SECTION 1. IDENTIFICATION

Product name: COPPER ROCK
SDS-Identcode: 304G

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
Emergency telephone: CHEMTREC U.S.: 800-424-9300, International 703-527-3887 (24-hours/7 days)
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 OSHA Hazard Communication Standard (29 CFR 1910.1200)
Eye irritation: Category 2A
Skin sensitization: Category 1

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 must not be allowed out of the workplace.
P280 Wear protective gloves, eye protection and face protec-
tion.
Response:
P302 + P352 IF ON SKIN: Wash with plenty of soap and water.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P333 + P313 If skin irritation or rash occurs: Get medical attention.
P337 + P313 If eye irritation persists: Get medical attention.
P363 Wash contaminated clothing before reuse.

Disposal:
P501 Dispose of contents and container to an approved waste disposal plant.

Other hazards
None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Components

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CAS-No.</th>
<th>Concentration (% w/w)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Distillates (petroleum), hydrotreated heavy paraffinic</td>
<td>64742-54-7</td>
<td>&gt;= 30 - &lt; 50</td>
</tr>
<tr>
<td>Distillates (petroleum), hydrotreated heavy naphthenic</td>
<td>64742-52-5</td>
<td>&gt;= 20 - &lt; 30</td>
</tr>
<tr>
<td>Graphite</td>
<td>7782-42-5</td>
<td>&gt;= 10 - &lt; 20</td>
</tr>
<tr>
<td>Copper metal powder</td>
<td>7440-50-8</td>
<td>&gt;= 10 - &lt; 20</td>
</tr>
<tr>
<td>Talc</td>
<td>14807-96-6</td>
<td>&gt;= 10 - &lt; 20</td>
</tr>
<tr>
<td>Dilithium azelate</td>
<td>38900-29-7</td>
<td>&gt;= 5 - &lt; 10</td>
</tr>
<tr>
<td>Calcium oxide</td>
<td>1305-78-8</td>
<td>&gt;= 1 - &lt; 5</td>
</tr>
<tr>
<td>Dolomite</td>
<td>16389-88-1</td>
<td>&gt;= 1 - &lt; 5</td>
</tr>
<tr>
<td>Tris(bis(2-ethylhexyl)thiocarbamato-SS') antimony</td>
<td>15991-76-1</td>
<td>&gt;= 1 - &lt; 5</td>
</tr>
<tr>
<td>Antimony, dialkyl dithiocarbamate</td>
<td>15890-25-2</td>
<td>&gt;= 1 - &lt; 5</td>
</tr>
<tr>
<td>Quartz</td>
<td>14808-60-7</td>
<td>&gt;= 1 - &lt; 5</td>
</tr>
<tr>
<td>2,5-Bis(octyldithio)-1,3,4-thiadiazole</td>
<td>13539-13-4</td>
<td>&gt;= 0.1 - &lt; 1</td>
</tr>
<tr>
<td>Benzenesulphonic acid, propenated, calcium salts, overbased</td>
<td>68610-84-4</td>
<td>&gt;= 0.1 - &lt; 1</td>
</tr>
</tbody>
</table>

Actual concentration 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
Metal oxides
Nitrogen oxides (NOx)
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 paraaffinic</td>
<td>64742-54-7</td>
<td>TWA (Mist)</td>
<td>5 mg/m³</td>
<td>OSHA Z-1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA (Mist)</td>
<td>5 mg/m³</td>
<td>NIOSH REL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ST (Mist)</td>
<td>10 mg/m³</td>
<td>NIOSH REL</td>
</tr>
<tr>
<td>Distillates (petroleum), hydrotreated heavy naphthenic</td>
<td>64742-52-5</td>
<td>TWA (Mist)</td>
<td>5 mg/m³</td>
<td>OSHA Z-1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA (Inhalable particulate matter)</td>
<td>5 mg/m³</td>
<td>ACGIH</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA (Mist)</td>
<td>5 mg/m³</td>
<td>NIOSH REL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ST (Mist)</td>
<td>10 mg/m³</td>
<td>NIOSH REL</td>
</tr>
<tr>
<td>Graphite</td>
<td>7782-42-5</td>
<td>TWA (Respirable)</td>
<td>2.5 mg/m³</td>
<td>NIOSH REL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA (Respirable particulate matter)</td>
<td>2 mg/m³</td>
<td>ACGIH</td>
</tr>
<tr>
<td>Material</td>
<td>TWA (Dust)</td>
<td>TWA (Dust and mist)</td>
<td>TWA (Mist)</td>
<td>TWA (Mists)</td>
</tr>
<tr>
<td>-----------------------------------------------</td>
<td>---------------------</td>
<td>---------------------</td>
<td>---------------------</td>
<td>---------------------</td>
</tr>
<tr>
<td>Copper metal powder</td>
<td>15 Million particles per cubic foot</td>
<td>1 mg/m³ (Copper)</td>
<td>1 mg/m³ (Copper)</td>
<td>1 mg/m³ (Copper)</td>
</tr>
<tr>
<td></td>
<td>OSHA Z-3</td>
<td>ACGIH</td>
<td>NIOSH REL</td>
<td>NIOSH REL</td>
</tr>
<tr>
<td>Talc</td>
<td>20 Million particles per cubic foot</td>
<td>2 mg/m³</td>
<td>2 mg/m³</td>
<td>5 mg/m³</td>
</tr>
<tr>
<td></td>
<td>OSHA Z-3</td>
<td>NIOSH REL</td>
<td>ACGIH</td>
<td>NIOSH REL</td>
</tr>
<tr>
<td>Calcium oxide</td>
<td>2 mg/m³</td>
<td>ACGIH</td>
<td>NIOSH REL</td>
<td></td>
</tr>
<tr>
<td>Dolomite</td>
<td>5 mg/m³</td>
<td>NIOSH REL</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tris[bis(2-ethylhexyl)dithiocarbamato-S,S'] antimony</td>
<td>0.5 mg/m³ (antimony)</td>
<td>OSHA Z-1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Antimony, dialkyl dithiocarbamate</td>
<td>0.5 mg/m³ (antimony)</td>
<td>ACGIH</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Quartz</td>
<td>0.05 mg/m³ (antimony)</td>
<td>OSHA Z-1</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>10 mg/m³ / %SiO2+2</td>
<td>OSHA Z-3</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>250 mppcf / %SiO2+5</td>
<td>OSHA Z-3</td>
<td></td>
<td></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:
General and local exhaust ventilation is recommended to maintain vapor exposures below recommended limits. Where concentrations are above recommended limits or are unknown, appropriate respiratory protection should be worn. Follow OSHA respirator regulations (29 CFR 1910.134) and use NIOSH/MSHA approved respirators. Protection provided by air purifying respirators against exposure to any hazardous chemical is limited. Use a positive pressure air supplied respirator if there is any potential for uncontrolled release, exposure levels are unknown, or any other circumstance where air purifying respirators may not provide adequate protection.

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: 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: >= 399 °F / >= 204 °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
Density: No data available
Solubility(ies)
    Water solubility: negligible
    Partition coefficient: n-octanol/water: Not applicable
    Autoignition temperature: No data available
Decomposition temperature: No data available

Viscosity
Viscosity, dynamic: No data available
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

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.

Product:
Acute oral toxicity: Acute toxicity estimate: > 5,000 mg/kg
Method: Calculation method

Components:

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

---

### 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  
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
<table>
<thead>
<tr>
<th>Substance</th>
<th>Acute oral toxicity</th>
<th>Acute dermal toxicity</th>
<th>Acute inhalation toxicity</th>
<th>Assesement</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Talc</td>
<td>LD50 (Rat): &gt; 5,000 mg/kg</td>
<td></td>
<td></td>
<td></td>
<td>Based on data from similar materials</td>
</tr>
<tr>
<td>Dillithium azelate</td>
<td>LD50 (Rat): &gt; 300 - 2,000 mg/kg</td>
<td>LD50 (Rat): &gt; 2,000 mg/kg</td>
<td>Method: OECD Test Guideline 420</td>
<td>Based on data from similar materials</td>
<td></td>
</tr>
<tr>
<td>Calcium oxide</td>
<td>LD50 (Rat): &gt; 2,000 mg/kg</td>
<td></td>
<td>Method: OECD Test Guideline 425</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dolomite</td>
<td>LD50 (Rat): &gt; 2,000 mg/kg</td>
<td></td>
<td>Method: OECD Test Guideline 420</td>
<td>Assessment: The substance or mixture has no acute oral toxicity</td>
<td>Based on data from similar materials</td>
</tr>
<tr>
<td></td>
<td>(Rat): &gt; 5 mg/l</td>
<td></td>
<td>Exposure time: 4 h</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Test atmosphere: dust/mist</td>
<td></td>
<td>Method: OECD Test Guideline 436</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>LD50 (Rabbit): &gt; 2,500 mg/kg</td>
<td></td>
<td>Method: OECD Test Guideline 402</td>
<td>Assessment: The substance or mixture has no acute dermal toxicity</td>
<td>Based on data from similar materials</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Assessment: The substance or mixture has no acute inhalation toxicity</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Remarks: Based on data from similar materials</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tris[bis(2-ethylhexyl)dithiocarbamato-S,S'] antimony</td>
<td>LC50 (Rat): &gt; 3 mg/l</td>
<td></td>
<td>Exposure time: 4 h</td>
<td>Assessment: The substance or mixture has no acute inhalation toxicity</td>
<td>Based on data from similar materials</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Test atmosphere: dust/mist</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Assessment: The substance or mixture has no acute dermal toxicity</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Remarks: Based on data from similar materials</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Acute oral toxicity
- LD50 (Rat): > 5,000 mg/kg
- Remarks: Based on data from similar materials

### Acute dermal toxicity
- LD50 (Rabbit): > 5,000 mg/kg
- Remarks: Based on data from similar materials

### Antimony, dialkyl dithiocarbamate:
- Acute oral toxicity: LD50 (Rat): > 5,000 mg/kg
- Acute dermal toxicity: LD50 (Rabbit): > 5,000 mg/kg

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

### 2,5-Bis(octyldithio)-1,3,4-thiadiazole:
- Acute oral toxicity: LD50 (Rat): > 5,000 mg/kg
  - Method: OECD Test Guideline 401
- Acute inhalation toxicity: LC50 (Rat): 3.08 mg/l
  - Exposure time: 4 h
  - Test atmosphere: dust/mist
  - Method: OECD Test Guideline 403
- Acute dermal toxicity: LD50 (Rabbit): > 2,000 mg/kg
  - Method: OECD Test Guideline 402
  - Assessment: The substance or mixture has no acute dermal toxicity

### Benzenesulphonic acid, propenated, calcium salts, overbased:
- 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): > 1.9 mg/l
  - Exposure time: 4 h
  - Test atmosphere: dust/mist
  - Method: OECD Test Guideline 403
  - Remarks: Based on data from similar materials
- Acute dermal toxicity: LD50 (Rat): > 5,000 mg/kg
  - Method: OECD Test Guideline 402
  - Remarks: Based on data from similar materials

### Skin corrosion/irritation
Not classified based on available information.

### Components:

<table>
<thead>
<tr>
<th>Components</th>
<th>Species</th>
<th>Result</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Distillates (petroleum), hydrotreated heavy paraffinic</td>
<td>Rabbit</td>
<td>No skin irritation</td>
<td>Based on data from similar materials</td>
</tr>
</tbody>
</table>
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

Copper metal powder:
- **Species**: Rabbit
- **Method**: OECD Test Guideline 404
- **Result**: No skin irritation

Talc:
- **Species**: Rabbit
- **Result**: No skin irritation

Dilithium azelate:
- **Species**: reconstructed human epidermis (RhE)
- **Method**: OECD Test Guideline 439
- **Remarks**: Based on data from similar materials
- **Result**: No skin irritation

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

Dolomite:
- **Species**: Rabbit
- **Method**: OECD Test Guideline 404
- **Result**: No skin irritation
- **Remarks**: Based on data from similar materials

2,5-Bis(octyldithio)-1,3,4-thiadiazole:
- **Species**: Rabbit
- **Method**: OECD Test Guideline 404
- **Result**: Skin irritation

Benzenesulphonic acid, propenated, calcium salts, overbased:
- **Species**: Rabbit
- **Result**: No skin irritation
- **Remarks**: Based on data from similar materials
### Serious eye damage/eye irritation

Causes serious eye irritation.

**Product:**

| Result | Irritation to eyes, reversing within 21 days |

**Components:**

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

<table>
<thead>
<tr>
<th>Species</th>
<th>Rabbit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Result</td>
<td>No eye irritation</td>
</tr>
<tr>
<td>Method</td>
<td>OECD Test Guideline 405</td>
</tr>
<tr>
<td>Remarks</td>
<td>Based on data from similar materials</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Species</th>
<th>Rabbit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Result</td>
<td>No eye irritation</td>
</tr>
<tr>
<td>Remarks</td>
<td>Based on data from similar materials</td>
</tr>
</tbody>
</table>

#### Graphite:

<table>
<thead>
<tr>
<th>Species</th>
<th>Rabbit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Result</td>
<td>No eye irritation</td>
</tr>
<tr>
<td>Method</td>
<td>OECD Test Guideline 405</td>
</tr>
</tbody>
</table>

#### Copper metal powder:

<table>
<thead>
<tr>
<th>Species</th>
<th>Rabbit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Result</td>
<td>No eye irritation</td>
</tr>
<tr>
<td>Method</td>
<td>OECD Test Guideline 405</td>
</tr>
</tbody>
</table>

#### Talc:

<table>
<thead>
<tr>
<th>Species</th>
<th>Rabbit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Result</td>
<td>No eye irritation</td>
</tr>
</tbody>
</table>

#### Dilithium azelate:

<table>
<thead>
<tr>
<th>Species</th>
<th>Rabbit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Result</td>
<td>No eye irritation</td>
</tr>
<tr>
<td>Method</td>
<td>OECD Test Guideline 405</td>
</tr>
</tbody>
</table>

#### Calcium oxide:

<table>
<thead>
<tr>
<th>Species</th>
<th>Rabbit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Result</td>
<td>Irreversible effects on the eye</td>
</tr>
<tr>
<td>Method</td>
<td>OECD Test Guideline 405</td>
</tr>
</tbody>
</table>

#### Dolomite:

<table>
<thead>
<tr>
<th>Species</th>
<th>Rabbit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Result</td>
<td>No eye irritation</td>
</tr>
<tr>
<td>Method</td>
<td>OECD Test Guideline 405</td>
</tr>
<tr>
<td>Remarks</td>
<td>Based on data from similar materials</td>
</tr>
</tbody>
</table>
2,5-Bis(octyldithio)-1,3,4-thiadiazole:
Species: Rabbit
Result: No eye irritation
Method: OECD Test Guideline 405

Benzenesulphonic acid, propenated, calcium salts, overbased:
Species: Rabbit
Result: No eye irritation
Method: OECD Test Guideline 405
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 paraffinic:
Test Type: Buehler Test
Routes of exposure: Skin contact
Species: Guinea pig
Method: OECD Test Guideline 406
Result: negative
Remarks: Based on data from similar materials

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

Copper metal powder:
Test Type: Maximization Test
Routes of exposure: Skin contact
Species: Guinea pig
Method: OECD Test Guideline 406
Result: negative
Talc:
Routes of exposure: Skin contact
Species: Humans
Result: negative

Dilithium azelate:
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

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

Dolomite:
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

2,5-Bis(octyldithio)-1,3,4-thiadiazole:
Test Type: Buehler Test
Routes of exposure: Skin contact
Species: Guinea pig
Method: OECD Test Guideline 406
Result: positive
Assessment: Probability or evidence of high skin sensitization rate in humans

Benzenesulphonic acid, propened, calcium salts, overbased:
Test Type: Human repeat insult patch test (HRIPT)
Routes of exposure: Skin contact
Result: positive
Remarks: Based on data from similar materials
Assessment: Probability or evidence of skin sensitization in humans

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

Distillates (petroleum), hydrotreated heavy paraffinic:

- 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

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

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
### 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

### Dilithium azelate:

**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
- 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

### 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

### Dolomite:

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

### Antimony, dialkyl dithiocarbamate:

**Genotoxicity in vitro**
- Test Type: Bacterial reverse mutation assay (AMES)
- Result: negative
### Genotoxicity in vivo

<table>
<thead>
<tr>
<th>Compound</th>
<th>Test Type</th>
<th>Application Route</th>
<th>Method</th>
<th>Result</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>2,5-Bis(octyldithio)-1,3,4-thiadiazole</td>
<td>Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay)</td>
<td>Intraperitoneal injection</td>
<td>OECD Test Guideline 474</td>
<td>equivocal</td>
<td>Based on data from similar materials</td>
</tr>
<tr>
<td>Benzenesulphonic acid, propenated, calcium salts, overbased</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Based on data from similar materials</td>
</tr>
</tbody>
</table>

#### 2,5-Bis(octyldithio)-1,3,4-thiadiazole:
- Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay)
- Species: Mouse
- Application Route: Intraperitoneal injection
- Method: OECD Test Guideline 474
- Result: equivocal
- Remarks: Based on data from similar materials

#### Benzenesulphonic acid, propenated, calcium salts, overbased:
- Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay)
- Species: Mouse
- Application Route: Ingestion
- Method: OECD Test Guideline 474
- Result: equivocal
- Remarks: Based on data from similar materials

### Genotoxicity in vitro

<table>
<thead>
<tr>
<th>Compound</th>
<th>Test Type</th>
<th>Method</th>
<th>Result</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>2,5-Bis(octyldithio)-1,3,4-thiadiazole</td>
<td>Bacterial reverse mutation assay (AMES)</td>
<td>OECD Test Guideline 471</td>
<td>negative</td>
<td>Based on data from similar materials</td>
</tr>
<tr>
<td>Benzenesulphonic acid, propenated, calcium salts, overbased</td>
<td>Bacterial reverse mutation assay (AMES)</td>
<td>OECD Test Guideline 471</td>
<td>negative</td>
<td>Based on data from similar materials</td>
</tr>
</tbody>
</table>

#### 2,5-Bis(octyldithio)-1,3,4-thiadiazole:
- Test Type: Bacterial reverse mutation assay (AMES)
- Method: OECD Test Guideline 471
- Result: negative
- Remarks: Based on data from similar materials

#### Benzenesulphonic acid, propenated, calcium salts, overbased:
- Test Type: Bacterial reverse mutation assay (AMES)
- Method: OECD Test Guideline 471
- 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 paraffinic:
- **Species:** Mouse
- **Application Route:** Skin contact
- **Exposure time:** 78 weeks
- **Method:** OECD Test Guideline 451
- **Result:** negative
- **Remarks:** Based on data from similar materials

### 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:
- **IARC:** Group 1: Carcinogenic to humans
- **OSHA:** OSHA specifically regulated carcinogen
- **NTP:** Known to be human carcinogen

**Carcinogenicity - Assessment**

<table>
<thead>
<tr>
<th>Agency</th>
<th>Classification</th>
<th>CAS Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>IARC</td>
<td>Group 1: Carcinogenic to humans</td>
<td>14808-60-7</td>
</tr>
<tr>
<td>OSHA</td>
<td>OSHA specifically regulated carcinogen</td>
<td>14808-60-7</td>
</tr>
<tr>
<td>NTP</td>
<td>Known to be human carcinogen</td>
<td>14808-60-7</td>
</tr>
</tbody>
</table>
(Silica, Crystalline (Respirable Size))

Reproductive toxicity
Not classified based on available information.

Components:

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

- **Effects on fertility**: Test Type: Reproduction/Developmental toxicity screening test
  - Species: Rat
  - Application Route: Ingestion
  - Result: negative
  - Remarks: Based on data from similar materials

- **Effects on fetal development**: Test Type: Embryo-fetal development
  - Species: Rat
  - Application Route: Skin contact
  - Method: OECD Test Guideline 414
  - Result: negative
  - Remarks: Based on data from similar materials

**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

**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

**Talc:**

- **Effects on fetal development**: Test Type: Embryo-fetal development
  - Species: Rat
Dilithium azelate:
Effects on fertility : Test Type: Reproduction/Developmental toxicity screening test
Species: Rat
Application Route: Skin contact
Result: negative
Remarks: Based on data from similar materials

Effects on fetal development : Test Type: Reproduction/Developmental toxicity screening test
Species: Rat
Application Route: Skin contact
Result: negative
Remarks: Based on data from similar materials

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

Dolomite:
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

Antimony, dialkyl dithiocarbamate:
Effects on fertility : Test Type: Combined repeated dose toxicity study with the
reproduction/developmental toxicity screening test
Species: Rat
Application Route: Ingestion
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
Result: negative

2,5-Bis(octyldithio)-1,3,4-thiadiazole:

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

Benzenesulphonic acid, propenated, calcium salts, overbased:

Effects on fertility : Test Type: One-generation reproduction toxicity study
Species: Rat
Application Route: Ingestion
Method: OECD Test Guideline 415
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:

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 paraffinic:
- **Species**: Rabbit
- **NOAEL**: 1,000 mg/kg
- **Application Route**: Skin contact
- **Exposure time**: 4 Weeks
- **Method**: OECD Test Guideline 410
- **Remarks**: Based on data from similar materials

Distillates (petroleum), hydrotreated heavy naphthenic:
- **Species**: Rat
- **NOAEL**: > 980 mg/m³
- **Application Route**: Inhalation (dust/mist/fume)
- **Exposure time**: 4 Weeks
- **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

Dilithium azelate:
- **Species**: Rat
- **NOAEL**: 1,089.75 mg/kg
- **Application Route**: Skin contact
- **Exposure time**: 28 Days
- **Remarks**: Based on data from similar materials

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

Dolomite:
- **Species**: Mouse
- **NOAEL**: 1,300 mg/kg
- **Application Route**: Ingestion
- **Exposure time**: 28 Days
- **Remarks**: Based on data from similar materials
Antimony, dialkyl dithiocarbamate:
Species: Rat
NOAEL: $\geq 1,000$ mg/kg
Application Route: Ingestion
Exposure time: 54 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.

2,5-Bis(octyldithio)-1,3,4-thiadiazole:
Species: Rat
NOAEL: $330$ mg/kg
Application Route: Ingestion
Exposure time: 54 Days
Method: OECD Test Guideline 422

Benzenesulphonic acid, propenated, calcium salts, overbased:
Species: Rat
NOAEL: $> 300$ mg/kg
Application Route: Ingestion
Exposure time: 29 Days
Method: OECD Test Guideline 407
Remarks: Based on data from similar materials

Species: Rat
NOAEL: $> 600$ mg/kg
Application Route: Skin contact
Exposure time: 28 Days
Method: OECD Test Guideline 410
Remarks: Based on data from similar materials

Aspiration toxicity
Not classified based on available information.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity
Components:

Distillates (petroleum), hydrotreated heavy paraffinic:
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
  - Method: OECD Test Guideline 202
  - 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
  - Method: OECD Test Guideline 211
  - Remarks: Based on data from similar materials

Toxicity to microorganisms:
- NOEC: > 1.93 mg/l
  - Exposure time: 10 min
  - Method: DIN 38 412 Part 8
  - Remarks: Based on data from similar materials

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:
- \( LE_{50} \) (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:
- \( EC_{50} \): > 1,012.5 mg/l
  - Exposure time: 72 h
  - Method: OECD Test Guideline 209

Copper metal powder:

Toxicity to fish:
- \( LC_{50} \): > 10 - 100 µg/l
  - Exposure time: 96 h

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

Talc:

Toxicity to fish:
- \( LC_{50} \) (Brachydanio rerio (zebrafish)): > 100,000 mg/l
  - Exposure time: 24 h

Dilithium azelate:

Toxicity to fish:
- \( LC_{50} \) (Oncorhynchus mykiss (rainbow trout)): > 10 - 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:
- \( EC_{50} \) (Daphnia magna (Water flea)): > 10 - 100 mg/l
  - Exposure time: 48 h
  - Method: OECD Test Guideline 202
  - Remarks: Based on data from similar materials

Toxicity to algae/aquatic plants:
- NOEC (Pseudokirchneriella subcapitata (green algae)): > 1 mg/l
  - Exposure time: 72 h
  - Remarks: Based on data from similar materials

ErC50 (Pseudokirchneriella subcapitata (green algae)): > 100 mg/l
  - Exposure time: 72 h
  - Remarks: Based on data from similar materials

Calcium oxide:

Toxicity to fish:
- \( LC_{50} \) (Oncorhynchus mykiss (rainbow trout)): > 100 mg/l
  - Exposure time: 96 h
Toxicity to daphnia and other aquatic invertebrates

Method: OECD Test Guideline 203
Remarks: Based on data from similar materials

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

Method: OECD Test Guideline 201
Remarks: Based on data from similar materials

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

NOEC (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)

Method: OECD Test Guideline 211
Remarks: Based on data from similar materials

NOEC (Daphnia magna (Water flea)): 0.02 mg/l
Exposure time: 21 d
Method: OECD Test Guideline 211
Remarks: Based on data from similar materials

Dolomite:

Toxicity to fish

Method: OECD Test Guideline 203
Remarks: No toxicity at the limit of solubility. Based on data from similar materials

LC50 (Oncorhynchus mykiss (rainbow trout)): > 16.6 mg/l
Exposure time: 96 h
Method: OECD Test Guideline 203
Remarks: No toxicity at the limit of solubility. Based on data from similar materials

Toxicity to daphnia and other aquatic invertebrates

Method: OECD Test Guideline 202
Remarks: No toxicity at the limit of solubility. Based on data from similar materials

EC50 (Daphnia magna (Water flea)): > 16.6 mg/l
Exposure time: 48 h
Method: OECD Test Guideline 202
Remarks: No toxicity at the limit of solubility. Based on data from similar materials

Toxicity to algae/aquatic plants

Method: OECD Test Guideline 201
Remarks: Based on data from similar materials

NOEC (Desmodesmus subspicatus (green algae)): 14 mg/l
Exposure time: 72 h
Method: OECD Test Guideline 201
Remarks: Based on data from similar materials

Tris[bis(2-ethylhexyl)dithiocarbamato-S,S’] antimony:

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)

Method: OECD Test Guideline 211
Remarks: Based on data from similar materials

NOEC (Daphnia magna (Water flea)): 0.02 mg/l
Exposure time: 21 d
Method: OECD Test Guideline 211
Remarks: Based on data from similar materials
Ecotoxicology Assessment
Chronic aquatic toxicity: Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

**Antimony, dialkyl dithiocarbamate:**
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity):
- NOEC (Daphnia magna (Water flea)): 0.02 mg/l
- Exposure time: 21 d
- Method: OECD Test Guideline 211

Ecotoxicology Assessment
Chronic aquatic toxicity: Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

**Quartz:**

Ecotoxicology Assessment
Acute aquatic toxicity: No toxicity at the limit of solubility.
Chronic aquatic toxicity: No toxicity at the limit of solubility.

**2,5-Bis(octyldithio)-1,3,4-thiadiazole:**
Toxicity to fish:
- LL50 (Oncorhynchus mykiss (rainbow trout)): > 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)): 45 mg/l
- Exposure time: 48 h
- Test substance: Water Accommodated Fraction
- Method: OECD Test Guideline 202

Toxicity to algae/aquatic plants:
- LL50 (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)): > 1 mg/l
- Exposure time: 72 h
- Test substance: Water Accommodated Fraction
- Method: OECD Test Guideline 201

Toxicity to microorganisms:
- EC50: > 1,000 mg/l
- Exposure time: 3 h
- Test substance: Water Accommodated Fraction
- Method: OECD Test Guideline 209

**Benzenesulphonic acid, propenated, calcium salts, overbased:**
Toxicity to fish:
- LL50 (Pimephales promelas (fathead minnow)): > 100 mg/l
- Exposure time: 96 h
Toxicity to daphnia and other aquatic invertebrates:

- Test substance: Water Accommodated Fraction
- Method: OECD Test Guideline 203
- Remarks: Based on data from similar materials
- EL50 (Daphnia magna (Water flea)): > 100 mg/l
- Exposure time: 48 h

Toxicity to algae/aquatic plants:

- Test substance: Water Accommodated Fraction
- Remarks: Based on data from similar materials
- EL50 (Pseudokirchneriella subcapitata (green algae)): > 100 mg/l
- Exposure time: 72 h

Toxicity to microorganisms:

- Test substance: Water Accommodated Fraction
- Remarks: Based on data from similar materials
- EC50: > 100 mg/l
- Exposure time: 8 h
- Method: OECD Test Guideline 209

Persistence and degradability:

Components:

- **Distillates (petroleum), hydrotreated heavy paraffinic:**
  - Biodegradability: Result: Not readily biodegradable.
  - Biodegradation: 31 %
  - Exposure time: 28 d
  - Method: OECD Test Guideline 301F

- **Distillates (petroleum), hydrotreated heavy naphthenic:**
  - Biodegradability: Result: Not readily biodegradable.
  - Biodegradation: 2 - 4 %
  - Exposure time: 28 d
  - Method: OECD Test Guideline 301B

- **Dilithium azelate:**
  - Biodegradability: Result: Readily biodegradable.
  - Biodegradation: 83 %
  - Exposure time: 30 d
  - Method: OECD Test Guideline 301D
  - Remarks: Based on data from similar materials

- **Tris[bis(2-ethylhexyl)dithiocarbamato-S,S'] antimony:**
  - Biodegradability: Result: Not readily biodegradable.
  - Remarks: Based on data from similar materials
**Antimony, dialkyl dithiocarbamate:**
- Biodegradability: Result: Not readily biodegradable.
- Biodegradation: 20%
- Exposure time: 28 d

**2,5-Bis(octyldithio)-1,3,4-thiadiazole:**
- Biodegradability: Result: Not readily biodegradable.
- Biodegradation: 0%
- Exposure time: 28 d
- Method: OECD Test Guideline 301B

**Benzenesulphonic acid, propenated, calcium salts, overbased:**
- Biodegradability: Result: Not readily biodegradable.
- Method: OECD Test Guideline 301D
- Remarks: Based on data from similar materials

**Bioaccumulative potential**

**Components:**

**Dilithium azelate:**
- Partition coefficient: n-octanol/water
  - log Pow: -3.53

**2,5-Bis(octyldithio)-1,3,4-thiadiazole:**
- Partition coefficient: n-octanol/water
  - log Pow: > 6.5
  - Method: OECD Test Guideline 117

**Benzenesulphonic acid, propenated, calcium salts, overbased:**
- Partition coefficient: n-octanol/water
  - log Pow: > 4
  - Remarks: Expert judgment

**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**

- **UN number**: UN 3077
- **Proper shipping name**: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.
  (Copper metal powder, Tris[bis(2-ethylhexyl)dithiocarbamato-S,S'] antimony)
- **Class**: 9
- **Packing group**: III
- **Labels**: 9

**IATA-DGR**

- **UN/ID No.**: UN 3077
- **Proper shipping name**: Environmentally hazardous substance, solid, n.o.s.
  (Copper metal powder, Tris[bis(2-ethylhexyl)dithiocarbamato-S,S'] antimony)
- **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, Tris[bis(2-ethylhexyl)dithiocarbamato-S,S'] antimony)
- **Class**: 9
- **Packing group**: III
- **Labels**: CLASS 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**

**49 CFR**

- **UN/ID/NA number**: UN 3077
- **Proper shipping name**: Environmentally hazardous substance, solid, n.o.s.
  (Copper metal powder, Tris[bis(2-ethylhexyl)dithiocarbamato-S,S'] antimony)
- **Class**: 9
- **Packing group**: III
- **Labels**: CLASS 9
- **ERG Code**: 171
- **Marine pollutant**: yes (Copper metal powder, Tris[bis(2-ethylhexyl)dithiocarbamato-S,S'] antimony)
**SAFETY DATA SHEET**

**COPPER ROCK**

<table>
<thead>
<tr>
<th>Version</th>
<th>Revision Date</th>
<th>SDS Number</th>
<th>Date of last issue</th>
<th>Date of first issue</th>
</tr>
</thead>
<tbody>
<tr>
<td>11.0</td>
<td>11/04/2020</td>
<td>120330-00016</td>
<td>05/06/2020</td>
<td>05/19/2015</td>
</tr>
</tbody>
</table>

Remarks: Above applies only to containers over 119 gallons or 450 liters.

**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

**CERCLA Reportatory Information**

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>Component RQ (lbs)</th>
<th>Calculated product RQ (lbs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Copper metal powder</td>
<td>7440-50-8</td>
<td>5000</td>
<td>38166</td>
</tr>
</tbody>
</table>

**SARA 304 Extremely Hazardous Substances Reportable Quantity**

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

**SARA 302 Extremely Hazardous Substances Threshold Planning Quantity**

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

**SARA 311/312 Hazards**

Respiratory or skin sensitization
Serious eye damage or eye irritation

**SARA 313**

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

- Copper metal powder 7440-50-8 >= 10 - < 20 %
- Tris[bis(2-ethylhexyl)dithiocarbamato-S,S'] antimony 15991-76-1 >= 1 - < 5 %
- Antimony, dialkyl dithiocarbamate 15890-25-2 >= 1 - < 5 %

**US State Regulations**

**Pennsylvania Right To Know**

- Distillates (petroleum), hydrotreated heavy paraffinic 64742-54-7
- Distillates (petroleum), hydrotreated heavy naphthenic 64742-52-5
- Graphite 7782-42-5
- Copper metal powder 7440-50-8
- Talc 14807-96-6
- Hydroxystearate sebacate lithium complexes 68815-49-6
- Dilithium azelate 38900-29-7
- Polybutene 9003-29-6
- Isobutylene-butene copolymer 9044-17-1
- Calcium oxide 1305-78-8
- Water 7732-18-5
- Tris[bis(2-ethylhexyl)dithiocarbamato-S,S'] antimony 15991-76-1
Antimony, dialkyl dithiocarbamate 15890-25-2
Quartz 14808-60-7
Phosphorodithioic acid, O,O-di-C1-14-alkyl esters, zinc salts 68649-42-3

California Prop. 65
WARNING: This product can expose you to chemicals including Quartz, which is/are known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov.

California List of Hazardous Substances
Distillates (petroleum), hydrotreated heavy paraffinic 64742-54-7
Distillates (petroleum), hydrotreated heavy naphthenic 64742-52-5
Graphite 7782-42-5
Copper metal powder 7440-50-8
Talc 14807-96-6
Calcium oxide 1305-78-8
Tris[bis(2-ethylhexyl)dithiocarbamato-S,S'] antimony 15991-76-1
Antimony, dialkyl dithiocarbamate 15890-25-2

California Permissible Exposure Limits for Chemical Contaminants
Distillates (petroleum), hydrotreated heavy paraffinic 64742-54-7
Distillates (petroleum), hydrotreated heavy naphthenic 64742-52-5
Graphite 7782-42-5
Copper metal powder 7440-50-8
Talc 14807-96-6
Calcium oxide 1305-78-8
Tris[bis(2-ethylhexyl)dithiocarbamato-S,S'] antimony 15991-76-1
Antimony, dialkyl dithiocarbamate 15890-25-2
Quartz 14808-60-7

California Regulated Carcinogens
Quartz 14808-60-7

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

Further information
NFPA 704:

- Health: 2
- Flammability: 1
- Instability: 0
- Special hazard: 0

HMIS® IV:

- Health: / 2
- Flammability: 1
- Physical Hazard: 0

HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. The """" represents a chronic hazard, while the """" represents the absence of a chronic hazard.

Full text of other abbreviations:

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

AICL - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DOT - Department of Transportation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; EHS - Extremely Hazardous Substance; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; HMIS - Hazardous Materials Identification System; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECS - 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; KECL - 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 Pre-

Revision Date: 11/04/2020

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.

US / Z8