SECTION 1. IDENTIFICATION

Product name : BESTOLIFE® STINGER® ENVIRO
SDS-Identcode : 344G

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 atmos-
pheres.

SECTION 2. HAZARDS IDENTIFICATION

GHS classification in accordance with the OSHA Hazard Communication Standard (29 CFR
1910.1200)
Skin sensitization : Category 1

GHS label elements
Hazard pictograms :

Signal Word : Warning
Hazard Statements : H317 May cause an allergic skin reaction.
Precautionary Statements : Prevention:
P261 Avoid breathing dust, fume, gas, mist, vapors or spray.
P272 Contaminated work clothing must not be allowed out of the workplace.
P280 Wear protective gloves.
Response:
P302 + P352 IF ON SKIN: Wash with plenty of soap and water.
P333 + P313 If skin irritation or rash occurs: Get medical attention.
P363 Wash contaminated clothing before reuse.
Disposal:
P501 Dispose of contents and container to an approved waste disposal plant.

Other hazards
None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Components

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CAS-No.</th>
<th>Concentration (% w/w)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Distillates (petroleum), hydrotreated heavy naphthenic</td>
<td>64742-52-5</td>
<td>&gt;= 20 - &lt; 30</td>
</tr>
<tr>
<td>Distillates (petroleum), hydrotreated heavy paraffinic</td>
<td>64742-54-7</td>
<td>&gt;= 20 - &lt; 30</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;= 20 - &lt; 30</td>
</tr>
<tr>
<td>Dolomite</td>
<td>16389-88-1</td>
<td>&gt;= 5 - &lt; 10</td>
</tr>
<tr>
<td>Dilithium azelate</td>
<td>38900-29-7</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>Lubricating oils (petroleum), hydrotreated spent</td>
<td>64742-58-1</td>
<td>&gt;= 1 - &lt; 5</td>
</tr>
<tr>
<td>Tris[bis(2-ethylhexyl)dithiocarbamato-S,S’] antimony</td>
<td>15991-76-1</td>
<td>&gt;= 1 - &lt; 5</td>
</tr>
<tr>
<td>2,5-Bis(octyldithio)-1,3,4-thiadiazole</td>
<td>13539-13-4</td>
<td>&gt;= 0.1 - &lt; 1</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 if symptoms occur.

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. Get medical attention if irritation develops and persists.

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

Most important symptoms and effects, both acute and : May cause an allergic skin reaction.
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
- Metal oxides
- Nitrogen oxides (NOx)
- Sulfur oxides

Specific extinguishing methods:
- Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
- Use water spray to cool unopened containers.
- Remove undamaged containers from fire area if it is safe to do so.
- Evacuate area.

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

SECTION 6. ACCIDENTAL RELEASE MEASURES

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

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

Methods and materials for 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
- Do not get on skin or clothing.
- Avoid breathing dust, fume, gas, mist, vapors or spray.
- Do not swallow.
- Avoid contact with eyes.
- Handle in accordance with good industrial hygiene and safety practice, based on the results of the workplace exposure assessment.
- Take care to prevent spills, waste and minimize release to the environment.

Conditions for safe storage:
- Keep in properly labeled containers.
- Store in accordance with the particular national regulations.

Materials to avoid:
- Do not store with the following product types:
  - Strong oxidizing agents

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Ingredients with workplace control parameters

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>Value type (Form of exposure)</th>
<th>Control parameters / Permissible concentration</th>
<th>Basis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Distillates (petroleum), hydrotreated heavy naphthenic</td>
<td>64742-52-5</td>
<td>TWA (Mist)</td>
<td>5 mg/m³</td>
<td>OSHA Z-1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA (Inhalable particulate matter)</td>
<td>5 mg/m³</td>
<td>ACGIH</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA (Mist)</td>
<td>5 mg/m³</td>
<td>NIOSH REL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ST (Mist)</td>
<td>10 mg/m³</td>
<td>NIOSH REL</td>
</tr>
<tr>
<td>Distillates (petroleum), hydrotreated heavy paraffinic</td>
<td>64742-54-7</td>
<td>TWA (Mist)</td>
<td>5 mg/m³</td>
<td>OSHA Z-1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA (Mist)</td>
<td>5 mg/m³</td>
<td>NIOSH REL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ST (Mist)</td>
<td>10 mg/m³</td>
<td>NIOSH REL</td>
</tr>
<tr>
<td>Talc</td>
<td>14807-96-6</td>
<td>TWA (Dust)</td>
<td>20 Million particles per cubic foot</td>
<td>OSHA Z-3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA (Respirable)</td>
<td>2 mg/m³</td>
<td>NIOSH REL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA (Respirable particulate matter)</td>
<td>2 mg/m³</td>
<td>ACGIH</td>
</tr>
<tr>
<td>Graphite</td>
<td>7782-42-5</td>
<td>TWA (Respirable)</td>
<td>2.5 mg/m³</td>
<td>NIOSH REL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA (Respirable particulate matter)</td>
<td>2 mg/m³</td>
<td>ACGIH</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA (Dust)</td>
<td>15 Million particles per cubic foot</td>
<td>OSHA Z-3</td>
</tr>
<tr>
<td>Dolomite</td>
<td>16389-88-1</td>
<td>TWA (Respirable)</td>
<td>5 mg/m³</td>
<td>NIOSH REL</td>
</tr>
</tbody>
</table>
These substance(s) are inextricably bound in the product and therefore do not contribute to a dust inhalation hazard.

**Quartz**

**Engineering measures**

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

**Personal protective equipment**

Respiratory protection: 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 adequate protection.

Hand protection

<table>
<thead>
<tr>
<th>Material</th>
<th>Chemical-resistant gloves</th>
</tr>
</thead>
<tbody>
<tr>
<td>Remarks</td>
<td>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.</td>
</tr>
</tbody>
</table>

Eye protection

<table>
<thead>
<tr>
<th>Wearing</th>
<th>Safety glasses</th>
</tr>
</thead>
</table>

Skin and body protection

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

Hygiene measures

| If exposure to chemical is likely during typical use, provide eye flushing systems and safety showers close to the working place. When using do not eat, drink or smoke. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before re-use. |
|---------|--------------------------------------------------|

### SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>Appearance</th>
<th>Viscous semi-solid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Color</td>
<td>black</td>
</tr>
<tr>
<td>Odor</td>
<td>Petroleum</td>
</tr>
<tr>
<td>Odor Threshold</td>
<td>No data available</td>
</tr>
<tr>
<td>pH</td>
<td>Not applicable (not an aqueous solution)</td>
</tr>
<tr>
<td>Melting point/freezing point</td>
<td>No data available</td>
</tr>
<tr>
<td>Initial boiling point and boiling range</td>
<td>No data available</td>
</tr>
<tr>
<td>Flash point</td>
<td>&gt;= 392 °F / &gt;= 200 °C</td>
</tr>
<tr>
<td>Method</td>
<td>ASTM D 92, Cleveland open cup Distillates (petroleum), hydrotreated heavy naphthenic</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>Not classified as a flammability hazard</td>
</tr>
</tbody>
</table>
### 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
- 1.3

### 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

<table>
<thead>
<tr>
<th>Reactivity</th>
<th>Not classified as a reactivity hazard.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemical stability</td>
<td>Stable under normal conditions.</td>
</tr>
<tr>
<td>Possibility of hazardous reactions</td>
<td>Can react with strong oxidizing agents.</td>
</tr>
<tr>
<td>Conditions to avoid</td>
<td>None known.</td>
</tr>
<tr>
<td>Incompatible materials</td>
<td>Oxidizing agents</td>
</tr>
<tr>
<td>Hazardous decomposition products</td>
<td>No hazardous decomposition products are known.</td>
</tr>
</tbody>
</table>
SECTION 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Skin contact
Ingestion
Eye contact

Acute toxicity
Not classified based on available information.

Product:
Acute oral toxicity: Acute toxicity estimate: > 5,000 mg/kg
Method: Calculation method

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

Distillates (petroleum), hydrotreated heavy paraffinic:

Acute oral toxicity: LD50 (Rat): > 5,000 mg/kg
Method: OECD Test Guideline 401
Remarks: Based on data from similar materials

Acute inhalation toxicity: LC50 (Rat): > 5.53 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Method: OECD Test Guideline 403
Assessment: The substance or mixture has no acute inhalation toxicity
Remarks: Based on data from similar materials

Acute dermal toxicity: LD50 (Rabbit): > 5,000 mg/kg
Method: OECD Test Guideline 402
Remarks: Based on data from similar materials

Talc:

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

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

Dilithium azelate:

**Acute oral toxicity**
- LD50 (Rat): > 300 - 2,000 mg/kg
- Method: OECD Test Guideline 420
- Remarks: Based on data from similar materials

**Acute dermal toxicity**
- LD50 (Rat): > 2,000 mg/kg
- Method: OECD Test Guideline 402
- Remarks: Based on data from similar materials

Quartz:

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

Lubricating oils (petroleum), hydrotreated spent:

**Acute oral toxicity**
- LD50 (Rat): > 2,000 mg/kg

**Acute dermal toxicity**
- LD50 (Rabbit): > 4,480 mg/kg

Tris[bis(2-ethylhexyl)dithiocarbamato-S,S'] antimony:
### Acute oral toxicity

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

### Acute dermal toxicity

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

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

<table>
<thead>
<tr>
<th>Toxicity Type</th>
<th>LD50 (Rat)</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute oral toxicity</td>
<td>&gt; 5,000 mg/kg</td>
<td>Based on data from similar materials</td>
</tr>
<tr>
<td>Acute dermal toxicity</td>
<td>&gt; 2,000 mg/kg</td>
<td>Based on data from similar materials</td>
</tr>
</tbody>
</table>

### Acute inhalation toxicity

LC50 (Rat): 3.08 mg/l  
Exposure time: 4 h  
Test atmosphere: dust/mist  
Method: OECD Test Guideline 403

### Acute dermal toxicity

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

### Skin corrosion/irritation

Not classified based on available information.

### Components:

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

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

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

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

#### Talc:

<table>
<thead>
<tr>
<th>Species</th>
<th>Rabbit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Result</td>
<td>No skin irritation</td>
</tr>
</tbody>
</table>

#### Graphite:

<table>
<thead>
<tr>
<th>Species</th>
<th>Rabbit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Method</td>
<td>OECD Test Guideline 404</td>
</tr>
<tr>
<td>Result</td>
<td>No skin irritation</td>
</tr>
</tbody>
</table>

#### Dolomite:

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

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

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

**Species**: Rabbit  
**Method**: OECD Test Guideline 404  
**Result**: 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

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

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

**Dolomite**:

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

**Dilithium azelate**:

**Species**: Rabbit  
**Result**: No eye irritation  
**Method**: OECD Test Guideline 405
2,5-Bis(octylthio)-1,3,4-thiadiazole:
Species: Rabbit
Result: No eye irritation
Method: OECD Test Guideline 405

Respiratory or skin sensitization

Skin sensitization
May cause an allergic skin reaction.

Respiratory sensitization
Not classified based on available information.

Components:

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

Distillates (petroleum), hydrotreated heavy paraffinic:
Test Type: Buehler Test
Routes of exposure: Skin contact
Species: Guinea pig
Method: OECD Test Guideline 406
Result: negative
Remarks: Based on data from similar materials

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

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

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

2,5-Bis(octyldithio)-1,3,4-thiadiazole:
Test Type: Buehler Test
Routes of exposure: Skin contact
Species: Guinea pig
Method: OECD Test Guideline 406
Result: positive
Assessment: Probability or evidence of high skin sensitization rate in humans

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

**Distillates (petroleum), hydrotreated heavy paraffinic:**
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  
Test Type: Chromosome aberration test in vitro  
Method: OECD Test Guideline 473  
Result: negative

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

Dilithium azelate:
Genotoxicity in vitro: Test Type: Bacterial reverse mutation assay (AMES)  
Method: OECD Test Guideline 471  
Result: negative  
Test Type: In vitro mammalian cell gene mutation test  
Method: OECD Test Guideline 476  
Result: negative  
Remarks: Based on data from similar materials  
Test Type: Chromosome aberration test in vitro  
Method: OECD Test Guideline 473  
Result: negative  
Remarks: Based on data from similar materials

2,5-Bis(octyldithio)-1,3,4-thiadiazole:
Genotoxicity in vitro: Test Type: Bacterial reverse mutation assay (AMES)  
Method: OECD Test Guideline 471  
Result: negative  
Test Type: In vitro mammalian cell gene mutation test  
Method: OECD Test Guideline 476  
Result: negative  
Remarks: Based on data from similar materials  
Test Type: Chromosome aberration test in vitro  
Method: OECD Test Guideline 473  
Result: negative
Carcinogenicity
Not classified based on available information.

**Product:**
Carcinogenicity - Assessment
Petroleum distillates have been classified as not carcinogenic based on DMSO extract content < 3% (Regulation (EC) 1272/2008, Annex VI, Part 3, Note L).

**Components:**

**Distillates (petroleum), hydrotreated heavy naphthenic:**
- Species: Mouse
- Application Route: Skin contact
- Exposure time: 78 weeks
- Method: OECD Test Guideline 451
- Result: negative

**Distillates (petroleum), hydrotreated heavy paraffinic:**
- 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

**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)

**IARC**
- Group 1: Carcinogenic to humans
- Quartz (Silica dust, crystalline) 14808-60-7

**OSHA**
- OSHA specifically regulated carcinogen
- Quartz (crystalline silica) 14808-60-7
NTP Known to be human carcinogen
Quartz 14808-60-7
(Silica, Crystalline (Respirable Size))

Reproductive toxicity
Not classified based on available information.

Components:

Distillates (petroleum), hydrotreated heavy paraffinic:
Effects on fertility: Test Type: Reproduction/Developmental toxicity screening test
Species: Rat
Application Route: Ingestion
Result: negative
Remarks: Based on data from similar materials

Effects on fetal development: Test Type: Embryo-fetal development
Species: Rat
Application Route: Skin contact
Method: OECD Test Guideline 414
Result: negative
Remarks: Based on data from similar materials

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

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

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
Remarks: Based on data from similar materials

Dilithium azelate:

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

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

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

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

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

STOT-single exposure
Not classified based on available information.

STOT-repeated exposure
Not classified based on available information.

Components:

Quartz:
Routes of exposure: inhalation (dust/mist/fume)
Target Organs: Lungs
Assessment: Shown to produce significant health effects in animals at concentrations of 0.02 mg/l/6h/d or less.
Repeated dose toxicity

Components:

Distillates (petroleum), hydrotreated heavy 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

Distillates (petroleum), hydrotreated heavy paraffinic:
- Species: Rabbit
- NOAEL: 1,000 mg/kg
- Application Route: Skin contact
- Exposure time: 4 Weeks
- Method: OECD Test Guideline 410
- Remarks: Based on data from similar materials

Species: Rat
- NOAEL: > 980 mg/m³
- Application Route: inhalation (dust/mist/fume)
- Exposure time: 4 Weeks

Dolomite:
- Species: Mouse
- NOAEL: 1,300 mg/kg
- Application Route: Ingestion
- Exposure time: 28 Days
- Remarks: Based on data from similar materials

Dilithium azelate:
- Species: Rat
- NOAEL: 1,089.75 mg/kg
- Application Route: Skin contact
- Exposure time: 28 Days
- Remarks: Based on data from similar materials

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

2,5-Bis(octyldithio)-1,3,4-thiadiazole:
- Species: Rat
- NOAEL: 330 mg/kg
- Application Route: Ingestion
- Exposure time: 54 Days
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

Distillates (petroleum), hydrotreated heavy paraffinic:

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

Toxicity to daphnia and other aquatic invertebrates: EC50 (Daphnia magna (Water flea)): > 10,000 mg/l
Exposure time: 48 h
Method: OECD Test Guideline 202
Remarks: Based on data from similar materials

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

Toxicity to daphnia and other aquatic invertebrates: NOEC (Daphnia magna (Water flea)): 10 mg/l
aquatic invertebrates (Chronic toxicity)

Exposure time: 21 d
Method: OECD Test Guideline 211
Remarks: Based on data from similar materials

Toxicity to microorganisms

NOEC: > 1.93 mg/l
Exposure time: 10 min
Method: DIN 38 412 Part 8
Remarks: Based on data from similar materials

Talc:

Toxicity to fish

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

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

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

Dilithium azelate:
Toxicity to fish: LC50 (Oncorhynchus mykiss (rainbow trout)): > 10 - 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 - 100 mg/l
Exposure time: 48 h
Method: OECD Test Guideline 202
Remarks: Based on data from similar materials

Toxicity to algae/aquatic plants: NOEC (Pseudokirchneriella subcapitata (green algae)): > 1 mg/l
Exposure time: 72 h
Remarks: Based on data from similar materials

ErC50 (Pseudokirchneriella subcapitata (green algae)): > 100 mg/l
Exposure time: 72 h
Remarks: Based on data from similar materials

Quartz:

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

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

Lubricating oils (petroleum), hydrotreated spent:
Toxicity to fish: LL50 (Oncorhynchus mykiss (rainbow trout)): > 100 mg/l
Exposure time: 96 h
Test substance: Water Accommodated Fraction
Remarks: Based on data from similar materials

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

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity): NOELR (Daphnia magna (Water flea)): 1,000 mg/l
Exposure time: 21 d
Test substance: Water Accommodated Fraction
Remarks: Based on data from similar materials

Tris[bis(2-ethylhexyl)dithiocarbamato-S,S'] antimony:
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity): NOEC (Daphnia magna (Water flea)): 0.02 mg/l
Exposure time: 21 d
Ecotoxicology Assessment

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

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

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

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

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

NOELR (Pseudokirchneriella subcapitata (green algae)): > 1 mg/l
Exposure time: 72 h
Test substance: Water Accommodated Fraction
Method: OECD Test Guideline 201

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

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

Distillates (petroleum), hydrotreated heavy paraffinic:

Biodegradability: Result: Not readily biodegradable.
Biodegradation: 31 %
Exposure time: 28 d
Method: OECD Test Guideline 301F

Dilithium azelate:
Biodegradability: Result: Readily biodegradable.
Biodegradation: 83%
Exposure time: 30 d
Method: OECD Test Guideline 301D
Remarks: Based on data from similar materials

**Tris[bis(2-ethylhexyl)dithiocarbamato-S,S'] antimony**:
Biodegradability: Result: Not readily biodegradable.
Remarks: Based on data from similar materials

**2,5-Bis(octyldithio)-1,3,4-thiadiazole**:
Biodegradability: Result: Not readily biodegradable.
Biodegradation: 0%
Exposure time: 28 d
Method: OECD Test Guideline 301B

Bioaccumulative potential

**Components**:

**Dilithium azelate**:
Partition coefficient: n-octanol/water: log Pow: -3.53

**2,5-Bis(octyldithio)-1,3,4-thiadiazole**:
Partition coefficient: n-octanol/water: log Pow: > 6.5
Method: OECD Test Guideline 117

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
Not regulated as a dangerous good

**IATA-DGR**
Not regulated as a dangerous good

**IMDG-Code**
Not regulated as a dangerous good

**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**
Not regulated as a dangerous good

### SECTION 15. REGULATORY INFORMATION

**CERCLA Reportable Quantity**
This material does not contain any components with a CERCLA RQ.

**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**
- Respiratory or skin sensitization

**SARA 313**
- The following components are subject to reporting levels established by SARA Title III, Section 313:
  - Tris[bis(2-ethylhexyl)dithiocarbamato-S,S'] antimony 15991-76-1 >= 1 - < 5%
  - Antimony, dialkyl dithiocarbamate 15890-25-2 >= 0.1 - < 1%

**US State Regulations**

**Pennsylvania Right To Know**
- Distillates (petroleum), hydrotreated heavy naphthenic 64742-52-5
- Distillates (petroleum), hydrotreated heavy paraffinic 64742-54-7
- Talc 14807-96-6
- Graphite 7782-42-5
- Dolomite 16389-88-1
- Hydroxystearate sebacate lithium complexes 68815-49-6
- Dilithium azelate 38900-29-7
- Quartz 14808-60-7
- Tris[bis(2-ethylhexyl)dithiocarbamato-S,S'] antimony 15991-76-1
- Antimony, dialkyl dithiocarbamate 15890-25-2
- Phosphorodithioic acid, O,O-di-C1-14-alkyl esters, zinc salts 68649-42-3
California Prop. 65
WARNING: This product can expose you to chemicals including Quartz, which is/are known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov.

California List of Hazardous Substances
- Distillates (petroleum), hydrotreated heavy naphthenic: 64742-52-5
- Distillates (petroleum), hydrotreated heavy paraffinic: 64742-54-7
- Talc: 14807-96-6
- Graphite: 7782-42-5
- Tris[bis(2-ethylhexyl)dithiocarbamato-S,S'] antimony: 15991-76-1

California Permissible Exposure Limits for Chemical Contaminants
- Distillates (petroleum), hydrotreated heavy naphthenic: 64742-52-5
- Distillates (petroleum), hydrotreated heavy paraffinic: 64742-54-7
- Talc: 14807-96-6
- Graphite: 7782-42-5
- Quartz: 14808-60-7
- Tris[bis(2-ethylhexyl)dithiocarbamato-S,S'] antimony: 15991-76-1

California Regulated Carcinogens
- Quartz: 14808-60-7

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

Further information
SAFETY DATA SHEET
BESTOLIFE® STINGER® ENVIRO

Version 13.0  Revision Date: 11/03/2020  SDS Number: 118106-00018  Date of last issue: 05/06/2020  Date of first issue: 05/18/2015

NFPA 704:

Health Instability Flammability Special hazard
1 0 2

HMIS® IV:

HEALTH / 2
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)
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

AICL - 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 Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Pre-
SAFETY DATA SHEET

BESTOLIFE® STINGER® ENVIRO

Version: 13.0
Revision Date: 11/03/2020
SDS Number: 118106-00018
Date of last issue: 05/06/2020
Date of first issue: 05/18/2015

Revision Date: 11/03/2020

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

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