SAFETY DATA SHEET

2000®

Version 8.0  Revision Date: 10/30/2020  SDS Number: 115153-00023  Date of last issue: 05/06/2020  Date of first issue: 05/12/2015

SECTION 1. IDENTIFICATION

Product name : 2000®

Other means of identification : No data available

SDS-Identcode : 294G

Manufacturer or supplier's details

Company name of supplier : Bestolife Corporation
Address : 2126 Vanco Drive
Irving TX 75061,
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.

SECTION 2. HAZARDS IDENTIFICATION

GHS classification in accordance with the Hazardous Products Regulations

Eye irritation : Category 2A
Skin sensitization : Sub-category 1B

GHS label elements

Hazard pictograms

Signal Word : Warning

Hazard Statements : H317 May cause an allergic skin reaction.
H319 Causes serious eye irritation.

Precautionary Statements : Prevention:
P261 Avoid breathing dust, fume, gas, mist, vapors or spray.
P264 Wash skin thoroughly after handling.
P272 Contaminated work clothing should not be allowed out of
the workplace.
P280 Wear protective gloves, eye protection and face protec-

Response:
OTHER HAZARDS

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Substance / Mixture</th>
<th>Components</th>
</tr>
</thead>
<tbody>
<tr>
<td>Distillates (petroleum), hydrotreated heavy naphthenic</td>
<td>64742-52-5</td>
</tr>
<tr>
<td>Graphite</td>
<td>7782-42-5</td>
</tr>
<tr>
<td>Talc</td>
<td>14807-96-6</td>
</tr>
<tr>
<td>Copper metal powder</td>
<td>7440-50-8</td>
</tr>
<tr>
<td>Calcium oxide</td>
<td>1305-78-8</td>
</tr>
<tr>
<td>12-Hydroxy lithium stearate</td>
<td>7620-77-1</td>
</tr>
<tr>
<td>Quartz</td>
<td>14808-60-7</td>
</tr>
<tr>
<td>Calcium bis(di C8-C10, branched, C9 rich, alkylnapthalenesulphonate)</td>
<td>57855-77-3</td>
</tr>
</tbody>
</table>

* 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 : May cause an allergic skin reaction. 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 (see section 8).

Notes to physician : Treat symptomatically and supportively.

SECTION 5. FIRE-FIGHTING MEASURES

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

Unsuitable extinguishing media : 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
- Sulfur 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.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures : Use personal protective equipment. Follow safe handling advice (see section 7) and personal protective equipment recommendations (see section 8).

Environmental precautions : Avoid release to the environment. 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.
SECTION 7. HANDLING AND STORAGE

Technical measures:
See Engineering measures under EXPOSURE CONTROLS/PERSONAL PROTECTION section.

Advice on safe handling:
For outdoor use only
Do not get on skin or clothing.
Avoid breathing dust, fume, gas, mist, vapors or spray.
Do not swallow.
Do not get in eyes.
Wash skin thoroughly after handling.
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.

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

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>Value type (Form of exposure)</th>
<th>Control parameters / Permissible concentration</th>
<th>Basis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Distillates (petroleum), hydrotreated heavy naphthenic</td>
<td>64742-52-5</td>
<td>TWA (Mist)</td>
<td>5 mg/m³</td>
<td>CA AB OEL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>STEL (Mist)</td>
<td>10 mg/m³</td>
<td>CA AB OEL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWAEV (Mist)</td>
<td>5 mg/m³</td>
<td>CA QC OEL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>STEV (Mist)</td>
<td>10 mg/m³</td>
<td>CA QC OEL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA (Mist)</td>
<td>1 mg/m³</td>
<td>CA BC OEL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA (Inhalable particulate matter)</td>
<td>5 mg/m³</td>
<td>ACGIH</td>
</tr>
<tr>
<td>Graphite</td>
<td>7782-42-5</td>
<td>TWA (Respirable)</td>
<td>2 mg/m³</td>
<td>CA BC OEL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWAEV (respirable dust)</td>
<td>2 mg/m³</td>
<td>CA QC OEL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA (Respirable)</td>
<td>2 mg/m³</td>
<td>CA AB OEL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA (Respirable particulate matter)</td>
<td>2 mg/m³</td>
<td>ACGIH</td>
</tr>
<tr>
<td>Talc</td>
<td>14807-96-6</td>
<td>TWAEV (respirable dust)</td>
<td>3 mg/m³</td>
<td>CA QC OEL</td>
</tr>
<tr>
<td>Material</td>
<td>TWA (Respirable particulates)</td>
<td>TWA (Respirable)</td>
<td>TWA (Fumes)</td>
<td>TWA (Dust and mist)</td>
</tr>
<tr>
<td>--------------------------------</td>
<td>-------------------------------</td>
<td>------------------</td>
<td>-------------</td>
<td>---------------------</td>
</tr>
<tr>
<td>Copper metal powder</td>
<td>2 mg/m³</td>
<td>2 mg/m³</td>
<td>0.2 mg/m³</td>
<td>1 mg/m³</td>
</tr>
<tr>
<td>Calcium oxide</td>
<td>2 mg/m³</td>
<td>2 mg/m³</td>
<td>10 mg/m³</td>
<td>2 mg/m³</td>
</tr>
<tr>
<td>12-Hydroxy lithium stearate</td>
<td>10 mg/m³</td>
<td>10 mg/m³</td>
<td>10 mg/m³</td>
<td>10 mg/m³</td>
</tr>
</tbody>
</table>
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/m³ - total dust, 5 mg/m³ - respirable fraction; and ACGIH TWA for Particles (insoluble or poorly soluble) Not Otherwise Specified of 3 mg/m³ - respirable particles, 10 mg/m³ - inhalable particles.

Personal protective equipment
Respiratory protection:
If adequate local exhaust ventilation is not available or exposure assessment demonstrates exposures outside the recommended guidelines, use respiratory protection.

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:
If exposure to chemical is likely during typical use, provide eye flushing systems and safety showers close to the working place. When using do not eat, drink or smoke. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before re-use.
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 : >= 200 °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 flammability limit : No data available
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
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Oxidizing properties : The substance or mixture is not classified as oxidizing.
Molecular weight : No data available
Particle size : No data available

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.

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 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
<table>
<thead>
<tr>
<th>Substance</th>
<th>Acute oral toxicity</th>
<th>Acute inhalation toxicity</th>
<th>Acute dermal toxicity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Talc</td>
<td>LD50 (Rat): &gt; 5,000 mg/kg</td>
<td>LC50 (Rat): &gt; 5.11 mg/l</td>
<td>LD50 (Rat): &gt; 2,000 mg/kg</td>
</tr>
<tr>
<td>Copper metal powder</td>
<td>LD50 (Rat): &gt; 2,500 mg/kg</td>
<td>LD50 (Rat): &gt; 2,000 mg/kg</td>
<td></td>
</tr>
<tr>
<td>Calcium oxide</td>
<td>LD50 (Rat): &gt; 2,000 mg/kg</td>
<td>(Rat): &gt; 5 mg/l</td>
<td>LD50 (Rabbit): &gt; 2,500 mg/kg</td>
</tr>
<tr>
<td>12-Hydroxy lithium stearate</td>
<td>LD50 (Rat): &gt; 2,000 mg/kg</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Quartz</td>
<td>LD50 (Rat): &gt; 5,000 mg/kg</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Calcium bis(di C8-C10, branched, C9 rich, alkylnaphthalenesulphonate)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Acute oral toxicity: LD50 (Rat): > 5,000 mg/kg
Acute dermal toxicity: LD50 (Rabbit): > 5,000 mg/kg

Skin corrosion/irritation
Not classified based on available information.

Components:

- **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
  - 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

- **12-Hydroxy lithium stearate:**
  - Species: Rabbit
  - Result: No skin irritation
  - Remarks: Based on data from similar materials

- **Calcium bis(di C8-C10, branched, C9 rich, alkynaphthalenesulphonate):**
  - Species: Rabbit
  - Result: Skin irritation
  - Remarks: Based on data from similar materials

**Serious eye damage/eye irritation**
Causes serious eye irritation.
Components:

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

12-Hydroxy lithium stearate:
Species: Rabbit
Result: No eye irritation
Remarks: Based on data from similar materials

Calcium bis(di C8-C10, branched, C9 rich, alkynaphthalenesulphonate):
Species: Rabbit
Result: Irritation to eyes, reversing within 21 days
Remarks: Based on data from similar materials

Respiratory or skin sensitization

Skin sensitization
May cause an allergic skin reaction.

Respiratory sensitization
Not classified based on available information.

Components:

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

**12-Hydroxy lithium stearate:**
- **Test Type:** Local lymph node assay (LLNA)
- **Routes of exposure:** Skin contact
- **Species:** Mouse
- **Method:** OECD Test Guideline 429
- **Result:** negative

**Calcium bis(di C8-C10, branched, C9 rich, alkylnaphthalenesulphonate):**
- **Test Type:** Buehler Test
- **Routes of exposure:** Skin contact
- **Species:** Guinea pig
- **Result:** positive
- **Remarks:** Based on data from similar materials

**Assessment:** Probability or evidence of low to moderate skin sensitization rate in humans

**Germ cell mutagenicity**
Not classified based on available information.
Components:

Distillates (petroleum), hydrotreated heavy naphthenic:

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: Intraperitoneal injection  
Method: OECD Test Guideline 474  
Result: negative  
Remarks: Based on data from similar materials

Graphite:

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

Test Type: In vitro mammalian cell gene mutation test  
Method: OECD Test Guideline 476  
Result: negative

Test Type: Chromosome aberration test in vitro  
Method: OECD Test Guideline 473  
Result: negative

Talc:

Genotoxicity in vitro:  
Test Type: DNA damage and repair, unscheduled DNA synthesis in mammalian cells (in vitro)  
Result: negative

Genotoxicity in vivo:  
Test Type: Chromosome aberration test in vitro  
Species: Rat  
Application Route: Ingestion  
Result: negative

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  
Result: negative  
Remarks: Based on data from similar materials

Calcium oxide:
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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

Calcium bis(di C8-C10, branched, C9 rich, alkynaphthalenesulphonate):
- Genotoxicity in vitro:
  Test Type: Bacterial reverse mutation assay (AMES)
  Method: OECD Test Guideline 471
  Result: negative
  Remarks: Based on data from similar materials
- 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 heavy naphthenic:
- Species: Mouse
- Application Route: Skin contact
- Exposure time: 78 weeks
- Method: OECD Test Guideline 451
- Result: negative

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: 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:

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
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

Calcium bis(di C8-C10, branched, C9 rich, alkynaphthalenesulphonate):
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: 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

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:

12-Hydroxy lithium stearate:
Routes of exposure: Ingestion
Assessment: No significant health effects observed in animals at concentrations of 100 mg/kg bw or less.
Quartz:
- Routes of exposure: inhalation (dust/mist/fume)
- 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 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: >= 2 mg/m³
- Application Route: inhalation (dust/mist/fume)
- Exposure time: 28 Days

Calcium oxide:
- Species: Rat
- NOAEL: >= 0.399 mg/l
- Application Route: inhalation (dust/mist/fume)
- Exposure time: 90 Days
- Method: OECD Test Guideline 413

12-Hydroxy lithium stearate:
- Species: Rat
- NOAEL: > 88 mg/kg
- Application Route: Ingestion
- Exposure time: 90 Days

Quartz:
- Species: Humans
- LOAEL: 0.053 mg/m³
- 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.

Calcium bis(di C8-C10, branched, C9 rich, alkynaphthalenesulphonate):
- Species: Rat
- NOAEL: 100 mg/kg
- LOAEL: 300 mg/kg
- Application Route: Ingestion
Exposure time: 90 Days
Method: OECD Test Guideline 408

Aspiration toxicity
Not classified based on available information.

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

- **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
  - EC50 (Daphnia magna (Water flea)): 30,940 mg/l
    - Exposure time: 48 h
    - Method: OECD Test Guideline 202

- **Toxicity to algae/aquatic plants:**
  - EC50 (Selenastrum capricornutum (green algae)): 11,267 mg/l
    - Exposure time: 96 h
    - Method: OECD Test Guideline 201
  - NOEC (Selenastrum capricornutum (green algae)): 100 mg/l
    - Exposure time: 96 h
    - Method: OECD Test Guideline 201

**Components:**

**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 (Chron-**
  - NOEC (Daphnia magna (Water flea)): 10 mg/l
    - Exposure time: 21 d
**Graphite:**

- **Toxicity to fish:** NOEC: > 1.93 mg/l  
  Exposure time: 10 min  
  Test substance: Water Accommodated Fraction  
  Method: OECD Test Guideline 203

- **Toxicity to daphnia and other aquatic invertebrates:**  
  LL50 (Danio rerio (zebra fish)): > 100 mg/l  
  Exposure time: 96 h  
  Test substance: Water Accommodated Fraction  
  Method: OECD Test Guideline 203

- **Toxicity to algae/aquatic plants:**  
  EL50 (Daphnia magna (Water flea)): > 100 mg/l  
  Exposure time: 48 h  
  Test substance: Water Accommodated Fraction  
  Method: OECD Test Guideline 202

- **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  
  Exposure time: 24 h

**Copper metal powder:**

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

**Calcium oxide:**

- **Toxicity to fish** (Chronic toxicity):  
  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
### 12-Hydroxy lithium stearate:

<table>
<thead>
<tr>
<th>Toxicty to fish</th>
<th>Remarks: Based on data from similar materials</th>
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</thead>
<tbody>
<tr>
<td>LL50 (Oncorhynchus mykiss (rainbow trout)): &gt; 100 mg/l</td>
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<tr>
<td>Exposure time: 96 h</td>
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<tr>
<td>Method: OECD Test Guideline 203</td>
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</table>

<table>
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<th>Remarks: Based on data from similar materials</th>
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<tr>
<td>Exposure time: 48 h</td>
<td></td>
</tr>
<tr>
<td>Method: OECD Test Guideline 202</td>
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</tbody>
</table>

### Quartz:

**Ecotoxicology Assessment**

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

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

### Calcium bis(di C8-C10, branched, C9 rich, alkylnaphthalenesulphonate):

<table>
<thead>
<tr>
<th>Toxicity to fish</th>
<th>Remarks: Based on data from similar materials</th>
</tr>
</thead>
<tbody>
<tr>
<td>LL50 (Cyprinus carpio (Carp)): &gt; 100 mg/l</td>
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<tr>
<td>Exposure time: 96 h</td>
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<tr>
<td>Test substance: Water Accommodated Fraction</td>
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<td></td>
</tr>
<tr>
<td>Exposure time: 48 h</td>
<td></td>
</tr>
</tbody>
</table>
## Test substance: Water Accommodated Fraction

**Method:** OECD Test Guideline 202  
**Remarks:** Based on data from similar materials

### Toxicity to algae/aquatic plants

- EL50 *(Pseudokirchneriella subcapitata (green algae)):* > 10 mg/l  
  **Exposure time:** 72 h  
  **Test substance:** Water Accommodated Fraction  
  **Method:** OECD Test Guideline 202  
  **Remarks:** Based on data from similar materials

- EL10 *(Pseudokirchneriella subcapitata (green algae)):* > 1 mg/l  
  **Exposure time:** 72 h  
  **Test substance:** Water Accommodated Fraction  
  **Method:** OECD Test Guideline 202  
  **Remarks:** Based on data from similar materials

### Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)

- NOELR *(Daphnia magna (Water flea)):* 2.2 mg/l  
  **Exposure time:** 21 d  
  **Test substance:** Water Accommodated Fraction  
  **Method:** OECD Test Guideline 202  
  **Remarks:** Based on data from similar materials

### Toxicity to microorganisms

- NOEC:* > 100 mg/l  
  **Exposure time:** 3 h  
  **Test substance:** Water Accommodated Fraction  
  **Method:** OECD Test Guideline 202  
  **Remarks:** Based on data from similar materials

## Persistence and degradability

### Product:

**Biodegradability:** Result: Readily biodegradable.

### Components:

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

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

#### 12-Hydroxy lithium stearate:

**Biodegradability:** Result: Readily biodegradable.  
**Biodegradation:** 78 %  
**Exposure time:** 28 d  
**Method:** OECD Test Guideline 301C

#### Calcium bis(di C8-C10, branched, C9 rich, alkylnaphthalenesulphonate):

**Biodegradability:** Result: Not readily biodegradable.  
**Remarks:** Based on data from similar materials
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Bioaccumulative potential

Components:

Calcium bis(di C8-C10, branched, C9 rich, alkylnaphthalenesulphonate):

 Partition coefficient: n-octanol/water: log Pow: > 6.6

Mobility in soil
No data available

Other adverse effects
No data available

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.

SECTION 14. TRANSPORT INFORMATION

International Regulations

UNRTDG

Class: 9
Packing group: III
Labels: 9

IATA-DGR

UN/ID No.: UN 3077

Class: 9
Packing group: III
Labels: Miscellaneous
Packing instruction (cargo aircraft): 956
Packing instruction (passenger aircraft): 956

IMDG-Code

UN number: UN 3077

Proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID,
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.

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.

SECTION 16. OTHER INFORMATION

Full text of other abbreviations
ACGIH: USA. ACGIH Threshold Limit Values (TLV)
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
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2000®

Version: 8.0
Revision Date: 10/30/2020
SDS Number: 115153-00023
Date of last issue: 05/06/2020
Date of first issue: 05/12/2015

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 / TWA: Time-weighted average exposure value
CA QC OEL / STEL: Short-term exposure value

AllC - Australian Inventory of Industrial Chemicals; 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; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; EMx - Loading rate associated with x% response; EnS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ERx - 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


Revision Date: 10/30/2020
Date format: mm/dd/yyyy

Items where changes have been made to the previous version are highlighted in the body of this document by two vertical lines.

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