SECTION 1. IDENTIFICATION

Product name: API MODIFIED
Other means of identification: No data available
SDS-Identcode: 057G

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

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

SECTION 2. HAZARDS IDENTIFICATION

GHS classification in accordance with the Hazardous Products Regulations
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: H351 Suspected of causing cancer.
H360FD May damage fertility. May damage the unborn child.
H362 May cause harm to breast-fed children.
H372 Causes damage to organs (Kidney, Central nervous system, Blood) through prolonged or repeated exposure.

Precautionary Statements: Prevention:
**SAFETY DATA SHEET**

**API MODIFIED**

Version: 11.0  
Revision Date: 10/20/2020  
SDS Number: 114820-00021  
Date of last issue: 05/06/2020  
Date of first issue: 05/12/2015

**Response:**  
P308 + P313 IF exposed or concerned: 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  
**Components**

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CAS-No.</th>
<th>Concentration (% w/w)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Distillates (petroleum), hydrotreated heavy naphthenic</td>
<td>64742-52-5</td>
<td>&gt;= 30 - &lt; 60 *</td>
</tr>
<tr>
<td>Lead</td>
<td>7439-92-1</td>
<td>&gt;= 30 - &lt; 60 *</td>
</tr>
<tr>
<td>Graphite</td>
<td>7782-42-5</td>
<td>&gt;= 10 - &lt; 30 *</td>
</tr>
<tr>
<td>Copper metal powder</td>
<td>7440-50-8</td>
<td>&gt;= 1 - &lt; 5 *</td>
</tr>
<tr>
<td>Talc</td>
<td>14807-96-6</td>
<td>&gt;= 1 - &lt; 5 *</td>
</tr>
<tr>
<td>Quartz</td>
<td>14808-60-7</td>
<td>&gt;= 1 - &lt; 5 *</td>
</tr>
</tbody>
</table>

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

### SECTION 4. FIRST AID MEASURES

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

**If inhaled**  
If inhaled, remove to fresh air.  
Get medical attention.

**In case of skin contact**  
In case of contact, immediately flush skin with soap and 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**  
Flush eyes with water as a precaution.
SAFETY DATA SHEET

API MODIFIED

Version 11.0  Revision Date: 10/20/2020  SDS Number: 114820-00021  Date of last issue: 05/06/2020
Date of first issue: 05/12/2015

If swallowed: Get medical attention if irritation develops and persists.
If swallowed, DO NOT induce vomiting.
Get medical attention.
Rinse mouth thoroughly with water.

Most important symptoms and effects, both acute and delayed:
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 firefighting:
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 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.
SAFETY DATA SHEET

API MODIFIED

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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.
- Avoid contact with 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), hydrotreated heavy naphthenic</td>
<td>64742-52-5</td>
<td>TWA (Mist)</td>
<td>5 mg/m³</td>
<td>CA AB OEL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>STEL (Mist)</td>
<td>10 mg/m³</td>
<td>CA AB OEL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA (Mist)</td>
<td>5 mg/m³</td>
<td>CA QC OEL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>STEV (Mist)</td>
<td>10 mg/m³</td>
<td>CA QC OEL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA (Mist)</td>
<td>1 mg/m³</td>
<td>CA BC OEL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA (Inhalable particulate matter)</td>
<td>5 mg/m³</td>
<td>ACGIH</td>
</tr>
<tr>
<td>Lead</td>
<td>7439-92-1</td>
<td>TWA</td>
<td>0.05 mg/m³</td>
<td>CA BC OEL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA (Lead)</td>
<td>0.05 mg/m³</td>
<td>CA ON OEL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA (Lead)</td>
<td>0.05 mg/m³</td>
<td>CA QC OEL</td>
</tr>
<tr>
<td></td>
<td>TWA</td>
<td>CAS Number</td>
<td>TWA (Respirable) Quantity (TWA)</td>
<td>OEL Source</td>
</tr>
<tr>
<td>----------</td>
<td>------------------</td>
<td>------------</td>
<td>--------------------------------</td>
<td>------------------</td>
</tr>
<tr>
<td>Lead</td>
<td>0.05 mg/m³</td>
<td></td>
<td>CA AB OEL</td>
<td></td>
</tr>
<tr>
<td>Lead</td>
<td>0.05 mg/m³</td>
<td></td>
<td>ACGIH</td>
<td></td>
</tr>
<tr>
<td>Graphite</td>
<td>7782-42-5</td>
<td></td>
<td>2 mg/m³</td>
<td>CA BC OEL</td>
</tr>
<tr>
<td></td>
<td>TWA (Respirable)</td>
<td></td>
<td>CA BC OEL</td>
<td></td>
</tr>
<tr>
<td></td>
<td>TWA (Respirable dust)</td>
<td></td>
<td>2 mg/m³</td>
<td>CA QC OEL</td>
</tr>
<tr>
<td></td>
<td>TWA (Respirable)</td>
<td></td>
<td>2 mg/m³</td>
<td>CA AB OEL</td>
</tr>
<tr>
<td></td>
<td>TWA (Respirable particulate matter)</td>
<td>2 mg/m³</td>
<td>ACGIH</td>
<td></td>
</tr>
<tr>
<td>Copper</td>
<td>7440-50-8</td>
<td></td>
<td>0.2 mg/m³</td>
<td>CA AB OEL</td>
</tr>
<tr>
<td></td>
<td>TWA (Fumes)</td>
<td></td>
<td>CA AB OEL</td>
<td></td>
</tr>
<tr>
<td></td>
<td>TWA (Dust and mist)</td>
<td>1 mg/m³</td>
<td>CA AB OEL</td>
<td></td>
</tr>
<tr>
<td></td>
<td>TWA (dusts and mists)</td>
<td>1 mg/m³</td>
<td>CA QC OEL</td>
<td></td>
</tr>
<tr>
<td></td>
<td>TWA (Fumes)</td>
<td></td>
<td>0.2 mg/m³</td>
<td>CA QC OEL</td>
</tr>
<tr>
<td></td>
<td>TWA (Dust and mist)</td>
<td>1 mg/m³</td>
<td>CA BC OEL</td>
<td></td>
</tr>
<tr>
<td></td>
<td>TWA (Fumes)</td>
<td></td>
<td>0.2 mg/m³</td>
<td>CA BC OEL</td>
</tr>
<tr>
<td></td>
<td>TWA (Dust and mist)</td>
<td>1 mg/m³</td>
<td>ACGIH</td>
<td></td>
</tr>
<tr>
<td></td>
<td>TWA (Fumes)</td>
<td></td>
<td>0.2 mg/m³</td>
<td>ACGIH</td>
</tr>
<tr>
<td>Talc</td>
<td>14807-96-6</td>
<td></td>
<td>3 mg/m³</td>
<td>CA QC OEL</td>
</tr>
<tr>
<td></td>
<td>TWA (Respirable dust)</td>
<td>3 mg/m³</td>
<td>CA QC OEL</td>
<td></td>
</tr>
<tr>
<td></td>
<td>TWA (Respirable particulates)</td>
<td>2 mg/m³</td>
<td>CA AB OEL</td>
<td></td>
</tr>
<tr>
<td></td>
<td>TWA (Respirable)</td>
<td></td>
<td>2 mg/m³</td>
<td>CA BC OEL</td>
</tr>
<tr>
<td></td>
<td>TWA (Respirable fraction)</td>
<td>2 mg/m³</td>
<td>CA ON OEL</td>
<td></td>
</tr>
<tr>
<td></td>
<td>TWA (Respirable particulate matter)</td>
<td>2 mg/m³</td>
<td>ACGIH</td>
<td></td>
</tr>
<tr>
<td>Quartz</td>
<td>14808-60-7</td>
<td></td>
<td>0.025 mg/m³</td>
<td>CA AB OEL</td>
</tr>
<tr>
<td></td>
<td>TWA (Respirable particulates)</td>
<td>0.025 mg/m³</td>
<td>CA AB OEL</td>
<td></td>
</tr>
<tr>
<td></td>
<td>TWA</td>
<td></td>
<td>0.1 mg/m³</td>
<td>CA ON OEL</td>
</tr>
</tbody>
</table>
These substance(s) are inextricably bound in the product and therefore do not contribute to a dust inhalation hazard.

Quartz

### 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</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**

- **Respiratory protection**: If adequate local exhaust ventilation is not available or exposure assessment demonstrates exposures outside the recommended guidelines, use respiratory protection.
  - Filter type: Combined particulates and organic vapor type
  - Hand protection: Chemical-resistant gloves

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

- **Eye protection**: Wear the following personal protective equipment:
  - Safety glasses

- **Skin and body protection**: Select appropriate protective clothing based on chemical
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.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

- **Appearance**: Viscous semi-solid
- **Color**: black, 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**: >= 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**: 1.9
- **Solubility(ies)**
  - Water solubility: negligible
- **Partition coefficient: n-octanol/water**: Not applicable
- **Autoignition temperature**: No data available
Decomposition temperature: No data available

Viscosity
   Viscosity, kinematic: Not applicable

Flow time: No data available

Explosive properties: Not explosive

Oxidizing properties: The substance or mixture is not classified as oxidizing.

Molecular weight: No data available

Particle size: No data available

SECTION 10. STABILITY AND REACTIVITY

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

SECTION 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure
Skin contact
Ingestion
Eye contact

Acute toxicity
Not classified based on available information.

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

**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

**Graphite:**
- Acute oral toxicity: LD50 (Rat): > 2,000 mg/kg
  Method: OECD Test Guideline 423
  Assessment: The substance or mixture has no acute oral toxicity
- Acute inhalation toxicity: LC50 (Rat): > 2 mg/l
  Exposure time: 4 h
  Test atmosphere: dust/mist
  Method: OECD Test Guideline 403

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

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

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

**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

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

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

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

### Talc:
#### Species: Rabbit
#### Result: No skin irritation

**Serious eye damage/eye irritation**
Not classified based on available information.

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

#### Lead:
#### Species: Rabbit
#### Method: OECD Test Guideline 405
#### Remarks: Based on data from similar materials

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

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

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

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

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

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

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

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

Lead:
- Genotoxicity in vitro: Test Type: In vitro sister chromatid exchange assay in mammalian cells  
  Result: negative  
  Remarks: Based on data from similar materials
- Genotoxicity in vivo: Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay)  
  Species: Rat  
  Application Route: Ingestion  
  Result: positive  
  Remarks: Based on data from similar materials

Graphite:
- Genotoxicity in vitro: Test Type: Bacterial reverse mutation assay (AMES)  
  Method: OECD Test Guideline 471  
  Result: negative
- Test Type: In vitro mammalian cell gene mutation test  
  Method: OECD Test Guideline 476  
  Result: negative
- Test Type: Chromosome aberration test in vitro  
  Method: OECD Test Guideline 473  
  Result: negative

Copper metal powder:
- Genotoxicity in vitro: Test Type: Bacterial reverse mutation assay (AMES)  
  Method: OECD Test Guideline 471  
  Result: negative
- Genotoxicity in vivo: Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay)  
  Species: Mouse  
  Application Route: Ingestion  
  Result: negative  
  Remarks: Based on data from similar materials
Talc:
Genotoxicity in vitro: Test Type: DNA damage and repair, unscheduled DNA synthesis in mammalian cells (in vitro)
Result: negative

Genotoxicity in vivo: Test Type: Chromosome aberration test in vitro
Species: Rat
Application Route: Ingestion
Result: negative

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

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

Talc:
Species: Mouse
Application Route: inhalation (dust/mist/fume)
Exposure time: 2 Years
Result: negative

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

Carcinogenicity - Assessment: Positive evidence from human epidemiological studies (inhal-
Reproductive toxicity
May damage fertility. May damage the unborn child.
May cause harm to breast-fed children.

Components:

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
Species: Rat
Application Route: Ingestion
Result: positive
Remarks: Based on data from similar materials

Graphite:

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

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

Copper metal powder:

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

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

STOT-single exposure
Not classified based on available information.

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.

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

Copper metal powder:
Species: Rat
NOAEL: >= 2 mg/m³
Application Route: inhalation (dust/mist/fume)
Exposure time: 28 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.

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

Toxicity to algae/aquatic plants: EC50 (Pseudokirchneriella subcapitata (green algae)): > 100 mg/l
Exposure time: 72 h
Method: OECD Test Guideline 201
Remarks: Based on data from similar materials

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

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

Lead:
Toxicity to fish: LC50 (Oncorhynchus mykiss (rainbow trout)): 0.107 mg/l
Exposure time: 96 h

Toxicity 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

Graphite:

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

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

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

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

Copper metal powder:

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

Talc:

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

Quartz:

Ecotoxicology Assessment

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

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

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 (passen- 956
SAFETY DATA SHEET

API MODIFIED

Version 11.0  Revision Date: 10/20/2020  SDS Number: 114820-00021  Date of last issue: 05/06/2020  Date of first issue: 05/12/2015

Environmentally hazardous : yes

IMDG-Code
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
EmS Code : F-A, S-F
Marine pollutant : yes

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

Domestic regulation

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

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

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

SECTION 15. REGULATORY INFORMATION

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

SECTION 16. OTHER INFORMATION

Full text of other abbreviations
ACGIH : USA. ACGIH Threshold Limit Values (TLV)
ACGIH BEI : ACGIH - Biological Exposure Indices (BEI)
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<th>Version</th>
<th>Revision Date</th>
<th>SDS Number</th>
<th>Date of last issue: 05/06/2020</th>
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**SAFETY DATA SHEET**

**API MODIFIED**

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

Sources of key data used to compile the Material Safety Data Sheet:
- LOD - Loading rate 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; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organization for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50% of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; Nch - Chilean Norm; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NOM - Official Mexican Norm; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; SDAT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TDG - Transportation of Dangerous Goods; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative; WHMIS - Workplace Hazardous Materials Information System

Revision Date: 10/20/2020
Date format: mm/dd/yyyy

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

CA / Z8