Safety Data Sheet

Section 1: Identification of the Substance/Mixture and of the Company/Undertaking

1.1 Product identifier
Product Name • Green-Seal® Supreme
Synonyms • Thread Compound, Sealant, Anti-Seize, Lubricant

1.2 Relevant identified uses of the substance or mixture and uses advised against
Relevant identified use(s) • Anti-Seize, Lubricant, Sealant, sealant and lubricant for API casing, tubing, and line pipe connections

1.3 Details of the supplier of the safety data sheet
Manufacturer • Topco Oilsite Products Ltd.
Bay 7, 3401 - 19th Street N.E.
Calgary, Alberta T2E 6S8
Canada
www.topcooilsite.com
msds@topcooilsite.com

Telephone (General) • 403-219-0255

1.4 Emergency telephone number
Manufacturer • 403-219-0255
Poison & Drug Information Service (Alberta Health Services) • 1-800-332-1414

Section 2: Hazards Identification

EU/EEC

2.1 Classification of the substance or mixture
CLP • Hazardous to the aquatic environment Acute 1 - H400
Hazardous to the aquatic environment Chronic 1 - H410

2.2 Label Elements
CLP

WARNING

Hazard statements • H400 - Very toxic to aquatic life
H410 - Very toxic to aquatic life with long lasting effects

Precautionary statements
Prevention • P273 - Avoid release to the environment.
Response • P391 - Collect spillage.
Storage/Disposal • P501 - Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.
2.3 Other Hazards

CLP

- Heating above the melting point releases metallic oxides which may cause metal fume fever by inhalation. The symptoms are shivering, fever, malaise and muscular pain.
- According to Regulation (EC) No. 1272/2008 (CLP) this material is considered hazardous.

UN GHS Revision 4
According to: UN Globally Harmonized System of Classification and Labelling of Chemicals (GHS): Fourth Revised Edition

2.1 Classification of the substance or mixture

UN GHS

- Acute Toxicity Oral 5
- Skin Mild Irritation 3
- Hazardous to the aquatic environment Acute 2
- Hazardous to the aquatic environment Chronic 3

2.2 Label elements

UN GHS

WARNING

Hazard statements

- May be harmful if swallowed
- Causes mild skin irritation
- Toxic to aquatic life
- Harmful to aquatic life with long lasting effects

Precautionary statements

Prevention

- Avoid release to the environment.

Response

- If skin irritation occurs: Get medical advice/attention.
- Call a POISON CENTER/doctor if you feel unwell.

Storage/Disposal

- Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

Supplemental information

- 40.6 - 53 percent of this product consists of an ingredient of unknown toxicity.

2.3 Other hazards

UN GHS

- Heating above the melting point releases metallic oxides which may cause metal fume fever by inhalation. The symptoms are shivering, fever, malaise and muscular pain.
- According to the Globally Harmonized System for Classification and Labeling (GHS) this product is considered hazardous.

United States (US)
According to: OSHA 29 CFR 1910.1200 HCS

2.1 Classification of the substance or mixture

OSHA HCS

- Hazards Not Otherwise Classified - Health Hazards - Metal fume fever

2.2 Label elements

OSHA HCS

2012

Hazard

- No label element(s) required

2.3 Other hazards
OSHA HCS 2012

- Heating above the melting point releases metallic oxides which may cause metal fume fever by inhalation. The symptoms are shivering, fever, malaise and muscular pain. Under United States Regulations (29 CFR 1910.1200 - Hazard Communication Standard), this product is considered hazardous.

Canada
According to: WHMIS 2015

2.1 Classification of the substance or mixture

WHMIS 2015
- Health Hazards Not Otherwise Classified 1

2.2 Label elements

WHMIS 2015

DANGER

Hazard statements
- Heating above the melting point releases metallic oxides which may cause metal fume fever by inhalation. The symptoms are shivering, fever, malaise and muscular pain

Precautionary statements

2.3 Other hazards

WHMIS 2015
- In Canada, the product mentioned above is considered hazardous under the Workplace Hazardous Materials Information System (WHMIS).

<hr size=2 width="100%" align=center>

Section 3 - Composition/Information on Ingredients

3.1 Substances

- Material does not meet the criteria of a substance.

3.2 Mixtures

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Identifiers</th>
<th>%</th>
<th>LD50/LC50</th>
<th>Classifications According to Regulation/Directive</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Solvent-refined heavy paraffinic petroleum distillates</td>
<td>CAS: 64741-88-4, EC Number: 265-090-8, EU Index: 649-454-00-7</td>
<td>30% TO 42%</td>
<td>NDA</td>
<td>EU CLP: Annex VI, Table 3.1: Carc. 1B, H350, UN GHS Revision 4: Skin Irrit. 3; Asp. Tox. 2, OSHA HCS 2012: Not Classified, WHMIS 2015: Not Classified</td>
<td>NDA</td>
</tr>
<tr>
<td>Graphite</td>
<td>CAS: 7782-42-5, EC Number: 231-955-3</td>
<td>20% TO 35%</td>
<td>NDA</td>
<td>EU CLP: STOT RE 1 (Lungs / Inhl), H372, UN GHS Revision 4: STOT RE 1 (Lungs / Inhl), OSHA HCS 2012: Comb. Dust; STOT RE 1 (Lungs / Inhl), WHMIS 2015: Comb. Dust; STOT RE 1 (Lungs / Inhl)</td>
<td>NDA</td>
</tr>
<tr>
<td>Talc</td>
<td>CAS: 14807-96-6, EC Number: 238-877-9</td>
<td>10% TO 20%</td>
<td>NDA</td>
<td>EU CLP: STOT RE 1 (Lungs / Inhl), H372, UN GHS Revision 4: Skin Irrit. 3; STOT RE 1 (Lungs / Inhl), OSHA HCS 2012: STOT RE 1 (Lungs / Inhl), WHMIS 2015: STOT RE 1 (Lungs / Inhl)</td>
<td>NDA</td>
</tr>
<tr>
<td>Calcium monocarbonate</td>
<td>CAS: 471-34-1, EC</td>
<td>3% TO 6%</td>
<td>Ingestion/Oral-Rat LD50 • 6450 mg/kg</td>
<td>EU CLP: Skin Irrit. 2, H315; Eye Irrit. 2, H319, UN GHS Revision 4: Skin Irrit. 2; Eye</td>
<td>NDA</td>
</tr>
</tbody>
</table>
### Section 4 - First Aid Measures

**4.1 Description of first aid measures**

**Inhalation**
- Move victim to fresh air. Administer oxygen if breathing is difficult. Give artificial respiration if victim is not breathing. Get medical attention if symptoms occur.

**Skin**
- In case of contact with substance, immediately flush skin with running water for at least 20 minutes. Get medical attention if symptoms occur.

**Eye**
- In case of contact with substance, immediately flush eyes with running water for at least 20 minutes. Get medical attention if symptoms occur.

**Ingestion**
- Obtain medical attention immediately if ingested.

**4.2 Most important symptoms and effects, both acute and delayed**
- Refer to Section 11 - Toxicological Information.

**4.3 Indication of any immediate medical attention and special treatment needed**
- All treatments should be based on observed signs and symptoms of distress in the patient. Consideration should be given to the possibility that overexposure to materials other than this product may have occurred.

### Section 5 - Firefighting Measures

**5.1 Extinguishing media**
- **Suitable Extinguishing Media**
  - Dry chemical, Carbon dioxide (CO₂), Foam, sand, Water fog.
- **Unsuitable Extinguishing Media**
  - No data available

**5.2 Special hazards arising from the substance or mixture**
- **Hazardous Fire and Explosion Hazards**
  - No data available
- **Hazardous Combustion Products**
  - Hazardous decomposition products formed under fire conditions: Carbon oxides, Sulphur oxides.

**5.3 Advice for firefighters**
- Structural firefighters’ protective clothing will only provide limited protection. Wear positive pressure self-contained breathing apparatus (SCBA).
Section 6 - Accidental Release Measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal Precautions
- Ventilate the area. Do not walk through spilled material. Wear appropriate personal protective equipment, avoid direct contact.

Emergency Procedures
- Keep unauthorized personnel away. Stay upwind.

6.2 Environmental precautions
- Avoid run off to waterways and sewers.

6.3 Methods and material for containment and cleaning up

Containment/Clean-up Measures
- Carefully shovel or sweep up spilled material and place in suitable container.

6.4 Reference to other sections
- Refer to Section 8 - Exposure Controls/Personal Protection and Section 13 - Disposal Considerations.

Section 7 - Handling and Storage

7.1 Precautions for safe handling

Handling
- Use only with adequate ventilation. Use good safety and industrial hygiene practices. Wear appropriate personal protective equipment, avoid direct contact. Avoid contact with skin, eyes, and clothing. Do not eat, drink or smoke when using this product. Wash thoroughly with soap and water after handling and before eating, drinking, or using tobacco.

7.2 Conditions for safe storage, including any incompatibilities

Storage
- Store in original container. Keep container tightly closed. Store in a cool, dry, well-ventilated place.

7.3 Specific end use(s)
- Refer to Section 1.2 - Relevant identified uses.

Section 8 - Exposure Controls/Personal Protection

8.1 Control parameters

<table>
<thead>
<tr>
<th>Result</th>
<th>ACGIH</th>
<th>Argentina</th>
<th>Australia</th>
<th>Canada Alberta</th>
<th>Canada British Columbia</th>
</tr>
</thead>
<tbody>
<tr>
<td>Copper oxide</td>
<td>TWAs 1 mg/m3 TWA (dust and mist, as Cu) as Copper compounds</td>
<td>Not established</td>
<td>Not established</td>
<td>Not established</td>
<td>Not established</td>
</tr>
<tr>
<td>Calcium monocarbonate (471-34-1)</td>
<td>TWAs</td>
<td>Not established</td>
<td>Not established</td>
<td>10 mg/m3 TWA (containing no asbestos and &lt;1% crystalline silica, inhalable dust)</td>
<td>10 mg/m3 TWA</td>
</tr>
<tr>
<td>Talc (14807-96-6)</td>
<td>TWAs 2 mg/m3 TWA (particulate matter containing no asbestos and &lt;1% crystalline silica, respirable particulate matter)</td>
<td>2 mg/m3 TWA [CMP] (respirable fraction, particulate matter containing no asbestos and less than 1% crystalline silica)</td>
<td>2.5 mg/m3 TWA (containing no asbestos fibers)</td>
<td>2 mg/m3 TWA (respirable particulate)</td>
<td>2 mg/m3 TWA (particulate matter containing no Asbestos and &lt;1% Crystalline silica, respirable particulate)</td>
</tr>
<tr>
<td>Graphite</td>
<td>TWAs 2 mg/m3 TWA (all forms except graphite fibers, respirable particulate matter)</td>
<td>2 mg/m3 TWA [CMP] (all forms except fibers, respirable fraction)</td>
<td>3 mg/m3 TWA (containing no asbestos and &lt;1% crystalline silica; all forms except fibers;</td>
<td>2 mg/m3 TWA (all forms except Graphite fibres, respirable)</td>
<td>2 mg/m3 TWA (all forms except Graphite fibres, respirable)</td>
</tr>
</tbody>
</table>
### Exposure Limits/Guidelines (Con't.)

<table>
<thead>
<tr>
<th>Result</th>
<th>Canada Manitoba</th>
<th>Canada New Brunswick</th>
<th>Canada Northwest Territories</th>
<th>Canada Nova Scotia</th>
<th>Canada Nunavut</th>
</tr>
</thead>
<tbody>
<tr>
<td>Copper oxide</td>
<td>TWAs 1 mg/m³ TWA (dust and mist, as Cu) as Copper compounds</td>
<td>Not established</td>
<td>Not established</td>
<td>1 mg/m³ TWA (dust and mist, as Cu) as Copper compounds</td>
<td>Not established</td>
</tr>
<tr>
<td>Calcium monocarbonate (471-34-1)</td>
<td>STELs Not established</td>
<td>Not established</td>
<td>20 mg/m³ STEL (listed under Limestone)</td>
<td>Not established</td>
<td>20 mg/m³ STEL (listed under Limestone)</td>
</tr>
<tr>
<td>Talc (14807-96-6)</td>
<td>TWAs 2 mg/m³ TWA (particulate matter containing no Asbestos and &lt;1% Crystalline silica, respirable particulate matter) 2 mg/m³ TWA (particulate matter containing no Asbestos and &lt;1% Crystalline silica, respirable fraction)</td>
<td>2 mg/m³ TWA (natural, all forms, except Graphite fibres, respirable fraction)</td>
<td>2 mg/m³ TWA (natural, all forms, except Graphite fibres, respirable fraction)</td>
<td>2 mg/m³ TWA (natural, all forms, except Graphite fibres, respirable fraction)</td>
<td>2 mg/m³ TWA (natural, all forms, except Graphite fibres, respirable fraction)</td>
</tr>
<tr>
<td>Graphite</td>
<td>STELs Not established</td>
<td>Not established</td>
<td>4 mg/m³ STEL (natural, all forms, except Graphite fibres, respirable fraction)</td>
<td>Not established</td>
<td>4 mg/m³ STEL (natural, all forms, except Graphite fibres, respirable fraction)</td>
</tr>
<tr>
<td>Calcium monocarbonate (471-34-1)</td>
<td>TWAs</td>
<td>Not established</td>
<td>10 mg/m³ TWA (listed under Limestone)</td>
<td>10 mg/m³ TWA</td>
<td>20 mg/m³ STEL</td>
</tr>
<tr>
<td>Talc (14807-96-6)</td>
<td>STELs</td>
<td>Not established</td>
<td>20 mg/m³ STEL (listed under Limestone)</td>
<td>20 mg/m³ STEL</td>
<td>20 mg/m³ STEL</td>
</tr>
<tr>
<td>Graphite</td>
<td>TWAs</td>
<td>2 mg/m³ TWA (containing no Asbestos and &lt;1% Crystalline silica, respirable) 3 mg/m³ TWAE V (respirable dust)</td>
<td>2 mg/m³ TWA (respirable fraction)</td>
<td>20 mppcf TWA</td>
<td>3 mg/m³ TWA (free SiO₂ &lt;10%, total dust); 1 mg/m³ TWA (free SiO₂ &lt;10%, respirable dust)</td>
</tr>
<tr>
<td>Graphite</td>
<td>STELs</td>
<td>Not established</td>
<td>Not established</td>
<td>4 mg/m³ STEL (natural, except Graphite fibres, respirable fraction)</td>
<td>Not established</td>
</tr>
<tr>
<td>Graphite</td>
<td>TWAs</td>
<td>2 mg/m³ TWA (containing no Asbestos and &lt;1% Crystalline silica, respirable dust)</td>
<td>2 mg/m³ TWA (natural, except Graphite fibres, respirable fraction)</td>
<td>20 mppcf TWA; 30 mppcf TWA (synthetic); 10 mg/m³ TWA (synthetic)</td>
<td>4 mg/m³ TWA (total dust); 2 mg/m³ TWA (respirable dust)</td>
</tr>
<tr>
<td>Copper oxide</td>
<td>TWAs</td>
<td>Not established</td>
<td>Not established</td>
<td>Not established</td>
<td>1 mg/m3 TWA (dust and mist, as Cu) as Copper compounds</td>
</tr>
<tr>
<td>-------------</td>
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<td>-----------------</td>
<td>-----------------</td>
<td>-----------------</td>
<td>------------------------------------------------------</td>
</tr>
<tr>
<td>Calcium monocarbonate (471-34-1)</td>
<td>TWAs</td>
<td>10 mg/m3 TWA [VME]</td>
<td>Not established</td>
<td>Not established</td>
<td>Not established</td>
</tr>
<tr>
<td>Talc (14807-96-6)</td>
<td>TWAs</td>
<td>Not established</td>
<td>Not established</td>
<td>Not established</td>
<td>4 mg/m3 TWA (airborne dust no otherwise classified); 2 mg/m3 TWA (particulate matter containing no Asbestos and &lt;1% crystalline silica, respirable fraction)</td>
</tr>
<tr>
<td>Graphite (7782-42-5)</td>
<td>TWAs</td>
<td>2 mg/m3 TWA [VME] (alveolar fraction)</td>
<td>Not established</td>
<td>2 mg/m3 TWA</td>
<td>2 mg/m3 TWA (respirable fraction, all forms except graphite fibers)</td>
</tr>
<tr>
<td>MAKs</td>
<td>Not established</td>
<td>1.5 mg/m3 TWA MAK (respirable fraction); 4 mg/m3 TWA MAK (inhalable fraction)</td>
<td>Not established</td>
<td>Not established</td>
<td>Not established</td>
</tr>
</tbody>
</table>

### Exposure Limits/Guidelines (Con’t.)

<table>
<thead>
<tr>
<th>Result</th>
<th>Malaysia</th>
<th>Mexico</th>
<th>Netherlands</th>
<th>NIOSH</th>
<th>OSHA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Copper oxide</td>
<td>TWAs</td>
<td>Not established</td>
<td>Not established</td>
<td>Not established</td>
<td>0.1 mg/m3 TWA (fume, as Cu)</td>
</tr>
<tr>
<td>Calcium monocarbonate (471-34-1)</td>
<td>TWAs</td>
<td>Not established</td>
<td>Not established</td>
<td>Not established</td>
<td>10 mg/m3 TWA (total dust); 5 mg/m3 TWA (respirable dust)</td>
</tr>
<tr>
<td>Talc (14807-96-6)</td>
<td>TWAs</td>
<td>2 mg/m3 TWA (respirable fraction of particulate matter)</td>
<td>2 mg/m3 TWA VLE-PPT (respirable fraction)</td>
<td>0.25 mg/m3 TWA</td>
<td>2 mg/m3 TWA (containing no Asbestos and &lt;1% Quartz, respirable dust)</td>
</tr>
<tr>
<td>Graphite</td>
<td>TWAs</td>
<td>2 mg/m3 TWA (all forms except Graphite fibres, respirable fraction)</td>
<td>2 mg/m3 TWA VLE-PPT (synthetic and natural)</td>
<td>Not established</td>
<td>2.5 mg/m3 TWA (natural, respirable dust)</td>
</tr>
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</table>

### Exposure Limits/Guidelines (Con’t.)

<table>
<thead>
<tr>
<th>Result</th>
<th>OSHA Vacated</th>
<th>Portugal</th>
<th>Singapore</th>
<th>Thailand</th>
<th>United Kingdom</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calcium monocarbonate (471-34-1)</td>
<td>TWAs</td>
<td>Not established</td>
<td>10 mg/m3 TWA [VLE-MP] (particulate matter containing no Asbestos and &lt;1% Crystalline silica)</td>
<td>Not established</td>
<td>Not established</td>
</tr>
<tr>
<td>Talc (14807-96-6)</td>
<td>TWAs</td>
<td>2 mg/m3 TWA (&lt;1% Crystalline silica, containing no Asbestos, respirable dust)</td>
<td>2 mg/m3 TWA [VLE-MP] (respirable fraction, particulate matter containing no Asbestos and &lt;1% Crystalline silica)</td>
<td>2 mg/m3 PEL</td>
<td>2 mg/m3 TWA (containing no asbestos fibres, respirable dust); 0.1 fiber/cm³ TWA (containing asbestos fibres, respirable dust)</td>
</tr>
<tr>
<td>STELs</td>
<td>Not established</td>
<td>Not established</td>
<td>Not established</td>
<td>Not established</td>
<td>3 mg/m3 STEL (calculated, respirable dust)</td>
</tr>
<tr>
<td>Graphite (7782-42-5)</td>
<td>TWAs</td>
<td>2.5 mg/m3 TWA (natural, respirable dust); 10 mg/m3 TWA (synthetic, total dust); 5 mg/m3 TWA</td>
<td>2 mg/m3 TWA [VLE-MP] (all forms except Graphite fibres, respirable fraction)</td>
<td>2 mg/m3 PEL (respirable dust)</td>
<td>Not established</td>
</tr>
</tbody>
</table>
### Exposure Limits/Guidelines (Con't.)

<table>
<thead>
<tr>
<th>Mineral</th>
<th>TLV Basis</th>
<th>Result</th>
<th>United States - California</th>
<th>Venezuela</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calcium moncarbonate (471-34-1)</td>
<td>TWAs</td>
<td>5 mg/m³ PEL (respirable fraction, listed under Particulates not otherwise regulated); 10 mg/m³ PEL (total dust, listed under Particulates not otherwise regulated)</td>
<td></td>
<td>10 mg/m³ TWA [VTRE-L-8/40</td>
</tr>
<tr>
<td>Talc (14807-96-6)</td>
<td>TWAs</td>
<td>2 mg/m³ PEL (respirable dust, containing no Asbestos fibers, &lt;1% Crystalline silica)</td>
<td></td>
<td>2 mg/m³ TWA [VTRE-L-8/40 (respirable fraction; particulate containing no Asbestos and &lt;1% Crystalline silica)</td>
</tr>
<tr>
<td>Graphite</td>
<td>TWAs</td>
<td>2.5 mg/m³ PEL (natural, respirable dust); 10 mg/m³ PEL (synthetic total dust); 5 mg/m³ PEL (synthetic respirable fraction)</td>
<td></td>
<td>2 mg/m³ TWA [VTRE-L-8/40 (dust)</td>
</tr>
</tbody>
</table>

### Exposure Control Notations

**Japan**
- Copper oxide as Copper compounds: **Sensitizers:** (Group 2 skin sensitizer (Evaluation does not necessarily apply to all individuals within the group))
- **Carcinogens:** (A4 - Not classifiable as a human carcinogen)

**Mexico**
- Talc (14807-96-6): **Carcinogens:** (A4 - Not classifiable as a human carcinogen)

**Egypt**
- Graphite (7782-42-5): **Nuisance Dusts:** (10 mg/m³ TWA (synthetic, containing <1% Quartz, total dust); 30 mppcf TWA (synthetic, containing <1% Quartz, total dust))
- Calcium moncarbonate (471-34-1): **Nuisance Dusts:** (10 mg/m³ TWA (containing <1% Quartz, total dust); 30 mppcf TWA (containing <1% Quartz, total dust))
- **Carcinogens:** (A4 Not Classifiable as a Human Carcinogen (containing no Asbestos fibers))

**Indonesia**
- Talc (14807-96-6): **Carcinogens:** (A4 - not classifiable as a human carcinogen (not containing asbestos fiber))

**Argentina**
- Talc (14807-96-6): **Carcinogens:** (A1 - Confirmed human carcinogen)

**Canada Manitoba**
- Talc (14807-96-6): **Carcinogens:** (A4 Not Classifiable as a Human Carcinogen (containing no Asbestos fibers))

**Canada New Brunswick**
- Talc (14807-96-6): **Carcinogens:** (A4 - Not Classifiable as a Human Carcinogen)

**Canada Nova Scotia**
- Talc (14807-96-6): **Carcinogens:** (A4 - Not Classifiable as a Human Carcinogen (containing no Asbestos fibers))

**Venezuela**
- Talc (14807-96-6): **Ceilings:** (Present)

**ACGIH**
- Talc (14807-96-6): **Carcinogens:** (A4 - Not Classifiable as a Human Carcinogen (containing no asbestos fibers))

**Germany DFG**
- Graphite (7782-42-5): **Pregnancy:** (no risk to embryo/fetus if exposure limits adhered to (inhalable fraction; respirable fraction))

**Talc (14807-96-6):** **Carcinogens:** (Category 3B (could be carcinogenic for man; free of asbestos fibers))

### Exposure Limits Supplemental

**Thailand**
- Graphite (7782-42-5): **Mineral Dusts:** (15 mppcf TWA)
- Graphite as Particulates not otherwise classified (PNOC): **Mineral Dusts:** (15 mppcf TWA (respirable dust); 15 mg/m³ TWA (total dust); 50 mppcf TWA (total dust); 5 mg/m³ TWA (respirable dust))

**OSHA**
- Graphite (7782-42-5): **Mineral Dusts:** (15 mppcf TWA (natural))
- Graphite as Particulates not otherwise classified (PNOC): **Mineral Dusts:** (15 mppcf TWA (respirable fraction); 5 mg/m³ TWA (respirable fraction); 50 mppcf TWA (total dust); 15 mg/m³ TWA (total dust))
- Talc (14807-96-6): **Mineral Dusts:** (20 mppcf TWA (if 1% Quartz or more; use Quartz limit))

**ACGIH**
- Graphite (7782-42-5): **TLV Basis - Critical Effects:** (pneumoconiosis (all forms except graphite fibers))
- Talc (14807-96-6): **TLV Basis - Critical Effects:** (pulmonary fibrosis (containing no asbestos fibers); pulmonary function (containing no asbestos fibers))
- Copper oxide as Copper compounds: **TLV Basis - Critical Effects:** (gastrointestinal (dust and mist); irritation (dust and mist))
8.2 Exposure controls

Engineering Measures/Controls
• Good general ventilation should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

Personal Protective Equipment

Respiratory
• In case of insufficient ventilation, wear suitable respiratory equipment.

Eye/Face
• Wear protective eyewear (goggles, face shield, or safety glasses).

Skin/Body
• Natural Rubber, latex gloves. Breakthrough time: 4-8 Hours. Wear long sleeves and/or protective coveralls.

Environmental Exposure Controls
• Controls should be engineered to prevent release to the environment, including procedures to prevent spills, atmospheric release and release to waterways. Follow best practice for site management and disposal of waste.

Key to abbreviations
ACGIH = American Conference of Governmental Industrial Hygiene
MAK = Maximale Arbeitsplatz Konzentration is the maximum permissible concentration
NIOSH = National Institute of Occupational Safety and Health
OSHA = Occupational Safety and Health Administration
PEL = Permissible Exposure Level determined by the Occupational Safety and Health Administration (OSHA)

9.1 Information on Basic Physical and Chemical Properties

<table>
<thead>
<tr>
<th>Material Description</th>
<th>Physical Form</th>
<th>Solid</th>
<th>Appearance/Description</th>
<th>Black semi-solid paste with mild petroleum odor.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Color</td>
<td>Black</td>
<td></td>
<td>Odor</td>
<td>Mild, petroleum.</td>
</tr>
<tr>
<td>Odor Threshold</td>
<td>Data lacking</td>
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</table>

**General Properties**

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boiling Point</td>
<td>260 °C(500 °F)</td>
<td>Melting Point/Freezing Point</td>
<td>Data lacking</td>
</tr>
<tr>
<td>Decomposition Temperature</td>
<td>Data lacking</td>
<td>pH</td>
<td>Data lacking</td>
</tr>
<tr>
<td>Specific Gravity/Relative Density</td>
<td>Data lacking</td>
<td>Water Solubility</td>
<td>Insoluble</td>
</tr>
<tr>
<td>Viscosity</td>
<td>Data lacking</td>
<td>Explosive Properties</td>
<td>Data lacking</td>
</tr>
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</table>

**Vapor Density**

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Evaporation Rate</td>
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<td></td>
<td></td>
</tr>
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</table>

**Flash Point**

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flash Point</td>
<td>&gt; 171 °C(&gt; 339.8 °F)</td>
</tr>
<tr>
<td>LEL</td>
<td>Data lacking</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>Data lacking</td>
</tr>
</tbody>
</table>

**Environmental**

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Octanol/Water Partition coefficient</td>
<td>Data lacking</td>
</tr>
</tbody>
</table>

9.2 Other Information
• No additional physical and chemical parameters noted.

Section 10: Stability and Reactivity

10.1 Reactivity
• No dangerous reaction known under conditions of normal use.
10.2 Chemical stability
• Stable under normal temperatures and pressures.

10.3 Possibility of hazardous reactions
• Hazardous polymerization will not occur.

10.4 Conditions to avoid
• Keep away from heat, sparks and flame.

10.5 Incompatible materials
• Strong oxidising agents.

10.6 Hazardous decomposition products
• Hazardous decomposition products formed under fire conditions: Carbon oxides, Sulphur oxides.

Section 11 - Toxicological Information

11.1 Information on toxicological effects

<table>
<thead>
<tr>
<th>Components</th>
<th>Acute Toxicity: Ingestion/Oral-Rat LD50 • 470 mg/kg</th>
</tr>
</thead>
<tbody>
<tr>
<td>Talc (10% TO 20%)</td>
<td>14807-96-6</td>
</tr>
<tr>
<td>Irritation: Skin-Human • 300 µg 3 Day(s)-Intermittent • Mild irritation; Tumorigen / Carcinogen: Inhalation-Rat • 11 mg/m³ 1 Year(s)-Intermittent; Tumorogenic: Equivocal tumorigenic agent by RTECS criteria; Lungs, Thorax, or Respiration:Tumors; Inhalation-Rat TCLo • 18 mg/m³ 6 Hour(s) 2 Year(s)-Intermittent; Tumorogenic: Carcinogenic by RTECS criteria; Lungs, Thorax, or Respiration: Bronchiogenic carcinoma; Endocrine:Tumors</td>
<td></td>
</tr>
<tr>
<td>Copper oxide (1% TO 3%)</td>
<td>1317-38-0</td>
</tr>
<tr>
<td>Acute Toxicity: Ingestion/Oral-Rat LD50 • 6450 mg/kg; Irritation: Eye-Rabbit • 750 µg 24 Hour(s) • Severe irritation; Skin-Rabbit • 500 mg 24 Hour(s) • Moderate irritation; Multi-dose Toxicity: Ingestion/Oral-Woman TDL0 • 4.08 g/kg 30 Day(s)-Intermittent; Vascular: BP elevation not characterized in autonomic section; Gastrointestinal: Changes in structure or function of endocrine pancreas; Biochemical: Metabolism (intermediary): Effect on inflammation or mediation of inflammation</td>
<td></td>
</tr>
<tr>
<td>Calcium monocarbonate (3% TO 6%)</td>
<td>471-34-1</td>
</tr>
<tr>
<td>Benzenesulfonylic acid, dodecyl-, calcium salt (0.6% TO 3%)</td>
<td>26264-06-2</td>
</tr>
<tr>
<td>Acute Toxicity: Ingestion/Oral-Rat LD50 • 1300 mg/kg</td>
<td></td>
</tr>
</tbody>
</table>

GHS Properties

<table>
<thead>
<tr>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute toxicity</td>
</tr>
<tr>
<td>EU/CLP • Data lacking</td>
</tr>
<tr>
<td>UN GHS 4 • Acute Toxicity - Oral 5 • ATEmix (oral) = 4027 mg/kg</td>
</tr>
<tr>
<td>OSHA HCS 2012 • Data lacking</td>
</tr>
<tr>
<td>WHMIS 2015 • Data lacking</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Skin corrosion/Irritation</th>
</tr>
</thead>
<tbody>
<tr>
<td>EU/CLP • Data lacking</td>
</tr>
<tr>
<td>UN GHS 4 • Skin Mild Irritation 3</td>
</tr>
<tr>
<td>OSHA HCS 2012 • Data lacking</td>
</tr>
<tr>
<td>WHMIS 2015 • Data lacking</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Serious eye damage/Irritation</th>
</tr>
</thead>
<tbody>
<tr>
<td>EU/CLP • Data lacking</td>
</tr>
<tr>
<td>UN GHS 4 • Data lacking</td>
</tr>
<tr>
<td>OSHA HCS 2012 • Data lacking</td>
</tr>
<tr>
<td>WHMIS 2015 • Data lacking</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Skin sensitization</th>
</tr>
</thead>
<tbody>
<tr>
<td>EU/CLP • Data lacking</td>
</tr>
<tr>
<td>UN GHS 4 • Data lacking</td>
</tr>
<tr>
<td>OSHA HCS 2012 • Data lacking</td>
</tr>
<tr>
<td>WHMIS 2015 • Data lacking</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Respiratory sensitization</th>
</tr>
</thead>
<tbody>
<tr>
<td>EU/CLP • Data lacking</td>
</tr>
<tr>
<td>UN GHS 4 • Data lacking</td>
</tr>
</tbody>
</table>
Potential Health Effects

Inhalation

Acute (Immediate) • Under normal conditions of use, no health effects are expected.
Chronic (Delayed) • No data available

Skin

Acute (Immediate) • Causes mild skin irritation.
Chronic (Delayed) • No data available

Eye

Acute (Immediate) • Under normal conditions of use, no health effects are expected.
Chronic (Delayed) • No data available

Ingestion

Acute (Immediate) • May be harmful if swallowed.
Chronic (Delayed) • No data available

11.2 Other information

• Heating above the melting point releases metallic oxides which may cause metal fume fever which is an influenza like illness. Symptoms include headache, metallic taste in the mouth, cough, thirst, throat irritation, shortness of breath, fever, sweating and pain in the limbs. This illness is not permanent and recovery usually occurs within 24-48 hours after onset.

Key to abbreviations
LD = Lethal Dose
TC = Toxic Concentration
TD = Toxic Dose

Section 12 - Ecological Information

12.1 Toxicity
Components

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS</th>
<th>14.2 UN number</th>
<th>14.3 Transport hazard class(es)</th>
<th>14.4 Packing group</th>
<th>14.5 Environmental hazards</th>
</tr>
</thead>
<tbody>
<tr>
<td>Copper oxide (1% TO 3%)</td>
<td>1317-38-0</td>
<td>Not Applicable</td>
<td>Not Applicable</td>
<td>Not Applicable</td>
<td>NDA</td>
</tr>
</tbody>
</table>

Aquatic Toxicity-Fish: 96 Hour(s) LC50 Gambusia affinis (Western Mosquitofish) >56000 mg/L
Aquatic Toxicity-Crustacea: 15 Day(s) NOEC Cyprinus carpio (Common Carp) 0.0128 mg/L
Aquatic Toxicity-Algae and Other Aquatic Plant(s): 72 Hour(s) EC50 Pseudokirchneriella subcapitata (Green Algae) 0.014 mg/L
3 Day(s) NOEC Pseudokirchneriella subcapitata (Green Algae) 0.421 mg/L

* Very toxic to aquatic life. Very toxic to aquatic life with long lasting effects.

12.2 Persistence and degradability
* Material data lacking.

12.3 Bioaccumulative potential
* Material data lacking.

12.4 Mobility in Soil
* Material data lacking.

12.5 Results of PBT and vPvB assessment
* No PBT and vPvB assessment has been conducted.

12.6 Other adverse effects
* No studies have been found.

Section 13 - Disposal Considerations

13.1 Waste treatment methods

Product waste
* Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

Packaging waste
* Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

Section 14 - Transport Information

<table>
<thead>
<tr>
<th>14.1 UN number</th>
<th>14.2 UN proper shipping name</th>
<th>14.3 Transport hazard class(es)</th>
<th>14.4 Packing group</th>
<th>14.5 Environmental hazards</th>
</tr>
</thead>
<tbody>
<tr>
<td>DOT</td>
<td>Not Applicable</td>
<td>Not Regulated</td>
<td>Not Applicable</td>
<td>NDA</td>
</tr>
<tr>
<td>TDG</td>
<td>Not Applicable</td>
<td>Not Regulated</td>
<td>Not Applicable</td>
<td>NDA</td>
</tr>
<tr>
<td>IMO/IMDG</td>
<td>Not Applicable</td>
<td>Not Regulated</td>
<td>Not Applicable</td>
<td>NDA</td>
</tr>
<tr>
<td>IATA/ICAO</td>
<td>Not Applicable</td>
<td>Not Regulated</td>
<td>Not Applicable</td>
<td>NDA</td>
</tr>
</tbody>
</table>

14.6 Special precautions for user
* None specified.

14.7 Transport in bulk according to Annex II of Marpol and the IBC Code
* Data lacking.

Section 15 - Regulatory Information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

SARA Hazard Classifications
* Acute

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS</th>
<th>State Right To Know</th>
</tr>
</thead>
<tbody>
<tr>
<td>Benzenesulfonic acid, C10-16-alkyl derivs., calcium salts</td>
<td>68584-23-6</td>
<td>No</td>
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</table>
### Inventory

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS</th>
<th>Australia AICS</th>
<th>Canada DSL</th>
<th>Canada NDSL</th>
<th>China</th>
<th>EU EINECS</th>
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<tbody>
<tr>
<td>Benzenesulfonic acid, C10-16-alkyl derivs., calcium salts</td>
<td>68584-23-6</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Benzenesulfonic acid, dodecyl-, calcium salt</td>
<td>26264-06-2</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Calcium monocarbonate</td>
<td>471-34-1</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Copper oxide</td>
<td>1317-38-0</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Graphite</td>
<td>7782-42-5</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Solvent-refined heavy paraffinic petroleum distillates</td>
<td>64741-88-4</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Talc</td>
<td>14807-96-6</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>

### Inventory (Con’t.)

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS</th>
<th>EU ELNICS</th>
<th>Japan ENCS</th>
<th>TSCA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Benzenesulfonic acid, C10-16-alkyl derivs., calcium salts</td>
<td>68584-23-6</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Benzenesulfonic acid, dodecyl-, calcium salt</td>
<td>26264-06-2</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Calcium monocarbonate</td>
<td>471-34-1</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Copper oxide</td>
<td>1317-38-0</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Graphite</td>
<td>7782-42-5</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Solvent-refined heavy paraffinic petroleum distillates</td>
<td>64741-88-4</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Talc</td>
<td>14807-96-6</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>

### United States - California

#### Environment

**U.S. - California - Proposition 65 - Carcinogens List**
- Copper oxide | 1317-38-0 | Not Listed
- Solvent-refined heavy paraffinic petroleum distillates | 64741-88-4 | Not Listed
- Talc | 14807-96-6 | Not Listed
- Calcium monocarbonate | 471-34-1 | Not Listed
- Graphite | 7782-42-5 | Not Listed
- Benzenesulfonic acid, C10-16-alkyl derivs., calcium salts | 68584-23-6 | Not Listed
- Benzenesulfonic acid, dodecyl-, calcium salt | 26264-06-2 | Not Listed

**U.S. - California - Proposition 65 - Developmental Toxicity**
- Copper oxide | 1317-38-0 | Not Listed
- Solvent-refined heavy paraffinic petroleum distillates | 64741-88-4 | Not Listed
15.2 Chemical Safety Assessment

- No Chemical Safety Assessment has been carried out.

### Section 16 - Other Information

#### Relevant Phrases (code & full text)

- H302 - Harmful if swallowed
- H315 - Causes skin irritation
- H319 - Causes serious eye irritation
- H350 - May cause cancer.
- H372 - Causes damage to organs through prolonged or repeated exposure.

<table>
<thead>
<tr>
<th>Substance</th>
<th>CAS No.</th>
<th>NSRL</th>
<th>MADL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Talc</td>
<td>14807-96-6</td>
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</tr>
<tr>
<td>Calcium moncarbonate</td>
<td>471-34-1</td>
<td>Not Listed</td>
<td></td>
</tr>
<tr>
<td>Graphite</td>
<td>7782-42-5</td>
<td>Not Listed</td>
<td></td>
</tr>
<tr>
<td>Benzenesulfonic acid, C10-16-alkyl derivs., calcium salts</td>
<td>68584-23-6</td>
<td>Not Listed</td>
<td></td>
</tr>
<tr>
<td>Benzenesulfonic acid, dodecyl-, calcium salt</td>
<td>26264-06-2</td>
<td>Not Listed</td>
<td></td>
</tr>
</tbody>
</table>

### U.S. - California - Proposition 65 - Maximum Allowable Dose Levels (MADL)

- Copper oxide | 1317-38-0 | Not Listed |
- Solvent-refined heavy paraffinic petroleum distillates | 64741-88-4 | Not Listed |
- Talc | 14807-96-6 | Not Listed |
- Calcium moncarbonate | 471-34-1 | Not Listed |
- Graphite | 7782-42-5 | Not Listed |
- Benzenesulfonic acid, C10-16-alkyl derivs., calcium salts | 68584-23-6 | Not Listed |
- Benzenesulfonic acid, dodecyl-, calcium salt | 26264-06-2 | Not Listed |

### U.S. - California - Proposition 65 - No Significant Risk Levels (NSRL)

- Copper oxide | 1317-38-0 | Not Listed |
- Solvent-refined heavy paraffinic petroleum distillates | 64741-88-4 | Not Listed |
- Talc | 14807-96-6 | Not Listed |
- Calcium moncarbonate | 471-34-1 | Not Listed |
- Graphite | 7782-42-5 | Not Listed |
- Benzenesulfonic acid, C10-16-alkyl derivs., calcium salts | 68584-23-6 | Not Listed |
- Benzenesulfonic acid, dodecyl-, calcium salt | 26264-06-2 | Not Listed |

### U.S. - California - Proposition 65 - Reproductive Toxicity - Female

- Copper oxide | 1317-38-0 | Not Listed |
- Solvent-refined heavy paraffinic petroleum distillates | 64741-88-4 | Not Listed |
- Talc | 14807-96-6 | Not Listed |
- Calcium moncarbonate | 471-34-1 | Not Listed |
- Graphite | 7782-42-5 | Not Listed |
- Benzenesulfonic acid, C10-16-alkyl derivs., calcium salts | 68584-23-6 | Not Listed |
- Benzenesulfonic acid, dodecyl-, calcium salt | 26264-06-2 | Not Listed |

### U.S. - California - Proposition 65 - Reproductive Toxicity - Male

- Copper oxide | 1317-38-0 | Not Listed |
- Solvent-refined heavy paraffinic petroleum distillates | 64741-88-4 | Not Listed |
- Talc | 14807-96-6 | Not Listed |
- Calcium moncarbonate | 471-34-1 | Not Listed |
- Graphite | 7782-42-5 | Not Listed |
- Benzenesulfonic acid, C10-16-alkyl derivs., calcium salts | 68584-23-6 | Not Listed |
- Benzenesulfonic acid, dodecyl-, calcium salt | 26264-06-2 | Not Listed |

**Revision Date**

- 06/March/2018

**Last Revision Date**

- 06/March/2018

**Preparation Date**

- 21/May/2013

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NDA = No Data Available