
 Method: OECD Test Guideline 203  
 Remarks: Based on data from similar materials
- Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): > 10,000 mg/l  
 Exposure time: 48 h  
 Remarks: Based on data from similar materials
- Toxicity to algae/aquatic plants : EC50 (Pseudokirchneriella subcapitata (green algae)): > 100 mg/l  
 Exposure time: 72 h  
 Method: OECD Test Guideline 201  
 Remarks: Based on data from similar materials
- Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Daphnia magna (Water flea)): 10 mg/l  
 Exposure time: 21 d  
 Remarks: Based on data from similar materials
- Toxicity to microorganisms : NOEC: > 1.93 mg/l  
 Exposure time: 10 min  
 Remarks: Based on data from similar materials

**Graphite:**

- Toxicity to fish : LL50 (Danio rerio (zebra fish)): > 100 mg/l  
 Exposure time: 96 h  
 Test substance: Water Accommodated Fraction  
 Method: OECD Test Guideline 203
- Toxicity to daphnia and other aquatic invertebrates : EL50 (Daphnia magna (Water flea)): > 100 mg/l  
 Exposure time: 48 h  
 Test substance: Water Accommodated Fraction  
 Method: OECD Test Guideline 202
- Toxicity to algae/aquatic plants : EL50 (Pseudokirchneriella subcapitata (green algae)): > 100 mg/l  
 Exposure time: 72 h  
 Test substance: Water Accommodated Fraction  
 Method: OECD Test Guideline 201
- NOELR (Pseudokirchneriella subcapitata (green algae)): > 100 mg/l  
 Exposure time: 72 h  
 Test substance: Water Accommodated Fraction  
 Method: OECD Test Guideline 201
- Toxicity to microorganisms : EC50: > 1,012.5 mg/l  
 Exposure time: 3 h  
 Method: OECD Test Guideline 209

**Talc:**

- Toxicity to fish : LC50 (Brachydanio rerio (zebrafish)): > 100,000 mg/l

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Exposure time: 24 h

**Copper metal powder:**

Toxicity to fish : LC50: > 10 - 100 µg/l  
Exposure time: 96 h

Toxicity to fish (Chronic toxicity) : NOEC: > 1 - 10 µg/l

**Calcium oxide:**

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): > 100 mg/l  
Exposure time: 96 h  
Method: OECD Test Guideline 203  
Remarks: Based on data from similar materials

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): > 100 mg/l  
Exposure time: 96 h  
Method: OECD Test Guideline 202  
Remarks: Based on data from similar materials

Toxicity to algae/aquatic plants : ErC50 (Pseudokirchneriella subcapitata (green algae)): > 100 mg/l  
Exposure time: 72 h  
Method: OECD Test Guideline 201  
Remarks: Based on data from similar materials

EC10 (Pseudokirchneriella subcapitata (green algae)): > 1 mg/l  
Exposure time: 72 h  
Method: OECD Test Guideline 201  
Remarks: Based on data from similar materials

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Crangon crangon (shrimp)): > 1 mg/l  
Exposure time: 14 d  
Remarks: Based on data from similar materials

Toxicity to microorganisms : EC50: > 100 mg/l  
Exposure time: 3 h  
Method: OECD Test Guideline 209  
Remarks: Based on data from similar materials

**Quartz:****Ecotoxicology Assessment**

Acute aquatic toxicity : No toxicity at the limit of solubility.

Chronic aquatic toxicity : No toxicity at the limit of solubility.

**Persistence and degradability****Product:**

Biodegradability : Result: Readily biodegradable.  
Remarks: Based on data from similar materials

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**Components:****Distillates (petroleum), hydrotreated light naphthenic:**

Biodegradability : Result: Not readily biodegradable.  
Biodegradation: 2 - 8 %  
Exposure time: 28 d  
Method: OECD Test Guideline 301B

**Distillates (petroleum), hydrotreated heavy naphthenic:**

Biodegradability : Result: Not readily biodegradable.  
Biodegradation: 2 - 4 %  
Exposure time: 28 d  
Method: OECD Test Guideline 301B

**Bioaccumulative potential**

No data available

**Mobility in soil**

No data available

**Other adverse effects**

No data available

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**SECTION 13. DISPOSAL CONSIDERATIONS****Disposal methods**

Waste from residues : Dispose of in accordance with local regulations.  
Contaminated packaging : Empty containers should be taken to an approved waste handling site for recycling or disposal.  
Empty containers retain residue and can be dangerous.  
Do not pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, or other sources of ignition. They may explode and cause injury and/or death.  
If not otherwise specified: Dispose of as unused product.

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**SECTION 14. TRANSPORT INFORMATION****International Regulations****UNRTDG**

UN number : UN 3077  
Proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.  
(Copper metal powder, Antimony, dialkyl dithiocarbamate)  
Class : 9  
Packing group : III  
Labels : 9

**IATA-DGR**

UN/ID No. : UN 3077  
Proper shipping name : Environmentally hazardous substance, solid, n.o.s.

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(Copper metal powder, Antimony, dialkyl dithiocarbamate)  
Class : 9  
Packing group : III  
Labels : Miscellaneous  
Packing instruction (cargo aircraft) : 956  
Packing instruction (passenger aircraft) : 956  
Environmentally hazardous : yes

### IMDG-Code

UN number : UN 3077  
Proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.

(Copper metal powder, Antimony, dialkyl dithiocarbamate)  
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.

### Domestic regulation

#### TDG

UN number : UN 3077  
Proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.

(Copper metal powder, Antimony, dialkyl dithiocarbamate)  
Class : 9  
Packing group : III  
Labels : 9  
ERG Code : 171  
Marine pollutant : yes(Copper metal powder, Antimony, dialkyl dithiocarbamate)

### 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.

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## SECTION 15. REGULATORY INFORMATION

### The ingredients of this product are reported in the following inventories:

DSL : All components of this product are on the Canadian DSL  
TSCA : All chemical substances in this product are either listed on the TSCA Inventory or are in compliance with a TSCA Inventory exemption.  
AICS : All ingredients listed or exempt.

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## SECTION 16. OTHER INFORMATION

**Full text of other abbreviations**

ACGIH	:	USA. ACGIH Threshold Limit Values (TLV)
CA AB OEL	:	Canada. Alberta, Occupational Health and Safety Code (table 2: OEL)
CA BC OEL	:	Canada. British Columbia OEL
CA ON OEL	:	Ontario Table of Occupational Exposure Limits made under the Occupational Health and Safety Act.
CA QC OEL	:	Québec. Regulation respecting occupational health and safety, Schedule 1, Part 1: Permissible exposure values for airborne contaminants
ACGIH / TWA	:	8-hour, time-weighted average
CA AB OEL / TWA	:	8-hour Occupational exposure limit
CA AB OEL / STEL	:	15-minute occupational exposure limit
CA BC OEL / TWA	:	8-hour time weighted average
CA ON OEL / TWA	:	Time-Weighted Average Limit (TWA)
CA QC OEL / TWAEV	:	Time-weighted average exposure value
CA QC OEL / STEV	:	Short-term exposure value

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<sub>x</sub> - Concentration associated with x% response; EL<sub>x</sub> - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErC<sub>x</sub> - 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; IC<sub>50</sub> - 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; LC<sub>50</sub> - Lethal Concentration to 50 % of a test population; LD<sub>50</sub> - 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

Sources of key data used to compile the Material Safety : Internal technical data, data from raw material SDSs, OECD eChem Portal search results and European Chemicals Agen-

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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 is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and shall not be considered a warranty or quality specification of any type. The information provided relates only to the specific material identified at the top of this SDS and may not be valid when the SDS material is used in combination with any other materials or in any process, unless specified in the text. Material users should review the information and recommendations in the specific context of their intended manner of handling, use, processing and storage, including an assessment of the appropriateness of the SDS material in the user's end product, if applicable.

CA / Z8