SECTION 1. IDENTIFICATION

Product name : COPPER SUPREME SPECIAL BLEND®

Other means of identification : No data available

SDS-Identcode : 343G

Manufacturer or supplier’s details

Company name of supplier : Bestolife Corporation
Address : 2126 Vanco Drive
Irving TX 75061,
Telephone : 855-243-9164/972-865-8961
Telefax : 214-631-3047
E-mail address : www.bestolife.com

Recommended use of the chemical and restrictions on use

Recommended use : Industrial use
Thread Compound (Pipe Dope) and Jacking grease for use in
Offshore industries
Mining, (without offshore industries)

Restrictions on use : Do not use on oxygen lines or in oxygen enriched atmos-
pheres.

SECTION 2. HAZARDS IDENTIFICATION

GHS classification in accordance with the Hazardous Products Regulations

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

GHS label elements

Hazard pictograms : ![Exclamation Mark]

Signal Word : Warning
Hazard Statements : H317 May cause an allergic skin reaction.
H319 Causes serious eye irritation.
Precautionary Statements : Prevention:
P261 Avoid breathing dust, fume, gas, mist, vapors or spray.
P264 Wash skin thoroughly after handling.
P272 Contaminated work clothing should not be allowed out of the workplace.
P280 Wear protective gloves, eye protection and face protection.
Response:
SAFETY DATA SHEET
COPPER SUPREME SPECIAL BLEND®

Version 11.0 Revision Date: 10/23/2020 SDS Number: 115180-00021 Date of last issue: 05/06/2020 Date of first issue: 05/12/2015

P302 + P352 IF ON SKIN: Wash with plenty of 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.
P362 + P364 Take off contaminated clothing and wash it before reuse.

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

**Other hazards**
None known.

**SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS**

**Substance / Mixture:** Mixture

**Components**

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

* Actual concentration or concentration range is withheld as a trade secret

**SECTION 4. FIRST AID MEASURES**

**General advice:** In the case of accident or if you feel unwell, seek medical advice immediately.
When symptoms persist or in all cases of doubt seek medical advice.

**If inhaled:** If inhaled, remove to fresh air.
Get medical attention if symptoms occur.

**In case of skin contact:** In case of contact, immediately flush skin with plenty of water.
Remove contaminated clothing and shoes.
Get medical attention.  
Wash clothing before reuse.  
Thoroughly clean shoes before reuse.

In case of eye contact: In case of contact, immediately flush eyes with plenty of water for at least 15 minutes.  
If easy to do, remove contact lens, if worn.  
Get medical attention.

If swallowed: If swallowed, DO NOT induce vomiting.  
Get medical attention if symptoms occur.  
Rinse mouth thoroughly with water.

Most important symptoms and effects, both acute and delayed: May cause an allergic skin reaction.  
Causes serious eye irritation.

Protection of first-aiders: First Aid responders should pay attention to self-protection, and use the recommended personal protective equipment when the potential for exposure exists (see section 8).

Notes to physician: Treat symptomatically and supportively.

SECTION 5. FIRE-FIGHTING MEASURES

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

Unsuitable extinguishing media: None known.

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

Hazardous combustion products: Carbon oxides  
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: Sweep up or vacuum up spillage and collect in suitable
containment and cleaning up

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>CA AB OEL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>STEL (Mist)</td>
<td>10 mg/m³</td>
<td>CA AB OEL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWAEV (Mist)</td>
<td>5 mg/m³</td>
<td>CA QC OEL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>STEV (Mist)</td>
<td>10 mg/m³</td>
<td>CA QC OEL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA (Mist)</td>
<td>1 mg/m³</td>
<td>CA BC OEL</td>
</tr>
<tr>
<td>Distillates (petroleum), hydrotreated heavy naphthenic</td>
<td>64742-52-5</td>
<td>TWA (Mist)</td>
<td>5 mg/m³</td>
<td>CA AB OEL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>STEL (Mist)</td>
<td>10 mg/m³</td>
<td>CA AB OEL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWAEV (Mist)</td>
<td>5 mg/m³</td>
<td>CA QC OEL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>STEV (Mist)</td>
<td>10 mg/m³</td>
<td>CA QC OEL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA (Mist)</td>
<td>1 mg/m³</td>
<td>CA BC OEL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA (Inhalable particulate matter)</td>
<td>5 mg/m³</td>
<td>ACGIH</td>
</tr>
<tr>
<td>Material</td>
<td>CAS Number</td>
<td>TWA (Respirable)</td>
<td>Measurement</td>
<td>OEL</td>
</tr>
<tr>
<td>--------------------------------</td>
<td>------------</td>
<td>------------------</td>
<td>-------------</td>
<td>-----------</td>
</tr>
<tr>
<td>Graphite</td>
<td>7782-42-5</td>
<td>TWA (Respirable)</td>
<td>2 mg/m³</td>
<td>CA BC OEL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWAEV (respirable dust)</td>
<td>2 mg/m³</td>
<td>CA QC OEL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA (Respirable)</td>
<td>2 mg/m³</td>
<td>CA AB OEL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA (Respirable particulate matter)</td>
<td>2 mg/m³</td>
<td>ACGIH</td>
</tr>
<tr>
<td>Copper metal powder</td>
<td>7440-50-8</td>
<td>TWA (Fumes)</td>
<td>0.2 mg/m³</td>
<td>CA AB OEL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA (Dust and mist)</td>
<td>1 mg/m³ (Copper)</td>
<td>CA AB OEL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWAEV (dusts and mists)</td>
<td>1 mg/m³ (Copper)</td>
<td>CA QC OEL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWAEV (Fumes)</td>
<td>0.2 mg/m³ (Copper)</td>
<td>CA QC OEL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA (Dust and mist)</td>
<td>1 mg/m³ (Copper)</td>
<td>CA BC OEL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA (Fumes)</td>
<td>0.2 mg/m³ (Copper)</td>
<td>CA BC OEL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA (Dust and mist)</td>
<td>1 mg/m³ (Copper)</td>
<td>ACGIH</td>
</tr>
<tr>
<td>Talc</td>
<td>14807-96-6</td>
<td>TWAEV (respirable dust)</td>
<td>3 mg/m³</td>
<td>CA QC OEL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA (Respirable particulates)</td>
<td>2 mg/m³</td>
<td>CA AB OEL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA (Respirable)</td>
<td>2 mg/m³</td>
<td>CA BC OEL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA</td>
<td>2 fibres per cubic centimeter</td>
<td>CA ON OEL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA (Respirable fraction)</td>
<td>2 mg/m³</td>
<td>CA ON OEL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA (Respirable particulate matter)</td>
<td>2 mg/m³</td>
<td>ACGIH</td>
</tr>
<tr>
<td>Tris[bis(2-ethylhexyl)dithiocarbamato-S,S'] antimony</td>
<td>15991-76-1</td>
<td>TWA</td>
<td>0.5 mg/m³ (antimony)</td>
<td>CA AB OEL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWAEV</td>
<td>0.5 mg/m³ (antimony)</td>
<td>CA QC OEL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA</td>
<td>0.5 mg/m³ (antimony)</td>
<td>CA BC OEL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA</td>
<td>0.5 mg/m³ (antimony)</td>
<td>ACGIH</td>
</tr>
<tr>
<td>Substance</td>
<td>CAS Number</td>
<td>TWA</td>
<td>TWAEV</td>
<td>OEL</td>
</tr>
<tr>
<td>-----------------------------------</td>
<td>------------</td>
<td>-------------</td>
<td>-------------</td>
<td>-----------</td>
</tr>
<tr>
<td>Calcium oxide</td>
<td>1305-78-8</td>
<td>2 mg/m³</td>
<td></td>
<td>CA AB OEL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2 mg/m³</td>
<td></td>
<td>CA BC OEL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2 mg/m³</td>
<td></td>
<td>CA QC OEL</td>
</tr>
<tr>
<td>Antimony, dialkyl dithiocarbamate</td>
<td>15890-25-2</td>
<td>0.5 mg/m³ (antimony)</td>
<td>CA AB OEL</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>0.5 mg/m³ (antimony)</td>
<td>CA QC OEL</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>0.5 mg/m³ (antimony)</td>
<td>CA BC OEL</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>0.5 mg/m³ (antimony)</td>
<td>ACGIH</td>
<td></td>
</tr>
<tr>
<td>Quartz</td>
<td>14808-60-7</td>
<td>TWA (Respirable particulates) 0.025 mg/m³</td>
<td>CA AB OEL</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA (Respirable fraction) 0.1 mg/m³</td>
<td>CA ON OEL</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWAEV (respirable dust) 0.1 mg/m³</td>
<td>CA QC OEL</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA (Respirable particulates) 0.025 mg/m³ (Silica)</td>
<td>CA AB OEL</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA (Respirable particulate matter) 0.025 mg/m³ (Silica)</td>
<td>ACGIH</td>
<td></td>
</tr>
</tbody>
</table>

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

**Quartz**

**Engineering measures**: Minimize workplace exposure concentrations. Dust formation may be relevant in the processing of this product. In addition to substance-specific OELs, general limitations of concentrations of particulates in the air at workplaces have to be considered in workplace risk assessment. Relevant limits include: OSHA PEL for Particulates Not Otherwise Regulated of 15 mg/m³ - total dust, 5 mg/m³ - respirable fraction; and ACGIH TWA for Particles (insoluble or poorly soluble) Not Otherwise Specified of 3 mg/m³ - respirable particles, 10 mg/m³ - inhalable particles.

**Personal protective equipment**

- **Respiratory protection**: If adequate local exhaust ventilation is not available or exposure assessment demonstrates exposures outside the recommended guidelines, use respiratory protection.
- **Filter type**: Combined particulates and organic vapor type
- **Hand protection**: 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>$\geq 200 , ^\circ C$</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>
</tbody>
</table>
Relative vapor density       : Not applicable
Relative density           : 1.2
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 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
Remarks: Based on data from similar materials
### 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

**Copper metal powder:**
- **Acute oral toxicity**: LD50 (Rat): > 2,500 mg/kg
SAFETY DATA SHEET
COPPER SUPREME SPECIAL BLEND®

Method: OECD Test Guideline 423
Assessment: The substance or mixture has no acute oral toxicity

Acute inhalation toxicity: LC50 (Rat): > 5.11 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Method: OECD Test Guideline 436
Assessment: The substance or mixture has no acute inhalation toxicity

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

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

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

Tris[bis(2-ethylhexyl)dithiocarbamato-S,S'] antimony:
Acute oral toxicity: LD50 (Rat): > 5,000 mg/kg
Remarks: Based on data from similar materials

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

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

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

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

<table>
<thead>
<tr>
<th>Toxicity Type</th>
<th>LD50 (mg/kg)</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute oral toxicity</td>
<td>&gt; 5,000</td>
<td></td>
</tr>
<tr>
<td>Dermal toxicity</td>
<td>&gt; 5,000</td>
<td></td>
</tr>
</tbody>
</table>

## Quartz:

<table>
<thead>
<tr>
<th>Toxicity Type</th>
<th>LD50 (mg/kg)</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute oral toxicity</td>
<td>&gt; 5,000</td>
<td></td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Toxicity Type</th>
<th>LD50 (mg/kg)</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute oral toxicity</td>
<td>&gt; 5,000</td>
<td></td>
</tr>
<tr>
<td>Inhalation toxicity</td>
<td>3.08 mg/l</td>
<td>OECD Test Guideline 403</td>
</tr>
<tr>
<td>Exposure time</td>
<td>4 h</td>
<td></td>
</tr>
<tr>
<td>Test atmosphere</td>
<td>Dust/mist</td>
<td></td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Toxicity Type</th>
<th>LD50 (mg/kg)</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute oral toxicity</td>
<td>&gt; 5,000</td>
<td>OECD Test Guideline 401</td>
</tr>
<tr>
<td>Remarks</td>
<td></td>
<td>Based on data from similar materials</td>
</tr>
<tr>
<td>Acute inhalation toxicity</td>
<td>&gt; 1.9 mg/l</td>
<td>OECD Test Guideline 403</td>
</tr>
<tr>
<td>Exposure time</td>
<td>4 h</td>
<td></td>
</tr>
<tr>
<td>Test atmosphere</td>
<td>Dust/mist</td>
<td></td>
</tr>
<tr>
<td>Remarks</td>
<td></td>
<td>Based on data from similar materials</td>
</tr>
</tbody>
</table>

## Skin corrosion/irritation

Not classified based on available information.

## Components:

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

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

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

<table>
<thead>
<tr>
<th>Species</th>
<th>Result</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rabbit</td>
<td>No skin irritation</td>
<td>Based on data from similar materials</td>
</tr>
</tbody>
</table>
Graphite:
Species: Rabbit
Method: OECD Test Guideline 404
Result: No skin irritation

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

Talc:
Species: Rabbit
Result: No skin irritation

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

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

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

Calcium oxide:
Species: Rabbit
Result: Irreversible effects on the eye
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

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

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

**Talc:**
- **Routes of exposure:** Skin contact
- **Species:** Humans
- **Result:** negative

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

**Calcium oxide:**
- **Test Type:** Local lymph node assay (LLNA)
- **Routes of exposure:** Skin contact
- **Species:** Mouse
- **Method:** OECD Test Guideline 429
- **Result:** negative
- **Remarks:** Based on data from similar materials
### 2,5-Bis(octyldithio)-1,3,4-thiadiazole:

<table>
<thead>
<tr>
<th>Test Type</th>
<th>Buehler Test</th>
</tr>
</thead>
<tbody>
<tr>
<td>Routes of exposure</td>
<td>Skin contact</td>
</tr>
<tr>
<td>Species</td>
<td>Guinea pig</td>
</tr>
<tr>
<td>Method</td>
<td>OECD Test Guideline 406</td>
</tr>
<tr>
<td>Result</td>
<td>positive</td>
</tr>
</tbody>
</table>

**Assessment**: Probability or evidence of high skin sensitization rate in humans

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

<table>
<thead>
<tr>
<th>Test Type</th>
<th>Human repeat insult patch test (HRIPT)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Routes of exposure</td>
<td>Skin contact</td>
</tr>
<tr>
<td>Result</td>
<td>positive</td>
</tr>
<tr>
<td>Remarks</td>
<td>Based on data from similar materials</td>
</tr>
</tbody>
</table>

**Assessment**: Probability or evidence of skin sensitization in humans

### Germ cell mutagenicity

Not classified based on available information.

### Components:

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

**Genotoxicity in vitro**

<table>
<thead>
<tr>
<th>Test Type</th>
<th>Bacterial reverse mutation assay (AMES)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Method</td>
<td>OECD Test Guideline 471</td>
</tr>
<tr>
<td>Result</td>
<td>negative</td>
</tr>
</tbody>
</table>

**Genotoxicity in vivo**

<table>
<thead>
<tr>
<th>Test Type</th>
<th>Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Species</td>
<td>Mouse</td>
</tr>
<tr>
<td>Application Route</td>
<td>Intraperitoneal injection</td>
</tr>
<tr>
<td>Method</td>
<td>OECD Test Guideline 474</td>
</tr>
<tr>
<td>Result</td>
<td>negative</td>
</tr>
<tr>
<td>Remarks</td>
<td>Based on data from similar materials</td>
</tr>
</tbody>
</table>

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

**Genotoxicity in vitro**

<table>
<thead>
<tr>
<th>Test Type</th>
<th>Bacterial reverse mutation assay (AMES)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Method</td>
<td>OECD Test Guideline 471</td>
</tr>
<tr>
<td>Result</td>
<td>negative</td>
</tr>
</tbody>
</table>

**Genotoxicity in vivo**

<table>
<thead>
<tr>
<th>Test Type</th>
<th>Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Species</td>
<td>Mouse</td>
</tr>
<tr>
<td>Application Route</td>
<td>Intraperitoneal injection</td>
</tr>
<tr>
<td>Method</td>
<td>OECD Test Guideline 474</td>
</tr>
<tr>
<td>Result</td>
<td>negative</td>
</tr>
<tr>
<td>Remarks</td>
<td>Based on data from similar materials</td>
</tr>
</tbody>
</table>

#### Graphite:

**Genotoxicity in vitro**

<table>
<thead>
<tr>
<th>Test Type</th>
<th>Bacterial reverse mutation assay (AMES)</th>
</tr>
</thead>
</table>
Copper metal powder:

Genotoxicity in vitro:
Method: OECD Test Guideline 471
Result: negative

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

Genotoxicity in vivo:
Method: OECD Test Guideline 473
Result: negative

Remarks: Based on data from similar materials

Talc:

Genotoxicity in vitro:
Result: negative

Genotoxicity in vivo:
Species: Mouse
Application Route: Ingestion
Result: negative

Remarks: Based on data from similar materials

Dilithium azelate:

Genotoxicity in vitro:
Method: OECD Test Guideline 471
Result: negative

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

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

Calcium oxide:

Genotoxicity in vitro:
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

**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

**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)

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

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

Calcium oxide:

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

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

Antimony, dialkyl dithiocarbamate:

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

- **Effects on fetal development**: Test Type: Combined repeated dose toxicity study with the reproduction/developmental toxicity screening test  
  Species: Rat  
  Application Route: Ingestion  
  Result: negative

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

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

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

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

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

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

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

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

Quartz:
Species: Humans  
LOAEL: 0.053 mg/m³  
Application Route: inhalation (dust/mist/fume)  
Remarks: These substance(s) are inextricably bound in the product and therefore do not contribute to a dust inhalation hazard.

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

Distillates (petroleum), hydrotreated heavy naphthenic:

- **Toxicity to fish**: LC50 (Pimephales promelas (fathead minnow)): > 100 mg/l
  - Exposure time: 96 h
  - Method: OECD Test Guideline 203
  - Remarks: Based on data from similar materials

- **Toxicity to daphnia and other aquatic invertebrates**: EC50 (Daphnia magna (Water flea)): > 10,000 mg/l
  - Exposure time: 48 h
  - 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

Graphite:
<table>
<thead>
<tr>
<th>Substance</th>
<th>Effect</th>
<th>Test Substance</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Copper metal powder</td>
<td>Toxicity to fish</td>
<td>LL50 (Danio rerio (zebra fish)): &gt; 100 mg/l</td>
<td>OECD Test Guideline 203</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Exposure time: 96 h</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Toxicity to daphnia and aquatic invertebrates</td>
<td>EL50 (Daphnia magna (Water flea)): &gt; 100 mg/l</td>
<td>OECD Test Guideline 202</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Exposure time: 48 h</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Toxicity to algae/aquatic plants</td>
<td>EL50 (Pseudokirchneriella subcapitata (green algae)): &gt; 100 mg/l</td>
<td>OECD Test Guideline 201</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Exposure time: 72 h</td>
<td></td>
</tr>
<tr>
<td>Copper metal powder</td>
<td>Toxicity to fish (Chronic toxicity)</td>
<td>NOELR (Pseudokirchneriella subcapitata (green algae)): &gt; 100 mg/l</td>
<td>OECD Test Guideline 201</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Exposure time: 72 h</td>
<td></td>
</tr>
<tr>
<td>Talc</td>
<td>Toxicity to fish</td>
<td>LC50 (Brachydanio rerio (zebrafish)): &gt; 100,000 mg/l</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Exposure time: 24 h</td>
<td></td>
</tr>
<tr>
<td>Dilithium azelate</td>
<td>Toxicity to fish</td>
<td>LC50 (Oncorhynchus mykiss (rainbow trout)): &gt; 10 - 100 µg/l</td>
<td>OECD Test Guideline 203</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Exposure time: 96 h</td>
<td>Remarks: Based on data from similar materials</td>
</tr>
<tr>
<td></td>
<td>Toxicity to daphnia and other aquatic invertebrates</td>
<td>EC50 (Daphnia magna (Water flea)): &gt; 10 - 100 mg/l</td>
<td>OECD Test Guideline 202</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Exposure time: 48 h</td>
<td>Remarks: Based on data from similar materials</td>
</tr>
<tr>
<td></td>
<td>Toxicity to algae/aquatic plants</td>
<td>NOEC (Pseudokirchneriella subcapitata (green algae)): &gt; 1 mg/l</td>
<td>OECD Test Guideline 201</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Exposure time: 72 h</td>
<td>Remarks: Based on data from similar materials</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ErC50 (Pseudokirchneriella subcapitata (green algae)): &gt; 100</td>
<td></td>
</tr>
</tbody>
</table>
**SAFETY DATA SHEET**

COPPER SUPREME SPECIAL BLEND®

<table>
<thead>
<tr>
<th>Version</th>
<th>Revision Date:</th>
<th>SDS Number:</th>
<th>Date of last issue:</th>
<th>Date of first issue:</th>
</tr>
</thead>
<tbody>
<tr>
<td>11.0</td>
<td>10/23/2020</td>
<td>115180-00021</td>
<td>05/06/2020</td>
<td>05/12/2015</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Toxicty to organisms</th>
<th>NOEC (Daphnia magna (Water flea))</th>
<th>Exposure time:</th>
<th>Method:</th>
<th>Remarks:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chronic aquatic invertebrates (Chronic toxicity)</td>
<td>0.02 mg/l</td>
<td>21 d</td>
<td>OECD Test Guideline 211</td>
<td>Based on data from similar materials</td>
</tr>
</tbody>
</table>

**Ecotoxicology Assessment**

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

**Calcium oxide:**

<table>
<thead>
<tr>
<th>Toxicty to organisms</th>
<th>LC50 (Oncorhynchus mykiss (rainbow trout))</th>
<th>Exposure time:</th>
<th>Method:</th>
<th>Remarks:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Toxicity to fish</td>
<td>&gt; 100 mg/l</td>
<td>96 h</td>
<td>OECD Test Guideline 203</td>
<td>Based on data from similar materials</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Toxicty to organisms</th>
<th>EC50 (Daphnia magna (Water flea))</th>
<th>Exposure time:</th>
<th>Method:</th>
<th>Remarks:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Toxicity to daphnia and other aquatic invertebrates</td>
<td>&gt; 100 mg/l</td>
<td>96 h</td>
<td>OECD Test Guideline 202</td>
<td>Based on data from similar materials</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Toxicty to organisms</th>
<th>EC50 (Pseudokirchneriella subcapitata (green algae))</th>
<th>Exposure time:</th>
<th>Method:</th>
<th>Remarks:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Toxicity to algae/aquatic plants</td>
<td>&gt; 100 mg/l</td>
<td>72 h</td>
<td>OECD Test Guideline 201</td>
<td>Based on data from similar materials</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Toxicty to organisms</th>
<th>EC10 (Pseudokirchneriella subcapitata (green algae))</th>
<th>Exposure time:</th>
<th>Method:</th>
<th>Remarks:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Toxicity to algae/aquatic plants</td>
<td>&gt; 1 mg/l</td>
<td>72 h</td>
<td>OECD Test Guideline 201</td>
<td>Based on data from similar materials</td>
</tr>
</tbody>
</table>

**Antimony, dialkyl dithiocarbamate:**

<table>
<thead>
<tr>
<th>Toxicty to organisms</th>
<th>NOEC (Daphnia magna (Water flea))</th>
<th>Exposure time:</th>
<th>Method:</th>
<th>Remarks:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)</td>
<td>0.02 mg/l</td>
<td>21 d</td>
<td>OECD Test Guideline 211</td>
<td>Based on data from similar materials</td>
</tr>
</tbody>
</table>
Ecotoxicology Assessment

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

Quartz:

Ecotoxicology Assessment

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

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

Toxicity to fish:
- LL50 (Oncorhynchus mykiss (rainbow trout)): > 100 mg/l
- Exposure time: 96 h
- Test substance: Water Accommodated Fraction
- Method: OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates:
- EL50 (Daphnia magna (Water flea)): 45 mg/l
- Exposure time: 48 h
- Test substance: Water Accommodated Fraction
- Method: OECD Test Guideline 202

Toxicity to algae/aquatic plants:
- LL50 (Pseudokirchneriella subcapitata (green algae)): > 100 mg/l
- Exposure time: 72 h
- Test substance: Water Accommodated Fraction
- Method: OECD Test Guideline 201
- NOELR (Pseudokirchneriella subcapitata (green algae)): > 1 mg/l
- Exposure time: 72 h
- Test substance: Water Accommodated Fraction
- Method: OECD Test Guideline 201

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

Benzenesulphonic acid, propenated, calcium salts, overbased:

Toxicity to fish:
- LL50 (Pimephales promelas (fathead minnow)): > 100 mg/l
- Exposure time: 96 h
- 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(octyldithio)-1,3,4-thiadiazole:
Biodegradability: Result: Not readily biodegradable.
Biodegradation: 0 %
Exposure time: 28 d
Method: OECD Test Guideline 301B

Benzensulphonic 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

Benzensulphonic 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, Antimony, dialkyl dithiocarbamate)

Class: 9
Packing group: III
Labels: 9

IATA-DGR
UN/ID No.: UN 3077
Proper shipping name: Environmentally hazardous substance, solid, n.o.s. (Copper metal powder, Antimony, dialkyl dithiocarbamate)

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

IMDG-Code
UN number: UN 3077
Proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Copper metal powder, Antimony, dialkyl dithiocarbamate)

Class: 9
Packing group: III
Labels: 9
EmS Code: F-A, S-F
Marine pollutant: yes

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
Not applicable for product as supplied.

Domestic regulation

TDG
UN number: UN 3077
Proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Copper metal powder, Antimony, dialkyl dithiocarbamate)

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

Special precautions for user
The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

SECTION 15. REGULATORY INFORMATION

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

AICS : All ingredients listed or exempt.

SECTION 16. OTHER INFORMATION

Full text of other abbreviations

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

All abbreviations: AIIC - Australian Inventory of Industrial Chemicals; ANTT - National Agency for Transport by Land of Brazil; ASTM - American Society for the Testing of Materials; bw - Body weight; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with % response; ELx - Loading rate associated with % response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with % growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; Nch - Chilean Norm; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NOM - Official Mexican Norm; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TDG - Transportation of Dangerous Goods; TSCA - Toxic Substances Control Act (United States); UN - United Na-
SAFETY DATA SHEET

COPPER SUPREME SPECIAL BLEND®

Version 11.0  Revision Date: 10/23/2020  SDS Number: 115180-00021  Date of last issue: 05/06/2020
Date of first issue: 05/12/2015

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

Revision Date: 10/23/2020
Date format: mm/dd/yyyy

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

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

CA / Z8