SAFETY DATA SHEET

CAL BRONZE

Version 14.0  Revision Date: 11/05/2020  SDS Number: 118160-00019  Date of last issue: 05/06/2020  Date of first issue: 05/18/2015

SECTION 1. IDENTIFICATION

Product name: CAL BRONZE
SDS-Identcode: 059G

Manufacturer or supplier’s details
Company name of supplier: Bestolife Corporation
Address: 2126 Vanco Drive
Irving TX 75061,
Telephone: 855-243-9164/972-865-8961
Telefax: 214-631-3047
(24-hours/7 days)
E-mail address: www.bestolife.com

Recommended use of the chemical and restrictions on use
Recommended use: Industrial use
Thread Compound (Pipe Dope) and Jacking grease for use in Offshore industries
Mining, (without offshore industries)
Restrictions on use: Do not use on oxygen lines or in oxygen enriched atmospheres.

SECTION 2. HAZARDS IDENTIFICATION

GHS classification in accordance with the OSHA Hazard Communication Standard (29 CFR 1910.1200)
Eye irritation: Category 2A
Carcinogenicity: Category 2
Reproductive toxicity: Category 1A
Effects on or via lactation
Specific target organ toxicity - repeated exposure: Category 1 (Kidney, Central nervous system, Blood)

GHS label elements
Hazard pictograms: ❌
Signal Word: Danger
Hazard Statements: H319 Causes serious eye irritation.
H351 Suspected of causing cancer.
H360FD May damage fertility. May damage the unborn child.
H362 May cause harm to breast-fed children.
SAFETY DATA SHEET

CAL BRONZE

Precautionary Statements:

**Prevention:**
- P201 Obtain special instructions before use.
- P202 Do not handle until all safety precautions have been read and understood.
- P260 Do not breathe dust, fume, gas, mist, vapors or spray.
- P263 Avoid contact during pregnancy and while nursing.
- P264 Wash skin thoroughly after handling.
- P270 Do not eat, drink or smoke when using this product.
- P280 Wear protective gloves, protective clothing, eye protection and face protection.

**Response:**
- P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P308 + P313 IF exposed or concerned: Get medical attention.
- P337 + P313 If eye irritation persists: Get medical attention.

**Storage:**
- P405 Store locked up.

**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

<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 naphthenic</td>
<td>64742-52-5</td>
<td>&gt;= 30 - &lt; 50</td>
</tr>
<tr>
<td>Talc</td>
<td>14807-96-6</td>
<td>&gt;= 20 - &lt; 30</td>
</tr>
<tr>
<td>Graphite</td>
<td>7782-42-5</td>
<td>&gt;= 10 - &lt; 20</td>
</tr>
<tr>
<td>Lead</td>
<td>7439-92-1</td>
<td>&gt;= 10 - &lt; 20</td>
</tr>
<tr>
<td>Dolomite</td>
<td>16389-88-1</td>
<td>&gt;= 5 - &lt; 10</td>
</tr>
<tr>
<td>Copper metal powder</td>
<td>7440-50-8</td>
<td>&gt;= 1 - &lt; 5</td>
</tr>
<tr>
<td>12-Hydroxy lithium stearate</td>
<td>7620-77-1</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>Calcium oxide</td>
<td>1305-78-8</td>
<td>&gt;= 1 - &lt; 5</td>
</tr>
</tbody>
</table>

Actual concentration is withheld as a trade secret

SECTION 4. FIRST AID MEASURES

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

If inhaled:
- If inhaled, remove to fresh air.
- Get medical attention.

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.
- Rinse mouth thoroughly with water.

Most important symptoms and effects, both acute and delayed:
- Causes serious eye irritation.
- Suspected of causing cancer.
- May damage fertility. May damage the unborn child.
- May cause harm to breast-fed children.
- Causes damage to organs through prolonged or repeated exposure.

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
- Lead compounds
- Metal 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.
SAFETY DATA SHEET

CAL BRONZE

Version 14.0 Revision Date: 11/05/2020 SDS Number: 118160-00019 Date of last issue: 05/06/2020 Date of first issue: 05/18/2015

Emergency procedures: protective equipment recommendations (see section 8).

Environmental precautions: Avoid release to the environment. Prevent further leakage or spillage if safe to do so. Retain and dispose of contaminated wash water. Local authorities should be advised if significant spillages cannot be contained.

Methods and materials for containment and cleaning up: Sweep up or vacuum up spillage and collect in suitable container for disposal. Local or national regulations may apply to releases and disposal of this material, as well as those materials and items employed in the cleanup of releases. You will need to determine which regulations are applicable. Sections 13 and 15 of this SDS provide information regarding certain local or national requirements.

SECTION 7. HANDLING AND STORAGE

Technical measures: See Engineering measures under EXPOSURE CONTROLS/PERSONAL PROTECTION section.

Advice on safe handling: For outdoor use only
Avoid contact during pregnancy and while nursing.
Do not get on skin or clothing.
Do not breathe 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
Keep container tightly closed.
Do not eat, drink or smoke when using this product.
Take care to prevent spills, waste and minimize release to the environment.

Conditions for safe storage: Keep in properly labeled containers.
Store locked up.
Keep tightly closed.
Store in accordance with the particular national regulations.

Materials to avoid: Do not store with the following product types:
Strong oxidizing agents
Organic peroxides
Explosives
Gases

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),</td>
<td>64742-52-5</td>
<td>TWA (Mist)</td>
<td>5 mg/m³</td>
<td>OSHA Z-1</td>
</tr>
<tr>
<td>Substance</td>
<td>TWA (Inhalable particulate matter)</td>
<td>TWA (Mist)</td>
<td>TWA (ST)</td>
<td>TWA (Respirable)</td>
</tr>
<tr>
<td>---------------------------</td>
<td>------------------------------------</td>
<td>------------</td>
<td>----------</td>
<td>------------------</td>
</tr>
<tr>
<td>hydrotreated heavy naphthenic</td>
<td>5 mg/m³</td>
<td>5 mg/m³</td>
<td>10 mg/m³</td>
<td>2 mg/m³</td>
</tr>
<tr>
<td>Talc</td>
<td>14807-96-6</td>
<td>TWA</td>
<td>TWA</td>
<td>TWA</td>
</tr>
<tr>
<td>Dolomite</td>
<td>16389-88-1</td>
<td>TWA</td>
<td>TWA</td>
<td>TWA</td>
</tr>
<tr>
<td>Copper metal powder</td>
<td>7440-50-8</td>
<td>TWA</td>
<td>TWA</td>
<td>TWA</td>
</tr>
<tr>
<td>12-Hydroxy lithium stearate</td>
<td>7620-77-1</td>
<td>TWA</td>
<td>TWA</td>
<td>TWA</td>
</tr>
</tbody>
</table>
### Biological occupational exposure limits

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>Control parameters</th>
<th>Biological specimen</th>
<th>Sampling time</th>
<th>Permissible concentration</th>
<th>Basis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lead (Lead)</td>
<td>7439-92-1</td>
<td>Lead (Lead)</td>
<td>In blood</td>
<td>Not critical</td>
<td>200 µg/l</td>
<td>ACGIH BEI</td>
</tr>
</tbody>
</table>

**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**: General and local exhaust ventilation is recommended to maintain vapor exposures below recommended limits. Where concentrations are above recommended limits or are unknown, appropriate respiratory protection should be worn. Follow OSHA respirator regulations (29 CFR 1910.134) and use NIOSH/MSHA approved respirators. Protection provided by air purifying respirators against exposure to any hazardous chemical is limited. Use a positive pressure air supplied respirator if there is any potential for uncontrolled release, exposure levels are unknown, or any other circumstance where air purifying respirators may not provide
Hand protection

Material: Chemical-resistant gloves

Remarks: Choose gloves to protect hands against chemicals depending on the concentration specific to place of work. Breakthrough time is not determined for the product. Change gloves often! For special applications, we recommend clarifying the resistance to chemicals of the aforementioned protective gloves with the glove manufacturer. Wash hands before breaks and at the end of workday.

Eye protection

Wear the following personal protective equipment:
Safety goggles

Skin and body protection

Select appropriate protective clothing based on chemical resistance data and an assessment of the local exposure potential.
Skin contact must be avoided by using impervious protective clothing (gloves, aprons, boots, etc).

Hygiene measures

If exposure to chemical is likely during typical use, provide eye flushing systems and safety showers close to the working place.
When using do not eat, drink or smoke.
Wash contaminated clothing before re-use.
See 29 CFR 1910.1025 for additional requirements relating to lead exposure.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Viscous semi-solid
Color: copper
Odor: Petroleum
Odor 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: >= 392 °F / >= 200 °C
Method: ASTM D 92, Cleveland open cup
Distillates (petroleum), hydrotreated heavy naphthenic
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
Vapor pressure : Not applicable
Relative vapor density : Not applicable
Relative density : 1.4
Density : No data available
Solubility(ies)
   Water solubility : negligible
Partition coefficient: n-octanol/water : Not applicable
Autoignition temperature : No data available
Decomposition temperature : No data available
Viscosity
   Viscosity, dynamic : No data available
   Viscosity, kinematic : Not applicable
Flow time : No data available
Explosive properties : Not explosive
Oxidizing properties : The substance or mixture is not classified as oxidizing.
Molecular weight : No data available
Particle size : No data available

SECTION 10. STABILITY AND REACTIVITY
Reactivity : Not classified as a reactivity hazard.
Chemical stability : Stable under normal conditions.
Possibility of hazardous reactions : Can react with strong oxidizing agents.
Conditions to avoid : None known.
Incompatible materials : Oxidizing agents
Hazardous decomposition products : No hazardous decomposition products are known.

SECTION 11. TOXICOLOGICAL INFORMATION
Information on likely routes of exposure
Skin contact
Ingestion
Eye contact
Acute toxicity
Not classified based on available information.

Components:

Distillates (petroleum), hydrotreated heavy naphthenic:
- Acute oral toxicity: LD50 (Rat): > 5,000 mg/kg
  Method: OECD Test Guideline 401
  Remarks: Based on data from similar materials
- Acute inhalation toxicity: LC50 (Rat): > 5.53 mg/l
  Exposure time: 4 h
  Test atmosphere: dust/mist
  Method: OECD Test Guideline 403
  Assessment: The substance or mixture has no acute inhalation toxicity
  Remarks: Based on data from similar materials
- Acute dermal toxicity: LD50 (Rabbit): > 5,000 mg/kg
  Method: OECD Test Guideline 402
  Remarks: Based on data from similar materials

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

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

Lead:
- Acute oral toxicity: LD50 (Rat): > 2,000 mg/kg
  Remarks: Based on data from similar materials
- Acute dermal toxicity: LD50 (Rat): > 2,000 mg/kg
  Remarks: Based on data from similar materials

Dolomite:
- Acute oral toxicity: LD50 (Rat): > 2,000 mg/kg
  Method: OECD Test Guideline 420
  Assessment: The substance or mixture has no acute oral toxicity
  Remarks: Based on data from similar materials
- Acute inhalation toxicity: LC50 (Rat): > 3 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Assessment: The substance or mixture has no acute inhalation toxicity
Remarks: Based on data from similar materials

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

**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

**12-Hydroxy lithium stearate:**

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

**Quartz:**

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

**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

Skin corrosion/irritation
Not classified based on available information.

Components:

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

Talc:
Species: Rabbit
Result: No skin irritation

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

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

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

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

12-Hydroxy lithium stearate:
Species: Rabbit
Result: No skin irritation
Remarks: Based on data from similar materials

Calcium oxide:
Species: Rabbit
Method: OECD Test Guideline 404
Result: Skin irritation
Remarks: Based on data from similar materials
Serious eye damage/eye irritation
Causes serious eye irritation.

Components:

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

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

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

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

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

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

12-Hydroxy lithium stearate:
- **Species**: Rabbit
- **Result**: No eye irritation
- **Remarks**: Based on data from similar materials

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

Skin sensitization
Not classified based on available information.

Respiratory sensitization
Not classified based on available information.

Components:

Distillates (petroleum), hydrotreated heavy naphthenic:
- Test Type: Buehler Test
- Routes of exposure: Skin contact
- Species: Guinea pig
- Result: negative
- Remarks: Based on data from similar materials

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

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

Lead:
- Test Type: Maximization Test
- Routes of exposure: Skin contact
- Species: Guinea pig
- Method: OECD Test Guideline 406
- Result: negative
- Remarks: Based on data from similar materials

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

Copper metal powder:
- Test Type: Maximization Test
- Routes of exposure: Skin contact
- Species: Guinea pig
- Method: OECD Test Guideline 406
- Result: negative
12-Hydroxy lithium stearate:
- Test Type: Local lymph node assay (LLNA)
- Routes of exposure: Skin contact
- Species: Mouse
- Method: OECD Test Guideline 429
- Result: negative

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

Germ cell mutagenicity
Not classified based on available information.

Components:

Distillates (petroleum), hydrotreated heavy naphthenic:
- Genotoxicity in vitro: Test Type: Bacterial reverse mutation assay (AMES) Method: OECD Test Guideline 471 Result: negative
- Genotoxicity in vivo: Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay) Species: Mouse Application Route: Intraperitoneal injection Method: OECD Test Guideline 474 Result: negative Remarks: Based on data from similar materials

Talc:
- Genotoxicity in vitro: Test Type: DNA damage and repair, unscheduled DNA synthesis in mammalian cells (in vitro) Result: negative
- Genotoxicity in vivo: Test Type: Chromosome aberration test in vitro Species: Rat Application Route: Ingestion Result: negative

Graphite:
- Genotoxicity in vitro: Test Type: Bacterial reverse mutation assay (AMES) Method: OECD Test Guideline 471 Result: negative
- Test Type: In vitro mammalian cell gene mutation test Method: OECD Test Guideline 476 Result: negative
### Lead:
- **Genotoxicity in vitro**: Test Type: In vitro sister chromatid exchange assay in mammalian cells (OECD Test Guideline 473)  
  Result: negative  
  Remarks: Based on data from similar materials

### Dolomite:
- **Genotoxicity in vitro**: Test Type: Bacterial reverse mutation assay (AMES) (OECD Test Guideline 471)  
  Result: negative  
  Remarks: Based on data from similar materials

### Copper metal powder:
- **Genotoxicity in vitro**: Test Type: Bacterial reverse mutation assay (AMES) (OECD Test Guideline 471)  
  Result: negative

### Calcium oxide:
- **Genotoxicity in vitro**: Test Type: Bacterial reverse mutation assay (AMES) (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
Carcinogenicity
Suspected of causing cancer.

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 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

Lead:
Species : Rat
Application Route : Ingestion
Exposure time : 2 Years
Result : positive
Remarks : Based on data from similar materials

Carcinogenicity - Assessment : Limited evidence of carcinogenicity in animal studies

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)

Calcium oxide:
Species : Rat
Application Route : Ingestion
Exposure time : 104 weeks
Result : negative
Remarks : Based on data from similar materials

IARC Group 1: Carcinogenic to humans
Quartz 14808-60-7
OSHA specifically regulated carcinogen
Leads
(OSHA specifically regulated carcinogen
Quartz (crystalline silica))

NTP
Reasonably anticipated to be a human carcinogen
Lead
Known to be human carcinogen
Quartz
(Silica, Crystalline (Respirable Size))

Reproductive toxicity
May damage fertility. May damage the unborn child.
May cause harm to breast-fed children.

Components:

Talc:
Effects on fetal development : Test Type: Embryo-fetal development
Species: Rat
Application Route: Ingestion
Result: negative

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

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

Lead:
Effects on fertility : Test Type: Two-generation reproduction toxicity study
Species: Mouse
Application Route: Ingestion
Result: positive
Remarks: Based on data from similar materials

Effects on fetal development : Test Type: Embryo-fetal development
Reproductive toxicity - Assessment: Positive evidence of adverse effects on sexual function and fertility from human epidemiological studies. Positive evidence of adverse effects on development from human epidemiological studies. Studies indicating a hazard to babies during the lactation period.

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

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

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: Rabbit
  Application Route: Ingestion
  Result: negative

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

STOT-single exposure
Not classified based on available information.

Components:

Calcium oxide:
Assessment: May cause respiratory irritation.

STOT-repeated exposure
Causes damage to organs (Kidney, Central nervous system, Blood) through prolonged or repeated exposure.

Components:

Lead:
Target Organs: Kidney, Central nervous system, Blood
Assessment: Causes damage to organs through prolonged or repeated exposure.

12-Hydroxy lithium stearate:
Routes of exposure: Ingestion
Assessment: No significant health effects observed in animals at concentrations of 100 mg/kg bw or less.

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 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

Lead:
Species: Rat
NOAEL: 0.0015 mg/kg
LOAEL: 0.005 mg/kg
Application Route: Ingestion
Exposure time: 6 - 12 Months
Remarks: Based on data from similar materials
**SAFETY DATA SHEET**

**CAL BRONZE**

**SECTION 1. IDENTIFICATION**

**Chemical name:** Cal Bronze

**Chemical abstract service number:** 118160-00019

**Section 1.1. Substances**

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

- **12-Hydroxy lithium stearate**
  - Species: Rat
  - NOAEL: > 88 mg/kg
  - Application Route: Ingestion
  - Exposure time: 90 Days

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

- **Calcium oxide**
  - Species: Rat
  - NOAEL: >= 0.399 mg/l
  - Application Route: Inhalation (dust/mist/fume)
  - Exposure time: 90 Days
  - Method: OECD Test Guideline 413

- **Aspiration toxicity**
  Not classified based on available information.

**SECTION 12. ECOLOGICAL INFORMATION**

**Ecotoxicity**

**Components:**

- **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
| Remarks: Based on data from similar materials |
| Toxity 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 |

| Remarks: Based on data from similar materials |
| Toxinity to daphnia and other aquatic invertebrates (Chronic toxicity) | NOEC (Daphnia magna (Water flea)): 10 mg/l |
| Exposure time: 21 d |
| Remarks: Based on data from similar materials |

| Remarks: Based on data from similar materials |
| Toxinity to microorganisms | NOEC: > 1.93 mg/l |
| Exposure time: 10 min |
| Remarks: Based on data from similar materials |

### Talc:

| Remarks: Based on data from similar materials |
| Toxinity to fish | LC50 (Brachydanio rerio (zebrafish)): > 100,000 mg/l |
| Exposure time: 24 h |

### Graphite:

| Remarks: Based on data from similar materials |
| Toxinity to fish | LL50 (Danio rerio (zebra fish)): > 100 mg/l |
| Exposure time: 96 h |
| Test substance: Water Accommodated Fraction |
| Method: OECD Test Guideline 203 |

| Remarks: Based on data from similar materials |
| Toxinity to daphnia and other aquatic invertebrates | EL50 (Daphnia magna (Water flea)): > 100 mg/l |
| Exposure time: 48 h |
| Test substance: Water Accommodated Fraction |
| Method: OECD Test Guideline 202 |

| Remarks: Based on data from similar materials |
| Toxinity to algae/aquatic plants | EL50 (Pseudokirchneriella subcapitata (green algae)): > 100 mg/l |
| Exposure time: 72 h |
| Test substance: Water Accommodated Fraction |
| Method: OECD Test Guideline 201 |

| Remarks: Based on data from similar materials |
| Toxinity to microorganisms | EC50: > 1,012.5 mg/l |
| Exposure time: 3 h |
| Method: OECD Test Guideline 209 |

### Lead:

| Remarks: Based on data from similar materials |
| Toxinity to fish | LC50 (Oncorhynchus mykiss (rainbow trout)): 0.107 mg/l |
| Exposure time: 96 h |

| Remarks: Based on data from similar materials |
| Toxinity to daphnia and other aquatic invertebrates | EC50 (Ceriodaphnia dubia (water flea)): 0.029 mg/l |
| Exposure time: 48 h |
Toxicity to algae/aquatic plants: ErC50 (Pseudokirchneriella subcapitata (green algae)): 0.025 mg/l
Exposure time: 72 h
EC10 (Pseudokirchneriella subcapitata (green algae)): 6.1 µg/l
Exposure time: 72 h

Toxicity to fish (Chronic toxicity): EC10 (Pimephales promelas (fathead minnow)): 20 µg/l
Exposure time: 30 d

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity): EC10 (Ceriodaphnia dubia (water flea)): 1.7 µg/l
Exposure time: 7 d

Dolomite:
Toxicity to fish: LC50 (Oncorhynchus mykiss (rainbow trout)): > 16.6 mg/l
Exposure time: 96 h
Method: OECD Test Guideline 203
Remarks: No toxicity at the limit of solubility.
Based on data from similar materials

Toxicity to daphnia and other aquatic invertebrates: EC50 (Daphnia magna (Water flea)): > 16.6 mg/l
Exposure time: 48 h
Method: OECD Test Guideline 202
Remarks: No toxicity at the limit of solubility.
Based on data from similar materials

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

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

12-Hydroxy lithium stearate:
Toxicity to fish: LL50 (Oncorhynchus mykiss (rainbow trout)): > 100 mg/l
Exposure time: 96 h
Method: OECD Test Guideline 203

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

Toxicity to algae/aquatic plants: NOELR (Pseudokirchneriella subcapitata (green algae)): > 100 mg/l
Exposure time: 72 h
Method: OECD Test Guideline 201
Quartz:

Ecotoxicology Assessment

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

Calcium oxide:

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

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

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

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

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

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

Persistence and degradability

Components:

Distillates (petroleum), hydrotreated heavy naphthenic:

Biodegradability: Result: Not readily biodegradable.
Biodegradation: 2 - 4 %
Exposure time: 28 d
Method: OECD Test Guideline 301B

12-Hydroxy lithium stearate:

Biodegradability: Result: Readily biodegradable.
Biodegradation: 78 %
Exposure time: 28 d
Bioaccumulative potential
No data available

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. (Lead, Copper metal powder)
Class: 9
Packing group: III
Labels: 9

IATA-DGR
UN/ID No.: UN 3077
Proper shipping name: Environmentally hazardous substance, solid, n.o.s. (Lead, Copper metal powder)
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. (Lead, Copper metal powder)
SAFETY DATA SHEET

CAL BRONZE

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

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

Domestic regulation

49 CFR
UN/ID/NA number : UN 3077
Proper shipping name : Environmentally hazardous substance, solid, n.o.s.
(Lead, Copper metal powder)
Class : 9
Packing group : III
Labels : CLASS 9
ERG Code : 171
Marine pollutant : yes (Lead, Copper metal powder)
Remarks : THE ABOVE INFORMATION ONLY APPLIES TO PACKAGE SIZES WHERE THE HAZARDOUS SUBSTANCE MEETS THE REPORTABLE QUANTITY.

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

SECTION 15. REGULATORY INFORMATION

CERCLA Reportable Quantity

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>Component RQ (lbs)</th>
<th>Calculated product RQ (lbs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lead</td>
<td>7439-92-1</td>
<td>10</td>
<td>92</td>
</tr>
<tr>
<td>Zinc</td>
<td>7440-66-6</td>
<td>1000</td>
<td>20657</td>
</tr>
<tr>
<td>Copper metal powder</td>
<td>7440-50-8</td>
<td>5000</td>
<td>172004</td>
</tr>
</tbody>
</table>

SARA 304 Extremely Hazardous Substances Reportable Quantity
This material does not contain any components with a section 304 EHS RQ.

SARA 302 Extremely Hazardous Substances Threshold Planning Quantity
This material does not contain any components with a section 302 EHS TPQ.

SARA 311/312 Hazards : Carcinogenicity
Reproductive toxicity
Specific target organ toxicity (single or repeated exposure)
Serious eye damage or eye irritation

SARA 313 : The following components are subject to reporting levels established by SARA Title III, Section 313:

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No.</th>
<th>Reporting Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lead</td>
<td>7439-92-1</td>
<td>&gt;= 10 - &lt; 20 %</td>
</tr>
</tbody>
</table>
US State Regulations

Pennsylvania Right To Know

- Distillates (petroleum), hydrotreated heavy naphthenic
- Talc
- Graphite
- Lead
- Dolomite
- Zinc
- Copper metal powder
- Quartz
- Calcium oxide
- Zinc oxide

California Prop. 65

WARNING: This product can expose you to chemicals including Lead, which is/are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

California List of Hazardous Substances

- Distillates (petroleum), hydrotreated heavy naphthenic
- Talc
- Graphite
- Lead
- Dolomite
- Zinc
- Copper metal powder
- Quartz
- Calcium oxide
- Zinc oxide

California Permissible Exposure Limits for Chemical Contaminants

- Distillates (petroleum), hydrotreated heavy naphthenic
- Talc
- Graphite
- Lead
- Copper metal powder
- Quartz
- Calcium oxide

California Regulated Carcinogens

- Lead
- Quartz

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.
Further information

**NFPA 704:**

- Health: 2
- Flammability: 1
- Instability: 0
- Special hazard: *

**HMIS® IV:**

- **HEALTH:** * 4
- **FLAMMABILITY:** 1
- **PHYSICAL HAZARD:** 0

HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. The "*" represents a chronic hazard, while the "/" represents the absence of a chronic hazard.

**Full text of other abbreviations**

- ACGIH: USA. ACGIH Threshold Limit Values (TLV)
- ACGIH BEI: ACGIH - Biological Exposure Indices (BEI)
- NIOSH REL: USA. NIOSH Recommended Exposure Limits
- OSHA CARC: OSHA Specifically Regulated Chemicals/Carcinogens
- OSHA Z-1: USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants
- OSHA Z-3: USA. Occupational Exposure Limits (OSHA) - Table Z-3 Mineral Dusts
- ACGIH / TWA: 8-hour, time-weighted average
- NIOSH REL / TWA: Time-weighted average concentration for up to a 10-hour workday during a 40-hour workweek
- NIOSH REL / ST: STEL - 15-minute TWA exposure that should not be exceeded at any time during a workday
- OSHA CARC / PEL: Permissible exposure limit (PEL)
- OSHA Z-1 / TWA: 8-hour time weighted average
- OSHA Z-3 / TWA: 8-hour time weighted average

AIIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DOT - Department of Transportation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; EHS - Extremely Hazardous Substance; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; HMIS - Hazardous Materials Identification System; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organiza-
Sources of key data used to compile the Material Safety Data Sheet:


Revision Date: 11/05/2020

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

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

US / Z8