SAFETY DATA SHEET

SUPR COPR

SECTION 1. IDENTIFICATION

Product name : SUPR COPR
SDS-Identcode : 070G

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
           (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 atmospheres.

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 : ![Warning]
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 protection.
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

<table>
<thead>
<tr>
<th>Substance / Mixture</th>
<th>Components</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Chemical name</td>
</tr>
<tr>
<td></td>
<td>Distillates (petroleum), hydrotreated heavy paraffinic</td>
</tr>
<tr>
<td></td>
<td>Distillates (petroleum), hydrotreated heavy naphthenic</td>
</tr>
<tr>
<td></td>
<td>Talc</td>
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<tr>
<td></td>
<td>Copper metal powder</td>
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<td>Dolomite</td>
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<td>Calcium oxide</td>
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<tr>
<td></td>
<td>Graphite</td>
</tr>
<tr>
<td></td>
<td>Tris[bis(2-ethylhexyl)dithiocarbamato-S,S’] antimony</td>
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<td>Antimony, dialkyl dithiocarbamate</td>
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<tr>
<td></td>
<td>2,5-Bis(octylidithio)-1,3,4-thiadiazole</td>
</tr>
<tr>
<td></td>
<td>Quartz</td>
</tr>
<tr>
<td></td>
<td>Benzenesulphonic acid, propenated, calcium salts, overbased</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


Unsuitable extinguishing media: None known.

Specific hazards during fire fighting: Exposure to combustion products may be a hazard to health.


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 paraffinic</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>Talc</td>
<td>14807-96-6</td>
<td>TWA (Dust)</td>
<td>20 Million particles per cubic foot</td>
<td>OSHA Z-3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA (Respirable)</td>
<td>2 mg/m³</td>
<td>NIOSH REL</td>
</tr>
<tr>
<td>Substance</td>
<td>CAS Number</td>
<td>TWA (Respirable particulate matter)</td>
<td>TWA (Dust and mist)</td>
<td>TWA (Fumes)</td>
</tr>
<tr>
<td>-----------</td>
<td>------------</td>
<td>------------------------------------</td>
<td>---------------------</td>
<td>-------------</td>
</tr>
<tr>
<td>Copper metal powder</td>
<td>7440-50-8</td>
<td>2 mg/m³</td>
<td>1 mg/m³ (Copper)</td>
<td>0.2 mg/m³ (Copper)</td>
</tr>
<tr>
<td>Dolomite</td>
<td>16389-88-1</td>
<td>10 mg/m³ (Calcium carbonate)</td>
<td>5 mg/m³ (Calcium carbonate)</td>
<td>0.5 mg/m³</td>
</tr>
<tr>
<td>Calcium oxide</td>
<td>1305-78-8</td>
<td>2 mg/m³</td>
<td>2 mg/m³</td>
<td>5 mg/m³</td>
</tr>
<tr>
<td>Graphite</td>
<td>7782-42-5</td>
<td>15 Million particles per cubic foot</td>
<td>2 mg/m³</td>
<td>0.5 mg/m³ (antimony)</td>
</tr>
<tr>
<td>Tris(bis(2-ethylhexyl)dithiocarbamato-S,S') antimony</td>
<td>15991-76-1</td>
<td>0.05 mg/m³</td>
<td>0.05 mg/m³</td>
<td>0.05 mg/m³</td>
</tr>
<tr>
<td>Antimony, dialkyl dithiocarbamate</td>
<td>15890-25-2</td>
<td>0.05 mg/m³</td>
<td>0.05 mg/m³</td>
<td>0.05 mg/m³</td>
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<tr>
<td>Quartz</td>
<td>14808-60-7</td>
<td>0.025 mg/m³</td>
<td>0.025 mg/m³</td>
<td>0.025 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:
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

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Viscous semi-solid</td>
</tr>
<tr>
<td>Color</td>
<td>copper</td>
</tr>
<tr>
<td>Odor</td>
<td>Petroleum</td>
</tr>
<tr>
<td>Odor Threshold</td>
<td>No data available</td>
</tr>
<tr>
<td>pH</td>
<td>Not applicable (not an aqueous solution)</td>
</tr>
<tr>
<td>Melting point/freezing point</td>
<td>No data available</td>
</tr>
<tr>
<td>Initial boiling point and boiling range</td>
<td>No data available</td>
</tr>
<tr>
<td>Flash point</td>
<td>&gt;= 392 °F / &gt;= 200 °C</td>
</tr>
<tr>
<td>Method: ASTM D 92, Cleveland open cup Distillates (petroleum), hydrotreated heavy naphthenic</td>
<td></td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>Not classified as a flammability hazard</td>
</tr>
<tr>
<td>Upper explosion limit / Upper flammability limit</td>
<td>No data available</td>
</tr>
<tr>
<td>Lower explosion limit / Lower flammability limit</td>
<td>No data available</td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Relative vapor density</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Relative density</td>
<td>1.2</td>
</tr>
<tr>
<td>Density</td>
<td>No data available</td>
</tr>
<tr>
<td>Solubility(ies)</td>
<td>Water solubility: negligible</td>
</tr>
<tr>
<td>Partition coefficient: n-octanol/water</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Autoignition temperature</td>
<td>No data available</td>
</tr>
</tbody>
</table>
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
  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

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

Talc:

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

Copper metal powder:

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

Acute inhalation toxicity: LC50 (Rat): > 5.11 mg/l
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 (Rabbit): > 2,000 mg/kg
Method: OECD Test Guideline 402
Assessment: The substance or mixture has no acute dermal toxicity

Dilithium azelate:

Acute oral toxicity: LD50 (Rat): > 300 - 2,000 mg/kg
Method: OECD Test Guideline 420
Remarks: Based on data from similar materials
Acute dermal toxicity: LD50 (Rat): > 2,000 mg/kg
Method: OECD Test Guideline 402
Remarks: Based on data from similar materials

Dolomite:
Acute oral toxicity: LD50 (Rat): > 2,000 mg/kg
Method: OECD Test Guideline 420
Assessment: The substance or mixture has no acute oral toxicity
Remarks: Based on data from similar materials

Acute inhalation toxicity: LC50 (Rat): > 3 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Assessment: The substance or mixture has no acute inhalation toxicity
Remarks: Based on data from similar materials

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

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

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

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

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

Tris[bis(2-ethylhexyl)dithiocarbamato-S,S'] antimony:
### Acute oral toxicity

**Antimony, dialkyl dithiocarbamate:**
- **LD50 (Rat):** > 5,000 mg/kg
- Remarks: Based on data from similar materials

**2,5-Bis(octyldithio)-1,3,4-thiadiazole:**
- **LD50 (Rat):** > 5,000 mg/kg
- Method: OECD Test Guideline 401

**Quartz:**
- **LD50 (Rat):** > 5,000 mg/kg

**Benzenesulphonic acid, propenated, calcium salts, overbased:**
- **LD50 (Rat):** > 5,000 mg/kg
- Method: OECD Test Guideline 401
  - Remarks: Based on data from similar materials

### Acute dermal toxicity

**Antimony, dialkyl dithiocarbamate:**
- **LD50 (Rabbit):** > 5,000 mg/kg

**2,5-Bis(octyldithio)-1,3,4-thiadiazole:**
- **LD50 (Rabbit):** > 5,000 mg/kg
- Method: OECD Test Guideline 402
  - Remarks: Based on data from similar materials

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

### Acute inhalation toxicity

**2,5-Bis(octyldithio)-1,3,4-thiadiazole:**
- **LC50 (Rat):** 3.08 mg/l
  - Exposure time: 4 h
  - Test atmosphere: dust/mist
  - Method: OECD Test Guideline 403

**Benzenesulphonic acid, propenated, calcium salts, overbased:**
- **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

### Skin corrosion/irritation

Not classified based on available information.

### Components

**Distillates (petroleum), hydrotreated heavy paraffinic:**
- **Species:** Rabbit
- **Result:** No skin irritation
- **Remarks:** Based on data from similar materials
Distillates (petroleum), hydrotreated heavy naphthenic:
Species: Rabbit
Result: No skin irritation
Remarks: Based on data from similar materials

Talc:
Species: Rabbit
Result: No skin irritation

Copper metal powder:
Species: Rabbit
Method: OECD Test Guideline 404
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

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

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

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

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:**
Species: Rabbit
Result: No eye irritation
Method: OECD Test Guideline 405
Remarks: Based on data from similar materials

**Distillates (petroleum), hydrotreated heavy naphthenic:**
Species: Rabbit
Result: No eye irritation
Remarks: Based on data from similar materials

**Talc:**
Species: Rabbit
Result: No eye irritation

**Copper metal powder:**
Species: Rabbit
Result: No eye irritation
Method: OECD Test Guideline 405

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

**Dolomite:**
Species: Rabbit
Result: No eye irritation
Method: OECD Test Guideline 405
Remarks: Based on data from similar materials

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

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

**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

**Dilithium azelate:**

- **Test Type:** Local lymph node assay (LLNA)
<table>
<thead>
<tr>
<th>Substances</th>
<th>Test Type</th>
<th>Routes of exposure</th>
<th>Species</th>
<th>Method</th>
<th>Result</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dolomite</td>
<td>Local lymph node assay (LLNA)</td>
<td>Skin contact</td>
<td>Mouse</td>
<td>OECD Test Guideline 429</td>
<td>negative</td>
<td>Based on data from similar materials</td>
</tr>
<tr>
<td>Calcium oxide</td>
<td>Local lymph node assay (LLNA)</td>
<td>Skin contact</td>
<td>Mouse</td>
<td>OECD Test Guideline 429</td>
<td>negative</td>
<td>Based on data from similar materials</td>
</tr>
<tr>
<td>Graphite</td>
<td>Local lymph node assay (LLNA)</td>
<td>Skin contact</td>
<td>Mouse</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2,5-Bis(octyldithio)-1,3,4-thiadiazole</td>
<td>Buehler Test</td>
<td>Skin contact</td>
<td>Guinea pig</td>
<td>OECD Test Guideline 406</td>
<td>positive</td>
<td>Probability or evidence of high skin sensitization rate in humans</td>
</tr>
<tr>
<td>Benzenesulphonic acid, propenated, calcium salts, overbased</td>
<td>Human repeat insult patch test (HRIPT)</td>
<td>Skin contact</td>
<td></td>
<td></td>
<td>positive</td>
<td>Probability or evidence of skin sensitization in humans</td>
</tr>
</tbody>
</table>

**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

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

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

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

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

Antimony, dialkyl dithiocarbamate:
Genotoxicity in vitro: Test Type: Bacterial reverse mutation assay (AMES)  
Result: negative
Regulatory Compliance

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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: equivocal

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

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

Benzenesulphonic acid, propenated, calcium salts, overbased:

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: 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

Genotoxicity in vivo

Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay)
Species: Mouse
Application Route: Ingestion
Method: OECD Test Guideline 474
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:
- Positive evidence from human epidemiological studies (inhalation)

IARC: Group 1: Carcinogenic to humans
- Quartz (Silica dust, crystalline) 14808-60-7

OSHA: OSHA specifically regulated carcinogen
- Quartz (crystalline silica) 14808-60-7

NTP: Known to be human carcinogen
- Quartz 14808-60-7
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

**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

**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
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

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

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

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
Method: OECD Test Guideline 422
Result: negative

Remarks: Based on data from similar materials
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:** > 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

**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

**Dolomite:**
- **Species:** Mouse
- **NOAEL:** 1,300 mg/kg
- **Application Route:** Ingestion
- **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
Antimony, dialkyl dithiocarbamate:

- **Species**: Rat
- **NOAEL**: >= 1,000 mg/kg
- **Application Route**: Ingestion
- **Exposure time**: 54 Days

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

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.

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**

**Product:**

- **Toxicity to fish**: LC50 (Pimephales promelas (fathead minnow)): 10,250 mg/l
  - Exposure time: 96 h
  - Method: OECD Test Guideline 203
  - Remarks: Based on data from similar materials

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

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

Toxicity to algae/aquatic plants: EC50 (Selenastrum capricornutum (green algae)): 70,100 mg/l
Exposure time: 96 h
Method: OECD Test Guideline 201
Remarks: Based on data from similar materials

NOEC (Selenastrum capricornutum (green algae)): 60,000 mg/l
Exposure time: 96 h
Method: OECD Test Guideline 201
Remarks: Based on data from similar materials

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
| **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 |

**Talc:**

| **Toxicity to fish** | LC50 (Brachydanio rerio (zebrafish)): > 100,000 mg/l  
Exposure time: 24 h |

**Copper metal powder:**

| **Toxicity to fish** | LC50: > 10 - 100 µg/l  
Exposure time: 96 h |
| **Toxicity to fish (Chronic toxicity)** | NOEC: > 1 - 10 µg/l |

**Dilithium azelate:**

| **Toxicity to fish** | LC50 (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** | EC50 (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 |

**Dolomite:**

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

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

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

Toxicity to algae/aquatic plants:  
ErC50 (Pseudokirchneriella subcapitata (green algae)): > 100 mg/l  
Exposure time: 72 h  
Method: OECD Test Guideline 201  
Remarks: Based on data from similar materials  
EC10 (Pseudokirchneriella subcapitata (green algae)): > 1 mg/l  
Exposure time: 72 h  
Method: OECD Test Guideline 201  
Remarks: Based on data from similar materials

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

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

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
<table>
<thead>
<tr>
<th>Test Substance</th>
<th>Toxicity to daphnia and other aquatic invertebrates</th>
<th>Toxicity to algae/aquatic plants</th>
<th>Toxicity to microorganisms</th>
<th>Tris[bis(2-ethylhexyl)dithiocarbamato-S,S’] antimony:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>EL50 (Daphnia magna (Water flea)): &gt; 100 mg/l</td>
<td>EL50 (Pseudokirchneriella subcapitata (green algae)): &gt; 100 mg/l</td>
<td>EC50: &gt; 1,012.5 mg/l</td>
<td>NOEC (Daphnia magna (Water flea)): 0.02 mg/l</td>
</tr>
<tr>
<td></td>
<td>Exposure time: 48 h</td>
<td>Exposure time: 72 h</td>
<td>Exposure time: 3 h</td>
<td>Exposure time: 21 d</td>
</tr>
<tr>
<td></td>
<td>Test substance: Water Accommodated Fraction</td>
<td>Test substance: Water Accommodated Fraction</td>
<td></td>
<td>Method: OECD Test Guideline 201</td>
</tr>
<tr>
<td></td>
<td>Method: OECD Test Guideline 202</td>
<td>Method: OECD Test Guideline 201</td>
<td></td>
<td>Remarks: Based on data from similar materials</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ecotoxicology Assessment</td>
<td>Chronic aquatic toxicity: Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Antimony, dialkyl dithiocarbamate:</td>
<td>NOEC (Daphnia magna (Water flea)): 0.02 mg/l</td>
<td>NOEC (Daphnia magna (Water flea)): 0.02 mg/l</td>
<td></td>
<td>Method: OECD Test Guideline 211</td>
</tr>
<tr>
<td>Ecotoxicology Assessment</td>
<td>Chronic aquatic toxicity: Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2,5-Bis(octyldithio)-1,3,4-thiadiazole:</td>
<td>LL50 (Oncorhynchus mykiss (rainbow trout)): &gt; 100 mg/l</td>
<td>EL50 (Daphnia magna (Water flea)): 45 mg/l</td>
<td></td>
<td>Method: OECD Test Guideline 203</td>
</tr>
<tr>
<td></td>
<td>Exposure time: 96 h</td>
<td>Exposure time: 48 h</td>
<td></td>
<td>Method: OECD Test Guideline 202</td>
</tr>
</tbody>
</table>
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

Quartz:

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

**Benzenesulphonic acid, propenated, calcium salts, overbased:**

Toxicity to fish:
- **LL50** (Pimephales promelas (fathead minnow)): > 100 mg/l
  - Exposure time: 96 h
  - Test substance: Water Accommodated Fraction
  - Method: OECD Test Guideline 203
  - Remarks: Based on data from similar materials

Toxicity to daphnia and other aquatic invertebrates:
- **EL50** (Daphnia magna (Water flea)): > 100 mg/l
  - Exposure time: 48 h
  - Test substance: Water Accommodated Fraction
  - Remarks: Based on data from similar materials

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

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

Toxicity to microorganisms:
- **EC50**: > 100 mg/l
  - Exposure time: 8 h
  - Method: OECD Test Guideline 209
  - Remarks: Based on data from similar materials
Persistence and degradability

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

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(octylthio)-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 pressureize, 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, Hydrogen sulfide)
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, Hydrogen sulfide)
Class
   9
Packing group
   III
SAFETY DATA SHEET

SUPR COPR

Version 13.0 Revision Date: 11/03/2020 SDS Number: 118229-00018 Date of last issue: 05/06/2020 Date of first issue: 05/18/2015

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, Hydrogen sulfide)

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

49 CFR
UN/ID/NA number: UN 3077
Proper shipping name: Environmentally hazardous substance, solid, n.o.s. (Copper metal powder, Hydrogen sulfide)

Class: 9
Packing group: III
Labels: CLASS 9
EmS Code: 171
ERG Code: 171
Marine pollutant: yes (Copper metal powder, Hydrogen sulfide)
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 Reportable Quantity

<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>33060</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
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
- Talc 14807-96-6
- Copper metal powder 7440-50-8
- Hydroxystearate sebacate lithium complexes 68815-49-6
- Dilithium azelate 38900-29-7
- Dolomite 16389-88-1
- Water 7732-18-5
- Graphite 7782-42-5
- Calcium oxide 1305-78-8
- Tris[bis(2-ethylhexyl)dithiocarbamato-S,S'] antimony 15991-76-1
- Antimony, dialkyl dithiocarbamate 15890-25-2
- 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
- Talc 14807-96-6
- Copper metal powder 7440-50-8
- Graphite 7782-42-5
- 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
- Talc 14807-96-6
- Copper metal powder 7440-50-8
- Graphite 7782-42-5
- Calcium oxide 1305-78-8
- Tris[bis(2-ethylhexyl)dithiocarbamato-S,S'] antimony 15991-76-1
- Antimony, dialkyl dithiocarbamate 15890-25-2
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:**

- Flammability: 1
- Health: 1
- Special hazard: 0
- Instability: 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**: USA. 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
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.

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