SECTION 1. IDENTIFICATION

Product name: COPPER SUPREME SPECIAL BLEND® PLUS

SDS-Identcode: 476G

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 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:

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.
**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>Distillates (petroleum), hydrotreated heavy paraffinic</td>
<td>64742-54-7</td>
</tr>
<tr>
<td>Distillates (petroleum), hydrotreated heavy naphthenic</td>
<td>64742-52-5</td>
</tr>
<tr>
<td>Graphite</td>
<td>7782-42-5</td>
</tr>
<tr>
<td>Copper metal powder</td>
<td>7440-50-8</td>
</tr>
<tr>
<td>Talc</td>
<td>14807-96-6</td>
</tr>
<tr>
<td>Dilithium azelate</td>
<td>38900-29-7</td>
</tr>
<tr>
<td>Dolomite</td>
<td>16389-88-1</td>
</tr>
<tr>
<td>Tris[bis(2-ethylhexyl)dithiocarbamato-S,S’] antimony</td>
<td>15991-76-1</td>
</tr>
<tr>
<td>Calcium oxide</td>
<td>1305-78-8</td>
</tr>
<tr>
<td>Distillates (petroleum), hydrotreated light naphthenic</td>
<td>64742-53-6</td>
</tr>
<tr>
<td>Antimony, dialkyl dithiocarbamate</td>
<td>15890-25-2</td>
</tr>
<tr>
<td>Quartz</td>
<td>14808-60-7</td>
</tr>
<tr>
<td>Calcium bis(di C8-C10, branched, C9 rich, alkynaphthalenesulphonate)</td>
<td>57855-77-3</td>
</tr>
<tr>
<td>2,5-Bis(octylthio)-1,3,4-thiadiazole</td>
<td>13539-13-4</td>
</tr>
<tr>
<td>Benzenesulphonic acid, propenated, calcium salts, overbased</td>
<td>68610-84-4</td>
</tr>
</tbody>
</table>

**SECTION 4. FIRST AID MEASURES**

**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.
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/PERSOAL 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>Graphite</td>
<td>7782-42-5</td>
<td>TWA (Res-</td>
<td>2.5 mg/m³</td>
<td>NIOSH REL</td>
</tr>
</tbody>
</table>
### COPPER SUPREME SPECIAL BLEND® PLUS

<table>
<thead>
<tr>
<th>Substance</th>
<th>CAS Number</th>
<th>TWA (Respirable)</th>
<th>Standard</th>
</tr>
</thead>
<tbody>
<tr>
<td>Copper metal powder</td>
<td>7440-50-8</td>
<td>2 mg/m³ (Copper)</td>
<td>ACGIH</td>
</tr>
<tr>
<td>Talc</td>
<td>14807-96-6</td>
<td>20 Million particles per cubic foot</td>
<td>OSHA Z-3</td>
</tr>
<tr>
<td>Dolomite</td>
<td>16389-88-1</td>
<td>5 mg/m³ (Calcium carbonate)</td>
<td>NIOSH REL</td>
</tr>
<tr>
<td>Tris[bis(2-ethylhexyl)dithiocarbamato-S,S'] antimony</td>
<td>15991-76-1</td>
<td>0.5 mg/m³ (antimony)</td>
<td>OSHA Z-1</td>
</tr>
<tr>
<td>Calcium oxide</td>
<td>1305-78-8</td>
<td>2 mg/m³</td>
<td>ACGIH</td>
</tr>
<tr>
<td>Distillates (petroleum), hydrotreated light naphthenic</td>
<td>64742-53-6</td>
<td>5 mg/m³</td>
<td>OSHA Z-1</td>
</tr>
<tr>
<td>Antimony, dialkyl dithiocarbamate</td>
<td>15890-25-2</td>
<td>0.5 mg/m³ (antimony)</td>
<td>OSHA Z-1</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>dark, 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;= 399 °F / &gt;= 204 °C</td>
</tr>
<tr>
<td>Method: Pensky-Martens closed cup</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>
</tbody>
</table>
Solubility(ies)
   Water solubility : negligible

Partition coefficient: n-octanol/water : Not applicable
Autoignition temperature : No data available
Decomposition temperature : No data available

Viscosity
   Viscosity, kinematic : Not applicable
Flow time : No data available
Explosive properties : Not explosive

Oxidizing properties : The substance or mixture is not classified as oxidizing.
Molecular weight : No data available
Particle size : No data available

SECTION 10. STABILITY AND REACTIVITY

Reactivity : Not classified as a reactivity hazard.
Chemical stability : Stable under normal conditions.
Possibility of hazardous reac-
tions : 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

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
Assessment: The substance or mixture has no acute inhalation toxicity

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
<table>
<thead>
<tr>
<th>Substance</th>
<th>Acute oral toxicity</th>
<th>LD50 (Rat):</th>
<th>Method</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Talc</td>
<td>&gt; 5,000 mg/kg</td>
<td></td>
<td></td>
<td>Based on data from similar materials</td>
</tr>
<tr>
<td>Dilithium azelate</td>
<td>&gt; 300 - 2,000 mg/kg</td>
<td>OECD Test Guideline 420</td>
<td>Based on data from similar materials</td>
<td></td>
</tr>
<tr>
<td>Dolomite</td>
<td>&gt; 2,000 mg/kg</td>
<td>OECD Test Guideline 420</td>
<td>Based on data from similar materials</td>
<td></td>
</tr>
<tr>
<td>Calcium oxide</td>
<td>&gt; 2,000 mg/kg</td>
<td>OECD Test Guideline 425</td>
<td>Based on data from similar materials</td>
<td></td>
</tr>
</tbody>
</table>

**Acute dermal toxicity**

Method: OECD Test Guideline 402
Assessment: The substance or mixture has no acute dermal toxicity

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

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

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

Acute oral toxicity: LD50 (Rat): > 5,000 mg/kg
   Method: OECD Test Guideline 401

Acute inhalation toxicity: LC50 (Rat): > 5.53 mg/l
   Exposure time: 4 h
   Test atmosphere: dust/mist
   Method: OECD Test Guideline 403
   Assessment: The substance or mixture has no acute inhalation toxicity

Acute dermal toxicity: LD50 (Rabbit): > 2,000 mg/kg
   Assessment: The substance or mixture has no acute dermal toxicity

**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

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

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

Acute dermal toxicity: LD50 (Rabbit): > 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:**

**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

**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

**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

**Distillates (petroleum), hydrotreated light naphthenic:**
- **Species:** Rabbit
- **Result:** No skin irritation

**Calcium bis(di C8-C10, branched, C9 rich, alkylnaphthalenesulphonate):**
- **Species:** Rabbit
- **Result:** 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.

**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

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

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

Talc:
Species: Rabbit
Result: No eye irritation

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

Distillates (petroleum), hydrotreated light naphthenic:
Species: Rabbit
Result: No eye irritation

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

2,5-Bis(octyldithio)-1,3,4-thiadiazole:
Species: Rabbit
Result: No eye irritation
Method: OECD Test Guideline 405
SAFETY DATA SHEET

COPPER SUPREME SPECIAL BLEND® PLUS

Version 13.0  Revision Date: 10/23/2020  SDS Number: 115095-00020  Date of last issue: 05/06/2020  Date of first issue: 05/12/2015

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:
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

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

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

Distillates (petroleum), hydrotreated light naphthenic:
Test Type: Buehler Test
Routes of exposure: Skin contact
Species: Guinea pig
Method: OECD Test Guideline 406
Result: negative

Calcium bis(di C8-C10, branched, C9 rich, alkynaphthalenesulphonate):
Test Type: Buehler Test
Routes of exposure: Skin contact
Species: Guinea pig
Result: positive
Remarks: Based on data from similar materials
Assessment: Probability or evidence of low to moderate skin sensitization rate in humans

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
<table>
<thead>
<tr>
<th>Component</th>
<th>Genotoxicity in vitro</th>
<th>Genotoxicity in vivo</th>
</tr>
</thead>
<tbody>
<tr>
<td>Benzenesulphonic acid, propenated, calcium salts, overbased:</td>
<td>Test Type: Human repeat insult patch test (HRIPT)</td>
<td>Test Type: Bacterial reverse mutation assay (AMES)</td>
</tr>
<tr>
<td></td>
<td>Result: positive</td>
<td>Result: negative</td>
</tr>
<tr>
<td></td>
<td>Remarks: Based on data from similar materials</td>
<td>Remarks: Based on data from similar materials</td>
</tr>
<tr>
<td>Germ cell mutagenicity</td>
<td>Not classified based on available information</td>
<td></td>
</tr>
</tbody>
</table>

### 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

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

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

#### Genotoxicity in vitro

**Test Type:** Bacterial reverse mutation assay (AMES)
**Method:** OECD Test Guideline 476
**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

### Antimony, dialkyl dithiocarbamate:

#### Genotoxicity in vitro

**Test Type:** Bacterial reverse mutation assay (AMES)
**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:** equivocal

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

#### Genotoxicity in vitro

**Test Type:** Bacterial reverse mutation assay (AMES)
**Method:** OECD Test Guideline 471
**Result:** negative
**Remarks:** Based on data from similar materials

**Test Type:** 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

### 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

Distillates (petroleum), hydrotreated light naphthenic:
Species: Mouse
Application Route: Skin contact
Exposure time: 78 weeks
Result: negative

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
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 (Silica, Crystalline (Respirable Size)) 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

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
  Application Route: Ingestion
  Result: negative

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

**Effects on fetal development**

Species: Rat
Application Route: Skin contact
Result: negative
Remarks: Based on data from similar materials

**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

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

**Effects on fertility**

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

**Effects on fetal development**

Test Type: Embryo-fetal development
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

Calcium bis(di C8-C10, branched, C9 rich, alkylnaphthalenesulphonate):
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毒性 screening test
Species: Rat
Application Route: Ingestion
Method: OECD Test Guideline 422
Result: negative
Remarks: Based on data from similar materials

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

Species: Rat  
NOAEL: > 980 mg/m³  
Application Route: inhalation (dust/mist/fume)  
Exposure time: 4 Weeks  
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

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

Distillates (petroleum), hydrotreated light naphthenic:
Species: Rabbit
NOAEL: 1,000 mg/kg
Application Route: Skin contact
Exposure time: 4 Weeks
Method: OECD Test Guideline 410

Antimony, dialkyl dithiocarbamate:
Species: Rat
NOAEL: >= 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.

Calcium bis(di C8-C10, branched, C9 rich, alkynaphthalenesulphonate):
Species: Rat
NOAEL: 100 mg/kg
LOAEL: 300 mg/kg
Application Route: Ingestion
Exposure time: 90 Days
Method: OECD Test Guideline 408
2,5-Bis(octyldithio)-1,3,4-thiadiazole:

<table>
<thead>
<tr>
<th>Species</th>
<th>Rat</th>
</tr>
</thead>
<tbody>
<tr>
<td>NOAEL</td>
<td>330 mg/kg</td>
</tr>
<tr>
<td>Application Route</td>
<td>Ingestion</td>
</tr>
<tr>
<td>Exposure time</td>
<td>54 Days</td>
</tr>
<tr>
<td>Method</td>
<td>OECD Test Guideline 422</td>
</tr>
</tbody>
</table>

Benzenesulphonic acid, propenated, calcium salts, overbased:

<table>
<thead>
<tr>
<th>Species</th>
<th>Rat</th>
</tr>
</thead>
<tbody>
<tr>
<td>NOAEL</td>
<td>&gt; 300 mg/kg</td>
</tr>
<tr>
<td>Application Route</td>
<td>Ingestion</td>
</tr>
<tr>
<td>Exposure time</td>
<td>29 Days</td>
</tr>
<tr>
<td>Method</td>
<td>OECD Test Guideline 407</td>
</tr>
<tr>
<td>Remarks</td>
<td>Based on data from similar materials</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Species</th>
<th>Rat</th>
</tr>
</thead>
<tbody>
<tr>
<td>NOAEL</td>
<td>&gt; 600 mg/kg</td>
</tr>
<tr>
<td>Application Route</td>
<td>Skin contact</td>
</tr>
<tr>
<td>Exposure time</td>
<td>28 Days</td>
</tr>
<tr>
<td>Method</td>
<td>OECD Test Guideline 410</td>
</tr>
<tr>
<td>Remarks</td>
<td>Based on data from similar materials</td>
</tr>
</tbody>
</table>

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

**Toxicity to daphnia and other aquatic invertebrates**
EC50 (Daphnia magna (Water flea)): 15,470 mg/l
Exposure time: 96 h
Method: OECD Test Guideline 202

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

**Toxicity to algae/aquatic plants**
EC50 (Selenastrum capricornutum (green algae)): 70,100 mg/l
Exposure time: 96 h
Method: OECD Test Guideline 201

NOEC (Selenastrum capricornutum (green algae)): 60,000 mg/l
Exposure time: 96 h
Method: OECD Test Guideline 201
### Components:

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

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Description</th>
<th>Notes</th>
</tr>
</thead>
</table>
| 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:

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

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

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

**Toxicity to algae/aquatic plants:** EL₅₀ (Pseudokirchneriella subcapitata (green algae)): > 100 mg/l  
Exposure time: 72 h  
Test substance: Water Accommodated Fraction  
Method: OECD Test Guideline 201

**NOELR (Pseudokirchneriella subcapitata (green algae)): > 100 mg/l**  
Exposure time: 72 h  
Test substance: Water Accommodated Fraction  
Method: OECD Test Guideline 201

**Toxicity to microorganisms:** EC₅₀: > 1,012.5 mg/l  
Exposure time: 3 h  
Method: OECD Test Guideline 209

### 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

### Talc:

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

### Dilithium azelate:

**Toxicity to fish:** LC₅₀ (Onchorhyncus 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
**EC10 (Pseudokirchneriella subcapitata (green algae)): > 1 mg/l**

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

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

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

**Ecotoxicology Assessment**

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

**Dolomite:**

Toxicity to fish: LC50 (Onchorhynchus 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

**ErC50 (Pseudokirchneriella subcapitata (green algae)): > 100 mg/l**

Exposure time: 72 h

Remarks: Based on data from similar materials
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):
OC (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

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

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

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

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

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

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.

Calcium bis(di C8-C10, branched, C9 rich, alkynaphthalenesulphonate):
Toxicity to fish:
LL50 (Cyprinus carpio (Carp)): > 100 mg/l
<table>
<thead>
<tr>
<th>Substance/Environment</th>
<th>Test System</th>
<th>Toxicity</th>
<th>Test Parameters</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Toxicity to daphnia and other aquatic invertebrates</td>
<td>EL50 (Daphnia magna</td>
<td>&gt; 100 mg/l</td>
<td>Exposure time: 48 h</td>
<td>Based on data from similar materials</td>
</tr>
<tr>
<td></td>
<td>(Water flea)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Toxicity to algae/aquatic plants</td>
<td>EL50 (Pseudokirchneriella subcapitata (green algae))</td>
<td>&gt; 10 mg/l</td>
<td>Exposure time: 72 h</td>
<td>Based on data from similar materials</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)</td>
<td>NOELR (Daphnia magna (Water flea))</td>
<td>2.2 mg/l</td>
<td>Exposure time: 21 d</td>
<td>Based on data from similar materials</td>
</tr>
<tr>
<td>Toxicity to microorganisms</td>
<td>NOEC: &gt; 100 mg/l</td>
<td></td>
<td>Exposure time: 3 h</td>
<td>Based on data from similar materials</td>
</tr>
</tbody>
</table>

**2.5-Bis(octyldithio)-1,3,4-thiadiazole:**

<table>
<thead>
<tr>
<th>Substance/Environment</th>
<th>Test System</th>
<th>Toxicity</th>
<th>Test Parameters</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Toxicity to fish</td>
<td>LL50 (Oncorhynchus mykiss (rainbow trout))</td>
<td>&gt; 100 mg/l</td>
<td>Exposure time: 96 h</td>
<td></td>
</tr>
<tr>
<td>Toxicity to daphnia and other aquatic invertebrates</td>
<td>EL50 (Daphnia magna</td>
<td>45 mg/l</td>
<td>Exposure time: 48 h</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(Water flea)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Toxicity to algae/aquatic plants</td>
<td>LL50 (Pseudokirchneriella subcapitata (green algae))</td>
<td>&gt; 100 mg/l</td>
<td>Exposure time: 72 h</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Remarks:** Based on data from similar materials
### Toxicity to microorganisms

**Exposure time:** 72 h  
**Test substance:** Water Accommodated Fraction  
**Method:** OECD Test Guideline 201

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

#### Toxicity to fish

**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

**Exposure time:** 48 h  
**Test substance:** Water Accommodated Fraction  
**Remarks:** Based on data from similar materials

#### Toxicity to algae/aquatic plants

**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

### Persistence and degradability

**Product:**  
**Biodegradability** : Result: Readily biodegradable.

**Components:**

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

**Biodegradability** : Result: Not readily biodegradable.  
**Biodegradation:** 31 %  
**Exposure time:** 28 d  
**Method:** OECD Test Guideline 301F
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

Distillates (petroleum), hydrotreated light naphthenic:

Antimony, dialkyl dithiocarbamate:
Biodegradability: Result: Not readily biodegradable. Biodegradation: 20 % Exposure time: 28 d

Calcium bis(di C8-C10, branched, C9 rich, alkylnaphthalenesulphonate):
Biodegradability: Result: Not readily biodegradable. Remarks: Based on data from similar materials

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
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Calcium bis(di C8-C10, branched, C9 rich, alkylnaphthalenesulphonate):
Partition coefficient: n-octanol/water: log Pow: > 6.6

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: Miscellaneous

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 : 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)
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>43412</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
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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
- Water 7732-18-5
- Tris[bis(2-ethylhexyl)dithiocarbamato-S,S'] antimony 15991-76-1
- Calcium oxide 1305-78-8
- Distillates (petroleum), hydrotreated light naphthenic 64742-53-6
- 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
- Tris[bis(2-ethylhexyl)dithiocarbamato-S,S'] antimony 15991-76-1
- Calcium oxide 1305-78-8
- Distillates (petroleum), hydrotreated light naphthenic 64742-53-6
- 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
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Tris[bis(2-ethylhexyl)dithiocarbamato-S,S'] antimony 15991-76-1
Calcium oxide 1305-78-8
Distillates (petroleum), hydrotreated light naphthenic 64742-53-6
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:

HMIS® IV:

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
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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

AIIIC - 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; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; MSHA - Mine Safety and Health Administration; n.o.s. - Not Otherwise Specified; NFPA - National Fire Protection Association; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; RCRA - Resource Conservation and Recovery Act; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RQ - Reportable Quantity; SADT - Self-Accelerating Decomposition Temperature; SARA - Superfund Amendments and Reauthorization Act; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative

Sources of key data used to compile the Material Safety Data Sheet:

Revision Date: 10/23/2020

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