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

1.1 Product identifier

Trade name: MR. B
SDS-Identcode: 028G

1.2 Relevant identified uses of the substance or mixture and uses advised against

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

1.3 Details of the supplier of the safety data sheet

Company: Bestolife Corporation INTERTEK FRANCE
2126 Vanco Drive 27400 HEUDEBOUVILLE
75061, FRANCE

Telephone: 855-243-9164/972-865-8961 +33 385 991270
Telefax: 214-631-3047 +33 385 991288
E-mail address of person responsible for the SDS: www.bestolife.com/christian.gimenez@intertek.com/if.reach@intertek.com

1.4 Emergency telephone number

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

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008)

Skin sensitisation, Category 1: H317: May cause an allergic skin reaction.
Reproductive toxicity, Category 1A: H360FD: May damage fertility. May damage the unborn child.
Effects on or via lactation: H362: May cause harm to breast-fed children.
Specific target organ toxicity - repeated exposure, Category 1: H372: Causes damage to organs through prolonged or repeated exposure.
Short-term (acute) aquatic hazard, Category 1: H400: Very toxic to aquatic life.
Long-term (chronic) aquatic hazard, Category 1: H410: Very toxic to aquatic life with long lasting effects.
2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

Hazard pictograms :

<table>
<thead>
<tr>
<th>Signal word</th>
<th>: Danger</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hazard statements</td>
<td></td>
</tr>
<tr>
<td>H317</td>
<td>May cause an allergic skin reaction.</td>
</tr>
<tr>
<td>H360FD</td>
<td>May damage fertility. May damage the unborn child.</td>
</tr>
<tr>
<td>H362</td>
<td>May cause harm to breast-fed children.</td>
</tr>
<tr>
<td>H372</td>
<td>Causes damage to organs through prolonged or repeated exposure.</td>
</tr>
<tr>
<td>H410</td>
<td>Very toxic to aquatic life with long lasting effects.</td>
</tr>
</tbody>
</table>

Precautionary statements :

Prevention:
- P201 Obtain special instructions before use.
- P263 Avoid contact during pregnancy and while nursing.
- P273 Avoid release to the environment.
- P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

Response:
- P308 + P313 IF exposed or concerned: Get medical advice/ attention.
- P391 Collect spillage.

Hazardous components which must be listed on the label:
- Lead
- Calcium bis(di C8-C10, branched, C9 rich, alkylbenzenesulphonate)
- Calcium petroleum sulfonates

Additional Labelling
- Restricted to professional users.

2.3 Other hazards
- None known.

SECTION 3: Composition/information on ingredients

3.2 Mixtures

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CAS-No.</th>
<th>EC-No.</th>
<th>Index-No.</th>
<th>Registration number</th>
<th>Classification</th>
<th>Concentration (% w/w)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lead</td>
<td>7439-92-1</td>
<td>231-100-4</td>
<td>082-013-00-1</td>
<td></td>
<td>Repr. 1A; H360FD Lact.H362 STOT RE 1; H372</td>
<td>&gt;= 10 - &lt; 20</td>
</tr>
</tbody>
</table>
### SECTION 4: First aid measures

#### 4.1 Description of first aid measures

<table>
<thead>
<tr>
<th>Substance</th>
<th>Hazard Class</th>
<th>Description of first aid measures</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>General advice</strong></td>
<td></td>
<td>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.</td>
</tr>
<tr>
<td><strong>Protection of first-aiders</strong></td>
<td></td>
<td>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).</td>
</tr>
<tr>
<td><strong>If inhaled</strong></td>
<td></td>
<td>If inhaled, remove to fresh air. Get medical attention.</td>
</tr>
<tr>
<td><strong>In case of skin contact</strong></td>
<td></td>
<td>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.</td>
</tr>
<tr>
<td><strong>In case of eye contact</strong></td>
<td></td>
<td>Flush eyes with water as a precaution. Get medical attention if irritation develops and persists.</td>
</tr>
<tr>
<td><strong>If swallowed</strong></td>
<td></td>
<td>If swallowed, DO NOT induce vomiting. Get medical attention.</td>
</tr>
</tbody>
</table>

For explanation of abbreviations see section 16.
Rinse mouth thoroughly with water.

### 4.2 Most important symptoms and effects, both acute and delayed

**Risks**
- May cause an allergic skin reaction.
- May damage fertility. May damage the unborn child.
- May cause harm to breast-fed children.
- Causes damage to organs through prolonged or repeated exposure.

### 4.3 Indication of any immediate medical attention and special treatment needed

**Treatment**
- Treat symptomatically and supportively.

### SECTION 5: Firefighting measures

#### 5.1 Extinguishing media

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

**Unsuitable extinguishing media**
- None known.

#### 5.2 Special hazards arising from the substance or mixture

**Specific hazards during firefighting**
- Exposure to combustion products may be a hazard to health.

**Hazardous combustion products**
- Carbon oxides
- Lead compounds
- Metal oxides
- Sulphur oxides

#### 5.3 Advice for firefighters

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

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

### SECTION 6: Accidental release measures

#### 6.1 Personal precautions, protective equipment and emergency procedures

**Personal precautions**
- Use personal protective equipment.
- Follow safe handling advice (see section 7) and personal protective equipment recommendations (see section 8).
6.2 Environmental precautions

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

6.3 Methods and material for containment and cleaning up

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

6.4 Reference to other sections

See sections: 7, 8, 11, 12 and 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

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

Advice on safe handling
- For outdoor use only
- Avoid contact during pregnancy and while nursing.
- Do not get on skin or clothing.
- Do not breathe dust, fume, gas, mist, vapours 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.

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.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers
- Keep in properly labelled containers. Store locked up. Keep tightly closed. Store in accordance with the particular national regulations.
Advice on common storage: Do not store with the following product types:
- Strong oxidizing agents
- Organic peroxides
- Explosives
- Gases

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

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>Value type (Form of exposure)</th>
<th>Control parameters</th>
<th>Basis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Talc</td>
<td>14807-96-6</td>
<td>TWA (Respirable dust)</td>
<td>1 mg/m³</td>
<td>GB EH40</td>
</tr>
</tbody>
</table>

Further information: For the purposes of these limits, respirable dust and inhalable dust are those fractions of airborne dust which will be collected when sampling is undertaken in accordance with the methods described in MDHS14/4. Talc is defined as the mineral talc together with other hydrous phyllosilicates including chlorite and carbonate materials which occur with it, but excluding amphibole asbestos and crystalline silica. The COSHH definition of a substance hazardous to health includes dust of any kind when present at a concentration in air equal to or greater than 10 mg/m³ 8-hour TWA of inhalable dust or 4 mg/m³ 8-hour TWA of respirable dust. This means that any dust will be subject to COSHH if people are exposed to dust above these levels. Some dusts have been assigned specific WELs and exposure to these must comply with the appropriate limits. Most industrial dusts contain particles of a wide range of sizes. The behaviour, deposition and fate of any particular particle after entry into the human respiratory system, and the body response that it elicits, depend on the nature and size of the particle. HSE distinguishes two size fractions for limit-setting purposes termed ‘inhaled’ and ‘respirable’. Inhalable dust approximates to the fraction of airborne material that enters the nose and mouth during breathing and is therefore available for deposition in the respiratory tract. Respirable dust approximates to the fraction that penetrates to the gas exchange region of the lung. Fuller definitions and explanatory material are given in MDHS14/4. Where dusts contain components that have their own assigned WEL, all the relevant limits should be complied with. Where no specific short-term exposure limit is listed, a figure three times the long-term exposure limit should be used.

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>Value type (Form of exposure)</th>
<th>Control parameters</th>
<th>Basis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lead</td>
<td>7439-92-1</td>
<td>TWA (Lead)</td>
<td>0.15 mg/m³</td>
<td>98/24/EC I</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Quartz</td>
<td>14808-60-7</td>
<td>TWA (Respirable dust)</td>
<td>0.1 mg/m³</td>
<td>2004/37/EC</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Further information: Capable of causing cancer and/or heritable genetic damage.

**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>Substance name</th>
<th>CAS-No.</th>
<th>Control parameters</th>
<th>Sampling time</th>
<th>Basis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lead</td>
<td>7439-92-1</td>
<td>Lead (Lead): 0.7 mg/l (Blood)</td>
<td>98/24/EC II</td>
<td></td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Substance name</th>
<th>End Use</th>
<th>Exposure routes</th>
<th>Potential health effects</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calcium bis(di C8-C10, branched, C9 rich, alkylnaphthalenesulphonate)</td>
<td>Workers</td>
<td>Inhalation</td>
<td>Long-term systemic effects</td>
<td>70 mg/m3</td>
</tr>
<tr>
<td>Calcium petroleum sulfonates</td>
<td>Workers</td>
<td>Skin contact</td>
<td>Long-term systemic effects</td>
<td>10 mg/kg bw/day</td>
</tr>
<tr>
<td>Calcium bis(di C8-C10, branched, C9 rich, alkylnaphthalenesulphonate)</td>
<td>Workers</td>
<td>Skin contact</td>
<td>Long-term systemic effects</td>
<td>3.33 mg/kg bw/day</td>
</tr>
<tr>
<td>Calcium petroleum sulfonates</td>
<td>Workers</td>
<td>Skin contact</td>
<td>Long-term local effects</td>
<td>1.03 mg/cm2</td>
</tr>
<tr>
<td>Calcium bis(di C8-C10, branched, C9 rich, alkylnaphthalenesulphonate)</td>
<td>Consumers</td>
<td>Inhalation</td>
<td>Long-term systemic effects</td>
<td>2.9 mg/m3</td>
</tr>
<tr>
<td>Calcium petroleum sulfonates</td>
<td>Consumers</td>
<td>Skin contact</td>
<td>Long-term systemic effects</td>
<td>1.667 mg/kg bw/day</td>
</tr>
<tr>
<td>Calcium petroleum sulfonates</td>
<td>Consumers</td>
<td>Skin contact</td>
<td>Long-term local effects</td>
<td>0.513 mg/cm2</td>
</tr>
<tr>
<td>Calcium bis(di C8-C10, branched, C9 rich, alkylnaphthalenesulphonate)</td>
<td>Consumers</td>
<td>Ingestion</td>
<td>Long-term systemic effects</td>
<td>0.8333 mg/kg bw/day</td>
</tr>
</tbody>
</table>

### Predicted No Effect Concentration (PNEC) according to Regulation (EC) No. 1907/2006:

<table>
<thead>
<tr>
<th>Substance name</th>
<th>Environmental Compartment</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lead</td>
<td>Fresh water</td>
<td>6.5 µg/l</td>
</tr>
<tr>
<td></td>
<td>Marine water</td>
<td>3.4 µg/l</td>
</tr>
<tr>
<td></td>
<td>Sewage treatment plant</td>
<td>100 µg/l</td>
</tr>
<tr>
<td></td>
<td>Fresh water sediment</td>
<td>174 mg/kg</td>
</tr>
<tr>
<td></td>
<td>Marine sediment</td>
<td>164 mg/kg</td>
</tr>
<tr>
<td></td>
<td>Soil</td>
<td>147 mg/kg</td>
</tr>
<tr>
<td></td>
<td>Oral (Secondary Poisoning)</td>
<td>10.9 mg/kg food</td>
</tr>
<tr>
<td>Calcium bis(di C8-C10, branched, C9 rich, alkylnaphthalenesulphonate)</td>
<td>Fresh water</td>
<td>4 µg/l</td>
</tr>
<tr>
<td></td>
<td>Freshwater - intermittent</td>
<td>2.7 µg/l</td>
</tr>
<tr>
<td></td>
<td>Marine water</td>
<td>0.4 µg/l</td>
</tr>
<tr>
<td></td>
<td>Sewage treatment plant</td>
<td>10 mg/l</td>
</tr>
</tbody>
</table>
### 8.2 Exposure controls

#### Engineering measures
Minimize workplace exposure concentrations.

#### Personal protective equipment

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

**Hand protection**

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

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

**Respiratory protection**: If adequate local exhaust ventilation is not available or exposure assessment demonstrates exposures outside the recommended guidelines, use respiratory protection.
- Equipment should conform to BS EN 14387
- **Filter type**: Combined particulates and organic vapour type (A-P)
SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

- **Appearance**: Viscous semi-solid
- **Colour**: black
- **Odour**: Petroleum
- **Odour Threshold**: No data available
- **pH**: Not applicable (not an aqueous solution)
- **Melting point/freezing point**: No data available
- **Initial boiling point and boiling range**: No data available
- **Flash point**: >= 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
- **Vapour pressure**: Not applicable
- **Relative vapour density**: Not applicable
- **Relative density**: 1.5
- **Density**: No data available
- **Solubility(ies)**
  - **Water solubility**: negligible
  - **Partition coefficient: n-octanol/water**: Not applicable
  - **Auto-ignition 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.

9.2 Other information
Molecular weight : No data available
Particle size : No data available

SECTION 10: Stability and reactivity

10.1 Reactivity
Not classified as a reactivity hazard.

10.2 Chemical stability
Stable under normal conditions.

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

10.4 Conditions to avoid
Conditions to avoid : None known.

10.5 Incompatible materials
Materials to avoid : Oxidizing agents

10.6 Hazardous decomposition products
No hazardous decomposition products are known.

SECTION 11: Toxicological information

11.1 Information on toxicological effects
Information on likely routes of exposure :
Skin contact
Ingestion
Eye contact

Acute toxicity
Not classified based on available information.

Components:

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

Isobutylene-butene copolymer:
Acute oral toxicity : LD50 (Rat): > 2,000 mg/kg
Method: OECD Test Guideline 401
Assessment: The substance or mixture has no acute oral toxicity
Remarks: Based on data from similar materials

Acute inhalation toxicity: LC50 (Rat): > 19.171 mg/l
Exposure time: 4 h
Test atmosphere: vapour
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

Calcium bis(di C8-C10, branched, C9 rich, alkylnaphthalenesulphonate):
Acute oral toxicity: LD50 (Rat): > 5,000 mg/kg
Acute dermal toxicity: LD50 (Rabbit): > 5,000 mg/kg

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

Calcium petroleum sulfonates:
Acute oral toxicity: LD50 (Rat): > 5,000 mg/kg
Method: OECD Test Guideline 401

Acute inhalation toxicity: LC50 (Rat): > 1.9 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 (Rabbit): > 4,000 mg/kg
Assessment: The substance or mixture has no acute dermal toxicity

Skin corrosion/irritation
Not classified based on available information.

Components:

Lead:
Species: Rabbit
Method: OECD Test Guideline 404
Result: No skin irritation
Remarks: Based on data from similar materials
Calcium bis(di C8-C10, branched, C9 rich, alkylnaphthalenesulphonate):
<table>
<thead>
<tr>
<th>Species</th>
<th>Rabbit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Result</td>
<td>Skin irritation</td>
</tr>
<tr>
<td>Remarks</td>
<td>Based on data from similar materials</td>
</tr>
</tbody>
</table>

Calcium petroleum sulfonates:
<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>

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

### Components:

#### Lead:
<table>
<thead>
<tr>
<th>Species</th>
<th>Rabbit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Method</td>
<td>OECD Test Guideline 405</td>
</tr>
<tr>
<td>Result</td>
<td>No eye irritation</td>
</tr>
<tr>
<td>Remarks</td>
<td>Based on data from similar materials</td>
</tr>
</tbody>
</table>

#### Isobutylene-butene copolymer:
<table>
<thead>
<tr>
<th>Species</th>
<th>Rabbit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Method</td>
<td>OECD Test Guideline 405</td>
</tr>
<tr>
<td>Result</td>
<td>No eye irritation</td>
</tr>
<tr>
<td>Remarks</td>
<td>Based on data from similar materials</td>
</tr>
</tbody>
</table>

#### Calcium bis(di C8-C10, branched, C9 rich, alkylnaphthalenesulphonate):
<table>
<thead>
<tr>
<th>Species</th>
<th>Rabbit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Result</td>
<td>Irritation to eyes, reversing within 21 days</td>
</tr>
<tr>
<td>Remarks</td>
<td>Based on data from similar materials</td>
</tr>
</tbody>
</table>

#### Calcium petroleum sulfonates:
<table>
<thead>
<tr>
<th>Species</th>
<th>Rabbit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Method</td>
<td>OECD Test Guideline 405</td>
</tr>
<tr>
<td>Result</td>
<td>No eye irritation</td>
</tr>
<tr>
<td>Remarks</td>
<td>Based on data from similar materials</td>
</tr>
</tbody>
</table>

### Respiratory or skin sensitisation

#### Skin sensitisation
May cause an allergic skin reaction.

#### Respiratory sensitisation
Not classified based on available information.

### Components:

#### Lead:
<table>
<thead>
<tr>
<th>Test Type</th>
<th>Maximisation Test</th>
</tr>
</thead>
</table>

### Exposure routes
- **Species**: Guinea pig
- **Method**: OECD Test Guideline 406
- **Result**: negative
- **Remarks**: Based on data from similar materials

#### Calcium bis(di C8-C10, branched, C9 rich, alkylnaphthalenesulphonate):
- **Test Type**: Buehler Test
- **Exposure routes**: Skin contact
- **Species**: Guinea pig
- **Result**: positive
- **Remarks**: Based on data from similar materials

#### Assessment
- Probability or evidence of low to moderate skin sensitisation rate in humans

#### Calcium petroleum sulfonates:
- **Test Type**: Buehler Test
- **Exposure routes**: Skin contact
- **Species**: Guinea pig
- **Result**: positive

#### Assessment
- Probability or evidence of low to moderate skin sensitisation rate in humans

#### Germ cell mutagenicity
Not classified based on available information.

### Components:

#### 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

#### Isobutylene-butene copolymer:
- **Genotoxicity in vitro**: Test Type: Bacterial reverse mutation assay (AMES)
  - Method: OECD Test Guideline 471
  - 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: inhalation (vapour)
Method: OPPTS 870.5395
Result: negative
Remarks: Based on data from similar materials

**Calcium bis(di C8-C10, branched, C9 rich, alkynaphthalenesulphonate):**

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

Genotoxicity in vitro (Continued):
- Test Type: In vitro mammalian cell gene mutation test
- Method: OECD Test Guideline 476
- Result: negative
- Remarks: Based on data from similar materials

Genotoxicity in vitro (Continued):
- Test Type: Chromosome aberration test in vitro
- Method: OECD Test Guideline 473
- Result: negative
- Remarks: Based on data from similar materials

**Calcium petroleum sulfonates:**

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

**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:**

**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 (inhala-
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 foetal development
: Test Type: Embryo-foetal development
  Species: Rat
  Application Route: Ingestion
  Result: positive
  Remarks: Based on data from similar materials

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

**Isobutylene-butene copolymer:**

Effects on fertility
: Test Type: Reproduction/Developmental toxicity screening test
  Species: Rat
  Application Route: Ingestion
  Method: OECD Test Guideline 421
  Result: negative
  Remarks: Based on data from similar materials

Effects on foetal development
: Test Type: Reproduction/Developmental toxicity screening test
  Species: Rat
  Application Route: Ingestion
  Method: OECD Test Guideline 421
  Result: negative
  Remarks: Based on data from similar materials

**Calcium bis(di C8-C10, branched, C9 rich, alkynaphthalenesulphonate):**

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 foetal 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

Calcium petroleum sulfonates:
Effects on fertility: Test Type: One-generation reproduction toxicity study
Species: Rat
Application Route: Ingestion
Method: OECD Test Guideline 415
Result: negative
Remarks: Based on data from similar materials

STOT - single exposure
Not classified based on available information.

STOT - repeated exposure
Causes damage to organs 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:
Exposure routes: inhalation (dust/mist/fume)
Target Organs: Lungs
Assessment: Shown to produce significant health effects in animals at concentrations of 0.02 mg/l/6h/d or less.

Repeated dose toxicity

Components:

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

Isobutylene-butene copolymer:
Species: Rat
NOAEL: > 3,000 mg/kg
Application Route: Ingestion
Exposure time: 90 Days

**Calcium bis(di C8-C10, branched, C9 rich, alkylnaphthalenesulphonate):**

- **Species:** Rat
- **NOAEL:** 100 mg/kg
- **LOAEL:** 300 mg/kg
- **Application Route:** Ingestion
- **Exposure time:** 90 Days
- **Method:** OECD Test Guideline 408

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 petroleum sulfonates:**

- **Species:** Rat
- **Application Route:** Skin contact
- **Exposure time:** 28 Days
- **Method:** OECD Test Guideline 410
- **Remarks:** Based on data from similar materials

**Aspiration toxicity**

Not classified based on available information.

**Components:**

**Isobutylene-butene copolymer:**

The substance or mixture is known to cause human aspiration toxicity hazards or has to be regarded as if it causes a human aspiration toxicity hazard.

**SECTION 12: Ecological information**

**12.1 Toxicity**

**Components:**

**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
<table>
<thead>
<tr>
<th><strong>Toxicity to fish (Chronic toxicity)</strong></th>
<th><strong>Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)</strong></th>
<th><strong>M-Factor (Chronic aquatic toxicity)</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>EC10: 20 µg/l</td>
<td>EC10: 1.7 µg/l</td>
<td>10</td>
</tr>
<tr>
<td>Exposure time: 30 d</td>
<td>Exposure time: 7 d</td>
<td></td>
</tr>
<tr>
<td>Species: Pimephales promelas (fathead minnow)</td>
<td>Species: Ceriodaphnia dubia (water flea)</td>
<td></td>
</tr>
</tbody>
</table>

**Isobutylene-butene copolymer:**

<table>
<thead>
<tr>
<th><strong>Toxicity to fish</strong></th>
<th><strong>Toxicity to daphnia and other aquatic invertebrates</strong></th>
<th><strong>Toxicity to algae/aquatic plants</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>LC50 (Cyprinus carpio (Carp)): &gt; 1.55 mg/l</td>
<td>EC50 (Daphnia magna (Water flea)): &gt; 100 mg/l</td>
<td>ErC50 (Desmodesmus subspicatus (green algae)): &gt; 19.2 mg/l</td>
</tr>
<tr>
<td>Exposure time: 96 h</td>
<td>Exposure time: 48 h</td>
<td>Exposure time: 72 h</td>
</tr>
<tr>
<td>Remarks: No toxicity at the limit of solubility</td>
<td>Remarks: Based on data from similar materials</td>
<td>Remarks: No toxicity at the limit of solubility</td>
</tr>
<tr>
<td>Based on data from similar materials</td>
<td></td>
<td>Based on data from similar materials</td>
</tr>
</tbody>
</table>

**Calcium bis(di C8-C10, branched, C9 rich, alkynaphthalenesulphonate):**

<table>
<thead>
<tr>
<th><strong>Toxicity to fish</strong></th>
<th><strong>Toxicity to daphnia and other aquatic invertebrates</strong></th>
<th><strong>Toxicity to algae/aquatic plants</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>LL50 (Cyprinus carpio (Carp)): &gt; 100 mg/l</td>
<td>EL50 (Daphnia magna (Water flea)): &gt; 100 mg/l</td>
<td>EL50 (Pseudokirchneriella subcapitata (green algae)): &gt; 10 mg/l</td>
</tr>
<tr>
<td>Exposure time: 96 h</td>
<td>Exposure time: 48 h</td>
<td></td>
</tr>
<tr>
<td>Test substance: Water Accommodated Fraction</td>
<td>Test substance: Water Accommodated Fraction</td>
<td></td>
</tr>
<tr>
<td>Method: OECD Test Guideline 203</td>
<td>Method: OECD Test Guideline 202</td>
<td></td>
</tr>
<tr>
<td>Remarks: Based on data from similar materials</td>
<td>Remarks: Based on data from similar materials</td>
<td></td>
</tr>
</tbody>
</table>
Exposure time: 72 h
Test substance: Water Accommodated Fraction
Method: OECD Test Guideline 201
Remarks: Based on data from similar materials

EL10 (Pseudokirchneriella subcapitata (green algae)): > 1 mg/l
Exposure time: 72 h
Test substance: Water Accommodated Fraction
Method: OECD Test Guideline 201
Remarks: Based on data from similar materials

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

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity): NOELR: 2.2 mg/l
Exposure time: 21 d
Species: Daphnia magna (Water flea)
Test substance: Water Accommodated Fraction
Method: OECD Test Guideline 211

Quartz:

Ecotoxicology Assessment

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

Calcium petroleum sulfonates:

Toxicity to fish: LL50 (Cyprinodon variegatus (sheepshead minnow)): > 10,000 mg/l
Exposure time: 96 h
Test substance: Water Accommodated Fraction
Method: OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates: EC50 (Daphnia magna (Water flea)): > 1,000 mg/l
Exposure time: 48 h
Test substance: Water Accommodated Fraction
Remarks: Based on data from similar materials

Toxicity to algae/aquatic plants: EC50 (Pseudokirchneriella subcapitata (green algae)): > 1,000 mg/l
Exposure time: 72 h
Test substance: Water Accommodated Fraction
Remarks: Based on data from similar materials

NOEC (Pseudokirchneriella subcapitata (green algae)): 1,000 mg/l
Exposure time: 72 h
Test substance: Water Accommodated Fraction
Remarks: Based on data from similar materials
12.2 Persistence and degradability

**Components:**

- **Isobutylene-butene copolymer:**
  - Biodegradability: Result: Readily biodegradable.
  - Biodegradation: 93.9%
  - Exposure time: 28 d
  - Method: OECD Test Guideline 310
  - Remarks: Based on data from similar materials

- **Calcium bis(di C8-C10, branched, C9 rich, alkylnapththalenesulphonate):**
  - Biodegradability: Result: Not readily biodegradable.
  - Remarks: Based on data from similar materials

- **Calcium petroleum sulfonates:**
  - Biodegradability: Result: Not readily biodegradable.
  - Biodegradation: 8.6%
  - Exposure time: 28 d
  - Method: OECD Test Guideline 301F

12.3 Bioaccumulative potential

**Components:**

- **Isobutylene-butene copolymer:**
  - Partition coefficient: n-octanol/water: Pow: > 4
  - Remarks: Based on data from similar materials

- **Calcium bis(di C8-C10, branched, C9 rich, alkylnapththalenesulphonate):**
  - Partition coefficient: n-octanol/water: log Pow: > 6.6

- **Calcium petroleum sulfonates:**
  - Partition coefficient: n-octanol/water: log Pow: > 6.65

12.4 Mobility in soil

No data available

12.5 Results of PBT and vPvB assessment

Not relevant

12.6 Other adverse effects

No data available
SECTION 13: Disposal considerations

13.1 Waste treatment methods

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

Contaminated packaging : Empty containers should be taken to an approved waste handling site for recycling or disposal. Empty containers retain residue and can be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, or other sources of ignition. They may explode and cause injury and/or death. If not otherwise specified: Dispose of as unused product.

SECTION 14: Transport information

14.1 UN number

<table>
<thead>
<tr>
<th>ADN</th>
<th>UN 3077</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADR</td>
<td>UN 3077</td>
</tr>
<tr>
<td>RID</td>
<td>UN 3077</td>
</tr>
<tr>
<td>IMDG</td>
<td>UN 3077</td>
</tr>
<tr>
<td>IATA</td>
<td>UN 3077</td>
</tr>
</tbody>
</table>

14.2 UN proper shipping name

<table>
<thead>
<tr>
<th>ADN</th>
<th>ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Lead)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADR</td>
<td>ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Lead)</td>
</tr>
<tr>
<td>RID</td>
<td>ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Lead)</td>
</tr>
<tr>
<td>IMDG</td>
<td>ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Lead)</td>
</tr>
<tr>
<td>IATA</td>
<td>Environmentally hazardous substance, solid, n.o.s. (Lead)</td>
</tr>
</tbody>
</table>

14.3 Transport hazard class(es)

<table>
<thead>
<tr>
<th>ADN</th>
<th>9</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADR</td>
<td>9</td>
</tr>
<tr>
<td>RID</td>
<td>9</td>
</tr>
</tbody>
</table>
14.4 Packing group

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

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

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

**IMDG**
- Packing group: III
- Labels: 9

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

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

14.5 Environmental hazards

**ADN**
- Environmentally hazardous: yes

**ADR**
- Environmentally hazardous: yes

**RID**
- Environmentally hazardous: yes

**IMDG**
- Marine pollutant: yes

**IATA (Passenger)**
- Environmentally hazardous: yes
IATA (Cargo)
Environmentally hazardous : yes

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

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

SECTION 15: Regulatory information

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

<table>
<thead>
<tr>
<th>REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, preparations and articles (Annex XVII)</th>
<th>Conditions of restriction for the following entries should be considered: Lead (Number on list 72, 30)</th>
</tr>
</thead>
<tbody>
<tr>
<td>REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59).</td>
<td>Lead</td>
</tr>
<tr>
<td>REACH - List of substances subject to authorisation (Annex XIV)</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Regulation (EC) No 1005/2009 on substances that deplete the ozone layer</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Regulation (EU) 2019/1021 on persistent organic pollutants (recast)</td>
<td>Not applicable</td>
</tr>
</tbody>
</table>

Other regulations:
Take note of Directive 92/85/EEC regarding maternity protection or stricter national regulations, where applicable.
Take note of Directive 94/33/EC on the protection of young people at work or stricter national regulations, where applicable.

The components of this product are reported in the following inventories:

<table>
<thead>
<tr>
<th>DSL</th>
<th>ENVIRONMENTAL HAZARDS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quantity 1</td>
<td>Quantity 2</td>
</tr>
<tr>
<td>100 t</td>
<td>200 t</td>
</tr>
</tbody>
</table>

DSL : All components of this product are on the Canadian DSL

TSCA : All chemical substances in this product are either listed on the TSCA Inventory or are in compliance with a TSCA Inventory exemption.

AICS : All ingredients listed or exempt.
15.2 Chemical safety assessment
A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

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

Full text of H-statements
H304 : May be fatal if swallowed and enters airways.
H315 : Causes skin irritation.
H317 : May cause an allergic skin reaction.
H319 : Causes serious eye irritation.
H350i : May cause cancer by inhalation.
H360FD : May damage fertility. May damage the unborn child.
H362 : May cause harm to breast-fed children.
H372 : Causes damage to organs through prolonged or repeated exposure.
H372 : Causes damage to organs through prolonged or repeated exposure if inhaled.
H400 : Very toxic to aquatic life.
H410 : Very toxic to aquatic life with long lasting effects.

Full text of other abbreviations
Aquatic Acute : Short-term (acute) aquatic hazard
Aquatic Chronic : Long-term (chronic) aquatic hazard
Asp. Tox. : Aspiration hazard
Carc. : Carcinogenicity
Eye Irrit. : Eye irritation
Lact. : Effects on or via lactation
Repr. : Reproductive toxicity
Skin Irrit. : Skin irritation
Skin Sens. : Skin sensitisation
STOT RE : Specific target organ toxicity - repeated exposure
2004/37/EC : Europe. Directive 2004/37/EC on the protection of workers from the risks related to exposure to carcinogens or mutagens at work
98/24/EC II : Chemical Agents Directive - Annex II: Binding biological limit values
GB EH40 : UK. EH40 WEL - Workplace Exposure Limits
2004/37/EC / TWA : Long term exposure limit
98/24/EC I / TWA : Occupational Exposure Limit Value
GB EH40 / TWA : Long-term exposure limit (8-hour TWA reference period)

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - European Agreement concerning the International Carriage of Dangerous Goods by Road; AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada);
Further information

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

Classification of the mixture:

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Classification</th>
<th>Procedure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Skin Sens. 1</td>
<td>H317</td>
<td>Calculation method</td>
</tr>
<tr>
<td>Repr. 1A</td>
<td>H360FD</td>
<td>Calculation method</td>
</tr>
<tr>
<td>Lact.</td>
<td>H362</td>
<td>Calculation method</td>
</tr>
<tr>
<td>STOT RE 1</td>
<td>H372</td>
<td>Calculation method</td>
</tr>
<tr>
<td>Aquatic Acute 1</td>
<td>H400</td>
<td>Calculation method</td>
</tr>
<tr>
<td>Aquatic Chronic 1</td>
<td>H410</td>
<td>Calculation method</td>
</tr>
</tbody>
</table>

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.
<table>
<thead>
<tr>
<th>Version</th>
<th>Revision Date:</th>
<th>SDS Number:</th>
<th>Date of last issue:</th>
<th>Date of first issue:</th>
</tr>
</thead>
<tbody>
<tr>
<td>8.0</td>
<td>07.11.2020</td>
<td>139829-00018</td>
<td>06.05.2020</td>
<td>27.05.2015</td>
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