SAFETY DATA SHEET
according to Regulation (EC) No. 1907/2006

COPR PLUS

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier
   Trade name : COPR PLUS

   SDS-Identcode : 377G

1.2 Relevant identified uses of the substance or mixture and uses advised against
   Use of the Substance/Mixture : Industrial use, Thread Compound (Pipe Dope) and Jacking grease for use in Offshore industries, Mining, (without offshore industries)
   Recommended restrictions on use : Do not use on oxygen lines or in oxygen enriched atmospheres.

1.3 Details of the supplier of the safety data sheet
   Company : Bestolife Corporation        INTERTEK FRANCE
              2126 Vanco Drive         27400 HEUDEBOUVILLE
              75061,                FRANCE
   Telephone : 855-243-9164/972-865-8961 +33 385 991270
   Telefax : 214-631-3047 +33 385 991288
   E-mail address of person responsible for the SDS : www.bestolife.com/christian.gimenez@intertek.com/if.reach@intertek.com

1.4 Emergency telephone number
   CHEMTREC: +(44)-870-8200418; Interntnl: +1-703-527-3887 NHS Drct: +44 0845 4647 (Medical only)

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture
   Classification (REGULATION (EC) No 1272/2008)
   Eye irritation, Category 2 H319: Causes serious eye irritation.

2.2 Label elements
   Labelling (REGULATION (EC) No 1272/2008)
   Hazard pictograms : 
   Signal word : Warning
Hazard statements: H319 Causes serious eye irritation.

Precautionary statements:

**Prevention:**
- P264 Wash skin thoroughly after handling.
- P280 Wear eye protection/ face protection.

**Response:**
- P337 + P313 If eye irritation persists: Get medical advice/ attention.

2.3 Other hazards
None known.

**SECTION 3: Composition/information on ingredients**

3.2 Mixtures

**Components**

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CAS-No.</th>
<th>EC-No.</th>
<th>Index-No.</th>
<th>Registration number</th>
<th>Classification</th>
<th>Concentration (% w/w)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Copper metal powder</td>
<td>7440-50-8 231-159-6 01-2119480154-42</td>
<td></td>
<td></td>
<td></td>
<td>Flam. Sol.; H228 Aquatic Acute 1; H400 Aquatic Chronic 1; H410</td>
<td>&gt;= 10 - &lt; 20</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>M-Factor (Acute aquatic toxicity): 10</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>M-Factor (Chronic aquatic toxicity): 10</td>
<td></td>
</tr>
<tr>
<td>Calcium oxide</td>
<td>1305-78-8 215-138-9 01-2119475325-36</td>
<td></td>
<td></td>
<td></td>
<td>Skin Irrit. 2; H315 Eye Dam. 1; H318 STOT SE 3; H335</td>
<td>&gt;= 3 - &lt; 10</td>
</tr>
<tr>
<td>Quartz</td>
<td>14808-60-7 238-878-4</td>
<td></td>
<td></td>
<td></td>
<td>Carc. 1A; H350i STOT RE 1; H372 (Lungs)</td>
<td>&gt;= 1 - &lt; 10</td>
</tr>
<tr>
<td>Antimony, dialkyl dithiocarbamate</td>
<td>15890-25-2 240-028-2 051-003-00-9</td>
<td></td>
<td></td>
<td></td>
<td>Acute Tox. 4; H302 Acute Tox. 4; H332 Aquatic Chronic 1; H410</td>
<td>&gt;= 0.25 - &lt; 1</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>M-Factor (Chronic aquatic toxicity): 1</td>
<td></td>
</tr>
</tbody>
</table>

For explanation of abbreviations see section 16.
SECTION 4: First aid measures

4.1 Description of 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.

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).

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.

4.2 Most important symptoms and effects, both acute and delayed

Risks:
Causes serious eye irritation.

4.3 Indication of any immediate medical attention and special treatment needed

Treatment:
Treat symptomatically and supportively.

SECTION 5: Firefighting measures

5.1 Extinguishing media

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

Unsuitable extinguishing media:
None known.

5.2 Special hazards arising from the substance or mixture

Specific hazards during fire-:
Exposure to combustion products may be a hazard to health.
SAFETY DATA SHEET
according to Regulation (EC) No. 1907/2006

COPR PLUS

Version 7.0
Revision Date: 04.11.2020
SDS Number: 126580-00016
Date of last issue: 06.05.2020
Date of first issue: 19.05.2015

5.3 Advice for firefighters
Special protective equipment for firefighters:
In the event of fire, wear self-contained breathing apparatus.
Use personal protective equipment.

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.

SECTION 6: Accidental release measures

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

6.2 Environmental precautions
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.

6.3 Methods and material for containment and cleaning up
Methods for 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.

6.4 Reference to other sections
See sections: 7, 8, 11, 12 and 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling
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.
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.

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. Wash contaminated clothing before re-use.

7.2 Conditions for safe storage, including any incompatibilities
Requirements for storage areas and containers:  Keep in properly labelled containers. Store in accordance with the particular national regulations.

Advice on common storage:  Do not store with the following product types:
Strong oxidizing agents

7.3 Specific end use(s)
Specific use(s):  No data available

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>Value type (Form of exposure)</th>
<th>Control parameters</th>
<th>Basis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Graphite</td>
<td>7782-42-5</td>
<td>TWA (inhalable dust)</td>
<td>10 mg/m³</td>
<td>GB EH40</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA (Respirable dust)</td>
<td>4 mg/m³</td>
<td>GB EH40</td>
</tr>
<tr>
<td>Copper metal powder</td>
<td>7440-50-8</td>
<td>TWA (Fumes)</td>
<td>0.2 mg/m³ (Copper)</td>
<td>GB EH40</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA (Dusts and mists)</td>
<td>1 mg/m³ (Copper)</td>
<td>GB EH40</td>
</tr>
<tr>
<td></td>
<td></td>
<td>STEL (Dusts and mists)</td>
<td>2 mg/m³ (Copper)</td>
<td>GB EH40</td>
</tr>
<tr>
<td>Talc</td>
<td>14807-96-6</td>
<td>TWA (Respirable dust)</td>
<td>1 mg/m³</td>
<td>GB EH40</td>
</tr>
</tbody>
</table>

Further information: For the purposes of these limits, respirable dust and inhalable dust are those fractions of airborne dust which will be collected when sampling is undertaken in accordance with the methods described in MDHS14/4 General methods for sampling and gravimetric analysis or respirable, thoracic and inhalable aerosols., Talc is defined as the mineral talc together with other hydrous phyllosilicates including chlorite and carbonate materials which occur with it, but excluding amphibole asbestos and crystalline silica., The COSHH definition of a substance hazardous to health includes dust of any kind when present at a concentration in air equal to or greater than
10 mg.m-3 8-hour TWA of inhalable dust or 4 mg.m-3 8-hour TWA of respirable dust. This means that any dust will be subject to COSHH if people are exposed to dust above these levels. Some dusts have been assigned specific WELs and exposure to these must comply with the appropriate limits. Most industrial dusts contain particles of a wide range of sizes. The behaviour, deposition and fate of any particular particle after entry into the human respiratory system, and the body response that it elicits, depend on the nature and size of the particle. HSE distinguishes two size fractions for limit-setting purposes termed 'inhalable' and 'respirable'. Inhalable dust approximates to the fraction of airborne material that enters the nose and mouth during breathing and is therefore available for deposition in the respiratory tract. Respirable dust approximates to the fraction that penetrates to the gas exchange region of the lung. Fuller definitions and explanatory material are given in MDHS14/4. Where dusts contain components that have their own assigned WEL, all the relevant limits should be complied with. Where no specific short-term exposure limit is listed, a figure three times the long-term exposure limit should be used.

<table>
<thead>
<tr>
<th>Substance name</th>
<th>End Use</th>
<th>Exposure routes</th>
<th>Potential health effects</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calcium oxide</td>
<td></td>
<td>TWA</td>
<td>2 mg/m3</td>
<td>GB EH40</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA (Respirable fraction)</td>
<td>1 mg/m3</td>
<td>2017/164/EU</td>
</tr>
<tr>
<td></td>
<td></td>
<td>STEL (Respirable fraction)</td>
<td>4 mg/m3</td>
<td>2017/164/EU</td>
</tr>
<tr>
<td>Further information: Indicative</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Quartz</td>
<td></td>
<td>TWA (Respirable dust)</td>
<td>0.1 mg/m3</td>
<td>2004/37/EC</td>
</tr>
<tr>
<td>Further information: Carcinogens or mutagens</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA (Respirable fraction)</td>
<td>0.1 mg/m3(Silica)</td>
<td>GB EH40</td>
</tr>
<tr>
<td>Further information: Capable of causing cancer and/or heritable genetic damage</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Antimony, dialkyl dithiocarbamate</td>
<td></td>
<td>TWA</td>
<td>0.5 mg/m3 (antimony)</td>
<td>GB EH40</td>
</tr>
</tbody>
</table>

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

Quartz

Derived No Effect Level (DNEL) according to Regulation (EC) No. 1907/2006:

<table>
<thead>
<tr>
<th>Substance name</th>
<th>End Use</th>
<th>Exposure routes</th>
<th>Potential health effects</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Graphite</td>
<td>Consumers</td>
<td>Inhalation</td>
<td>Long-term local effects</td>
<td>0.3 mg/m3</td>
</tr>
<tr>
<td></td>
<td>Consumers</td>
<td>Ingestion</td>
<td>Long-term systemic effects</td>
<td>813 mg/kg bw/day</td>
</tr>
<tr>
<td></td>
<td>Workers</td>
<td>Inhalation</td>
<td>Long-term local effects</td>
<td>1.2 mg/m3</td>
</tr>
<tr>
<td>Copper metal powder</td>
<td>Workers</td>
<td>Inhalation</td>
<td>Acute systemic effects</td>
<td>20 mg/m3</td>
</tr>
</tbody>
</table>
### Effects

<table>
<thead>
<tr>
<th></th>
<th>Workers</th>
<th>Skin contact</th>
<th>Long-term systemic effects</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>137 mg/kg bw/day</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Workers</th>
<th>Skin contact</th>
<th>Acute systemic effects</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>237 mg/kg bw/day</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Consumers</th>
<th>Inhalation</th>
<th>Acute systemic effects</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>20 mg/m^3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Consumers</th>
<th>Inhalation</th>
<th>Long-term local effects</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1 mg/m^3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Consumers</th>
<th>Inhalation</th>
<th>Acute local effects</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1 mg/m^3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Consumers</th>
<th>Skin contact</th>
<th>Long-term systemic effects</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>137 mg/kg bw/day</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Consumers</th>
<th>Skin contact</th>
<th>Acute systemic effects</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>273 mg/kg bw/day</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Substance name</th>
<th>Environmental Compartment</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Distillates (petroleum), hydrotreated light naphthenic</td>
<td>Oral (Secondary Poisoning)</td>
<td>9.33 mg/kg food</td>
</tr>
<tr>
<td>Copper metal powder</td>
<td>Fresh water</td>
<td>7.8 µg/l</td>
</tr>
<tr>
<td></td>
<td>Marine water</td>
<td>5.2 µg/l</td>
</tr>
<tr>
<td></td>
<td>Sewage treatment plant</td>
<td>230 µg/l</td>
</tr>
<tr>
<td></td>
<td>Fresh water sediment</td>
<td>87 mg/kg</td>
</tr>
<tr>
<td></td>
<td>Marine sediment</td>
<td>676 mg/kg</td>
</tr>
<tr>
<td></td>
<td>Soil</td>
<td>65 mg/kg</td>
</tr>
<tr>
<td>Calcium(2+) 12-hydroxyoctadecanoate</td>
<td>Fresh water</td>
<td>0.1 mg/l</td>
</tr>
<tr>
<td>Calcium oxide</td>
<td>Fresh water</td>
<td>0.01 mg/l</td>
</tr>
<tr>
<td></td>
<td>Marine water</td>
<td>0.24 mg/l</td>
</tr>
<tr>
<td></td>
<td>Intermittent use/release</td>
<td>1 mg/l</td>
</tr>
<tr>
<td></td>
<td>Fresh water</td>
<td>0.37 mg/l</td>
</tr>
<tr>
<td></td>
<td>Marine water</td>
<td>0.37 mg/l</td>
</tr>
<tr>
<td></td>
<td>Intermittent use/release</td>
<td>2.27 mg/l</td>
</tr>
<tr>
<td></td>
<td>Sewage treatment plant</td>
<td>817.4 mg/kg dry weight (d.w.)</td>
</tr>
<tr>
<td></td>
<td>Soil</td>
<td></td>
</tr>
</tbody>
</table>

### 8.2 Exposure controls

#### Engineering measures
Minimize workplace exposure concentrations.

#### Personal protective equipment

- **Eye protection**: Wear the following personal protective equipment:
Safety goggles
Equipment should conform to BS EN 166

Hand protection

Material
Chemical-resistant gloves

Remarks
Choose gloves to protect hands against chemicals depending on the concentration and quantity of the hazardous substance and 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.

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).

Respiratory protection
If adequate local exhaust ventilation is not available or exposure assessment demonstrates exposures outside the recommended guidelines, use respiratory protection. Equipment should conform to BS EN 14387

Filter type
Combined particulates and organic vapour type (A-P)

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance
Viscous semi-solid

Colour
copper

Odour
Petroleum

Odour Threshold
No data available

pH
Not applicable (not an aqueous solution)

Melting point/freezing point
No data available

Initial boiling point and boiling range
No data available

Flash point
Not applicable

Evaporation rate
Not applicable

Flammability (solid, gas)
Not classified as a flammability hazard

Upper explosion limit / Upper flammability limit
No data available

Lower explosion limit / Lower flammability limit
No data available

Vapour pressure
Not applicable
**SECTION 10: Stability and reactivity**

10.1 Reactivity
Not classified as a reactivity hazard.

10.2 Chemical stability
Stable under normal conditions.

10.3 Possibility of hazardous reactions
Hazardous reactions : Can react with strong oxidizing agents.

10.4 Conditions to avoid
Conditions to avoid : None known.

10.5 Incompatible materials
Materials to avoid : Oxidizing agents

10.6 Hazardous decomposition products
No hazardous decomposition products are known.
SECTION 11: Toxicological information

11.1 Information on toxicological effects

Information on likely routes of exposure:
- Skin contact
- Ingestion
- Eye contact

**Acute toxicity**
Not classified based on available information.

**Components:**

**Copper metal powder:**
- **Acute oral toxicity**: LD50 (Rat): > 2,500 mg/kg  
  Method: OECD Test Guideline 423  
  Assessment: The substance or mixture has no acute oral toxicity
- **Acute inhalation toxicity**: LC50 (Rat): > 5.11 mg/l  
  Exposure time: 4 h  
  Test atmosphere: dust/mist  
  Method: OECD Test Guideline 436  
  Assessment: The substance or mixture has no acute inhalation toxicity
- **Acute dermal toxicity**: LD50 (Rat): > 2,000 mg/kg  
  Method: OECD Test Guideline 402  
  Assessment: The substance or mixture has no acute dermal toxicity

**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

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

**Antimony, dialkyl dithiocarbamate:**
- **Acute oral toxicity**: Acute toxicity estimate: 2,000 mg/kg
Method: Expert judgement
Remarks: Based on harmonised classification in EU regulation 1272/2008, Annex VI

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

Acute inhalation toxicity:
- Acute toxicity estimate: 5 mg/l
- Exposure time: 4 h
- Test atmosphere: dust/mist
- Method: Expert judgement
- Remarks: Based on harmonised classification in EU regulation 1272/2008, Annex VI

Acute dermal toxicity:
- LD50 (Rabbit): > 5,000 mg/kg

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

**Components:**

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

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

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

**Product:**
- Result: Irritation to eyes, reversing within 21 days

**Components:**

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

**Calcium oxide:**
- Species: Rabbit
- Method: OECD Test Guideline 405
- Result: Irreversible effects on the eye
Respiratory or skin sensitisation

Skin sensitisation
Not classified based on available information.

Respiratory sensitisation
Not classified based on available information.

Components:

<table>
<thead>
<tr>
<th>Copper metal powder:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Test Type            : Maximisation Test</td>
</tr>
<tr>
<td>Exposure routes      : Skin contact</td>
</tr>
<tr>
<td>Species              : Guinea pig</td>
</tr>
<tr>
<td>Method               : OECD Test Guideline 406</td>
</tr>
<tr>
<td>Result               : negative</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Calcium oxide:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Test Type      : Local lymph node assay (LLNA)</td>
</tr>
<tr>
<td>Exposure routes: Skin contact</td>
</tr>
<tr>
<td>Species        : Mouse</td>
</tr>
<tr>
<td>Method         : OECD Test Guideline 429</td>
</tr>
<tr>
<td>Result         : negative</td>
</tr>
<tr>
<td>Remarks        : Based on data from similar materials</td>
</tr>
</tbody>
</table>

Germ cell mutagenicity
Not classified based on available information.

Components:

<table>
<thead>
<tr>
<th>Copper metal powder:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Genotoxicity in vitro: Test Type: Bacterial reverse mutation assay (AMES)</td>
</tr>
<tr>
<td>Method: OECD Test Guideline 471</td>
</tr>
<tr>
<td>Result: negative</td>
</tr>
</tbody>
</table>

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

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

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

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:
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: Based on data from similar materials

Carcinogenicity - Assessment:
Positive evidence from human epidemiological studies (inhalation)

Reproductive toxicity
Not classified based on available information.

Components:
Copper metal powder:
Effects on fertility:
Test Type: Two-generation reproduction toxicity study
Species: Rat
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:
Exposure routes: 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:

Copper metal powder:
Species: Rat
NOAEL: \( \geq 2 \text{ mg/m}^3 \)
Application Route: Inhalation (dust/mist/fume)
Exposure time: 28 Days

Calcium oxide:
Species: Rat
NOAEL: \( \geq 0.399 \text{ mg/l} \)
Application Route: Inhalation (dust/mist/fume)
Exposure time: 90 Days
Method: OECD Test Guideline 413

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.

Antimony, dialkyl dithiocarbamate:
Species: Rat
NOAEL: \( \geq 1,000 \text{ mg/kg} \)
Application Route: Ingestion
Exposure time: 54 Days

Aspiration toxicity
Not classified based on available information.

SECTION 12: Ecological information

12.1 Toxicity

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:

#### Copper metal powder:

**Toxicity to fish:**  
LC50: > 10 - 100 µg/l  
Exposure time: 96 h

**M-Factor (Acute aquatic toxicity):**  
10

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

**M-Factor (Chronic aquatic toxicity):**  
10

#### Calcium oxide:

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

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

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

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

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

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

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

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

M-Factor (Chronic aquatic toxicity): 1

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

12.2 Persistence and degradability

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

Components:

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

12.3 Bioaccumulative potential
No data available

12.4 Mobility in soil
No data available
12.5 Results of PBT and vPvB assessment
Not relevant

12.6 Other adverse effects
No data available

SECTION 13: Disposal considerations

13.1 Waste treatment methods
Product : Dispose of in accordance with local regulations. According to the European Waste Catalogue, Waste Codes are not product specific, but application specific. Waste codes should be assigned by the user, preferably in discussion with the waste disposal authorities.

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

14.1 UN number

| ADN   | UN 3077 |
| ADR   | UN 3077 |
| RID   | UN 3077 |
| IMDG  | UN 3077 |
| IATA  | UN 3077 |

14.2 UN proper shipping name

| ADN   | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Copper metal powder, Antimony, dialkyl dithiocarbamate) |
| ADR   | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Copper metal powder, Antimony, dialkyl dithiocarbamate) |
| RID   | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Copper metal powder, Antimony, dialkyl dithiocarbamate) |
| IMDG  | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Copper metal powder, Antimony, dialkyl dithiocarbamate) |
| IATA  | Environmentally hazardous substance, solid, n.o.s. (Copper metal powder, Antimony, dialkyl dithiocarbamate) |

14.3 Transport hazard class(es)
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<thead>
<tr>
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<th>Revision Date:</th>
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<tr>
<td>7.0</td>
<td>04.11.2020</td>
<td>126580-00016</td>
<td>06.05.2020</td>
<td>19.05.2015</td>
</tr>
</tbody>
</table>

14.4 Packing group

- **ADN**
  - Packing group: III
  - Classification Code: M7
  - Hazard Identification Number: 90
  - Labels: 9

- **ADR**
  - Packing group: III
  - Classification Code: M7
  - Hazard Identification Number: 90
  - Labels: 9
  - Tunnel restriction code: (−)

- **RID**
  - Packing group: III
  - Classification Code: M7
  - Hazard Identification Number: 90
  - Labels: 9

- **IMDG**
  - Packing group: III
  - Labels: 9
  - EmS Code: F-A, S-F

- **IATA (Cargo)**
  - Packing instruction (cargo aircraft): 956
  - Packing instruction (LQ): Y956
  - Packing group: III
  - Labels: Miscellaneous

- **IATA (Passenger)**
  - Packing instruction (passenger aircraft): 956
  - Packing instruction (LQ): Y956
  - Packing group: III
  - Labels: Miscellaneous

14.5 Environmental hazards

- **ADN**
  - Environmentally hazardous: yes

- **ADR**
  - Environmentally hazardous: yes

- **RID**
  - Environmentally hazardous: yes
IMDG
Marine pollutant : yes

IATA (Passenger)
Environmentally hazardous : yes

IATA (Cargo)
Environmentally hazardous : yes

14.6 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.

14.7 Transport in bulk according to Annex II of Marpol and the IBC Code
Remarks : Not applicable for product as supplied.

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, preparations and articles (Annex XVII) : Not applicable
REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59). : Not applicable
REACH - List of substances subject to authorisation (Annex XIV) : Not applicable
Regulation (EC) No 1005/2009 on substances that deplete the ozone layer : Not applicable
Regulation (EU) 2019/1021 on persistent organic pollutants (recast) : Not applicable
Regulation (EC) No 649/2012 of the European Parliament and the Council concerning the export and import of dangerous chemicals : Not applicable

The components 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.

15.2 Chemical safety assessment
A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information
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Other information:
Items where changes have been made to the previous version are highlighted in the body of this document by two vertical lines.

Full text of H-Statements:
- H228: Flammable solid.
- H302: Harmful if swallowed.
- H315: Causes skin irritation.
- H318: Causes serious eye damage.
- H332: Harmful if inhaled.
- H335: May cause respiratory irritation.
- H350i: May cause cancer by inhalation.
- H372: Causes damage to organs through prolonged or repeated exposure if inhaled.
- H400: Very toxic to aquatic life.
- H410: Very toxic to aquatic life with long lasting effects.

Full text of other abbreviations:
- Acute Tox.: Acute toxicity
- Aquatic Acute: Short-term (acute) aquatic hazard
- Aquatic Chronic: Long-term (chronic) aquatic hazard
- Carc.: Carcinogenicity
- Eye Dam.: Serious eye damage
- Flam. Sol.: Flammable solids
- Skin Irrit.: Skin irritation
- STOT RE: Specific target organ toxicity - repeated exposure
- STOT SE: Specific target organ toxicity - single exposure
- 2004/37/EC: Europe. Directive 2004/37/EC on the protection of workers from the risks related to exposure to carcinogens or mutagens at work
- GB EH40: UK. EH40 WEL - Workplace Exposure Limits
- 2004/37/EC / TWA: Long term exposure limit
- 2017/164/EU / STEL: Short term exposure limit
- 2017/164/EU / TWA: Limit Value - eight hours
- GB EH40 / TWA: Long-term exposure limit (8-hour TWA reference period)
- GB EH40 / STEL: Short-term exposure limit (15-minute reference period)

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - European Agreement concerning the International Carriage of Dangerous Goods by Road; AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECHA - European Chemicals Agency; EC-Number - European Community number; ECx - Concentration associated with x% response; 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; 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...
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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; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; 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; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; SVHC - Substance of Very High Concern; TCSI - Taiwan Chemical Substance Inventory; TRGS - Technical Rule for Hazardous Substances; TSCA - Toxic Substances Control Act (United States); UN - United Nations; vPvB - Very Persistent and Very Bioaccumulative

## Further information


## Classification of the mixture:

<table>
<thead>
<tr>
<th>Eye Irrit. 2</th>
<th>H319</th>
<th>Based on product data or assessment</th>
</tr>
</thead>
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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.

GB / EN