**SAFETY DATA SHEET**

according to Regulation (EC) No. 1907/2006

**METAL FREE ARCTIC GRADE**

Version 3.0  Revision Date: 02.11.2020  SDS Number: 120358-00014  Date of last issue: 06.05.2020  Date of first issue: 18.05.2015

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

1.1 **Product identifier**
- **Trade name**: METAL FREE ARCTIC GRADE
- **SDS-Identcode**: 339G

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  Irving
- **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)**
  - **Eye irritation, Category 2**: H319: Causes serious eye irritation.
  - **Long-term (chronic) aquatic hazard, Category 3**: H412: Harmful to aquatic life with long lasting effects.

2.2 **Label elements**
- **Labelling (REGULATION (EC) No 1272/2008)**
  - **Hazard pictograms**
Signal word : Warning

Hazard statements : H319 Causes serious eye irritation.
                   H412 Harmful to aquatic life with long lasting effects.

Precautionary statements : Prevention:
P264 Wash skin thoroughly after handling.
P273 Avoid release to the environment.
P280 Wear eye protection/ face protection.
Response:
P337 + P313 If eye irritation persists: Get medical advice/ attention.

2.3 Other hazards
None known.

SECTION 3: Composition/information on ingredients

3.2 Mixtures

<table>
<thead>
<tr>
<th>Components</th>
<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></td>
<td>Calcium oxide</td>
<td>1305-78-8</td>
<td>215-138-9</td>
<td>01-2119975325-36</td>
<td></td>
<td>Skin Irrit. 2; H315</td>
<td>&gt;= 1 - &lt; 3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>215-138-9</td>
<td></td>
<td></td>
<td></td>
<td>Eye Dam. 1; H318</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>01-2119975325-36</td>
<td></td>
<td></td>
<td></td>
<td>STOT SE 3; H335</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Quartz</td>
<td>14808-60-7</td>
<td>238-878-4</td>
<td></td>
<td></td>
<td>Carc. 1A; H350i</td>
<td>&gt;= 1 - &lt; 10</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>STOT RE 1; H372 (Lungs)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Antimony, dialkyl dithiocarbamate</td>
<td>15890-25-2</td>
<td>240-028-2</td>
<td>051-003-00-9</td>
<td></td>
<td>Acute Tox. 4; H302</td>
<td>&gt;= 0.25 - &lt; 1</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Acute Tox. 4; H332</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Aquatic Chronic 1; H410</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>M-Factor (Chronic aquatic toxicity): 1</td>
<td></td>
</tr>
</tbody>
</table>

For explanation of abbreviations see section 16.

SECTION 4: First aid measures

4.1 Description of 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.

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).

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 plenty of water. Remove contaminated clothing and shoes. Get medical attention. Wash clothing before reuse. Thoroughly clean shoes before reuse.

In case of eye contact

In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. If easy to do, remove contact lens, if worn. Get medical attention.

If swallowed

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

4.2 Most important symptoms and effects, both acute and delayed

Risks

Causes serious eye irritation.

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
Fluorine compounds
Metal 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
- Do not get on skin or clothing.
- Do not swallow.
- Do not get in eyes.
- Wash skin thoroughly after handling.
- Handle in accordance with good industrial hygiene and safety practice, based on the results of the workplace exposure assessment.
- 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. 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 in accordance with the particular national regulations.

Advice on common storage: Do not store with the following product types: Strong oxidizing agents

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>Graphite</td>
<td>7782-42-5</td>
<td>TWA (inhalable dust)</td>
<td>10 mg/m³</td>
<td>GB EH40</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA (Respirable dust)</td>
<td>4 mg/m³</td>
<td>GB EH40</td>
</tr>
<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 General methods for sampling and gravimetric analysis or respirable, thoracic and inhalable aerosols. 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.m⁻³ 8-hour TWA of inhalable dust or 4 mg.m⁻³ 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 ‘inhalable’ 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>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 oxide</td>
<td></td>
<td>TWA</td>
<td></td>
<td>2 mg/m³</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA (Respirable fraction)</td>
<td>1 mg/m³</td>
<td>2017/164/EU</td>
</tr>
<tr>
<td></td>
<td></td>
<td>STEL (Respirable fraction)</td>
<td>4 mg/m³</td>
<td>2017/164/EU</td>
</tr>
<tr>
<td>Further information: Indicative</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Calcium(2+) 12-hydroxyoctadecanolate</td>
<td>Workers</td>
<td>Skin contact</td>
<td>Long-term local effects</td>
<td>0.172 mg/cm²</td>
</tr>
<tr>
<td></td>
<td>Consumers</td>
<td>Skin contact</td>
<td>Long-term local effects</td>
<td>0.086 mg/cm²</td>
</tr>
<tr>
<td>Calcium oxide</td>
<td></td>
<td>TWA</td>
<td></td>
<td>0.5 mg/m³</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA (Respirable fraction)</td>
<td>0.1 mg/m³</td>
<td>GB EH40</td>
</tr>
<tr>
<td></td>
<td></td>
<td>STEL (Respirable fraction)</td>
<td>4 mg/m³</td>
<td>GB EH40</td>
</tr>
<tr>
<td>Quartz</td>
<td></td>
<td>TWA</td>
<td></td>
<td>0.1 mg/m³</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA (Respirable fraction)</td>
<td>0.1 mg/m³</td>
<td>GB EH40</td>
</tr>
<tr>
<td>Further information: Carcinogens or mutagens</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Antimony, dialkyl dithiocarbamate</td>
<td></td>
<td>TWA</td>
<td></td>
<td>0.5 mg/m³</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA (Respirable fraction)</td>
<td>0.5 mg/m³</td>
<td>(antimony)</td>
</tr>
<tr>
<td>Further information: Capable of causing cancer and/or heritable genetic damage.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>These substance(s) are inextricably bound in the product and therefore do not contribute to a dust inhalation hazard.</td>
<td></td>
<td></td>
<td></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>Environmental Compartment</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Distillates (petroleum), hydrotreated light naphthenic</td>
<td>Oral (Secondary Poisoning)</td>
<td>9.33 mg/kg food</td>
</tr>
</tbody>
</table>
Calcium(2+) 12-hydroxyoctadecanoate

<table>
<thead>
<tr>
<th></th>
<th>Fresh water</th>
<th>Marine water</th>
<th>Intermittent use/release</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calcium(2+) 12-hydroxyoctadecanoate</td>
<td>0.1 mg/l</td>
<td>0.01 mg/l</td>
<td>1 mg/l</td>
</tr>
<tr>
<td>Calcium oxide</td>
<td>Fresh water</td>
<td>0.37 mg/l</td>
<td></td>
</tr>
<tr>
<td>Marine water</td>
<td>0.24 mg/l</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intermittent use/release</td>
<td>0.37 mg/l</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sewage treatment plant</td>
<td>2.27 mg/l</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Soil</td>
<td>817.4 mg/kg dry weight (d.w.)</td>
<td></td>
<td></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 goggles
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
**METAL FREE ARCTIC GRADE**

<table>
<thead>
<tr>
<th>Initial boiling point and boiling range</th>
<th>No data available</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flash point</td>
<td>&gt;= 162.8 °C</td>
</tr>
<tr>
<td>Method: ASTM D 92, Cleveland open cup</td>
<td></td>
</tr>
<tr>
<td>Distillates (petroleum), hydrotreated heavy naphthenic</td>
<td></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>
<tr>
<td>Upper explosion limit / Upper flammability limit</td>
<td>No data available</td>
</tr>
<tr>
<td>Lower explosion limit / Lower flammability limit</td>
<td>No data available</td>
</tr>
<tr>
<td>Vapour pressure</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Relative vapour density</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Relative density</td>
<td>1.2</td>
</tr>
<tr>
<td>Density</td>
<td>No data available</td>
</tr>
<tr>
<td>Solubility(ies)</td>
<td>Water solubility: negligible</td>
</tr>
<tr>
<td>Partition coefficient: n-octanol/water</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Viscosity</td>
<td>Viscosity, dynamic: No data available</td>
</tr>
<tr>
<td>Viscosity, kinematic</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Flow time</td>
<td>No data available</td>
</tr>
<tr>
<td>Explosive properties</td>
<td>Not explosive</td>
</tr>
<tr>
<td>Oxidizing properties</td>
<td>The substance or mixture is not classified as oxidizing.</td>
</tr>
</tbody>
</table>

**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:

**Calcium oxide:**
Acute oral toxicity: LD50 (Rat): > 2,000 mg/kg
Method: OECD Test Guideline 425

Acute inhalation toxicity: (Rat): > 5 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Method: OECD Test Guideline 436
Remarks: Based on data from similar materials

Acute dermal toxicity: LD50 (Rabbit): > 2,500 mg/kg
Method: OECD Test Guideline 402
Assessment: The substance or mixture has no acute dermal toxicity
Remarks: Based on data from similar materials

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

Acute oral toxicity:  Acute toxicity estimate: 2,000 mg/kg
Method: Expert judgement
Remarks: Based on harmonised classification in EU regulation 1272/2008, Annex VI

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

Acute inhalation toxicity:  Acute toxicity estimate: 5 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Method: Expert judgement
Remarks: Based on harmonised classification in EU regulation 1272/2008, Annex VI

Acute dermal toxicity:  LD50 (Rabbit): > 5,000 mg/kg

Skin corrosion/irritation
Not classified based on available information.

Components:

Calcium oxide:
Species: Rabbit
Method: OECD Test Guideline 404
Result: Skin irritation
Remarks: Based on data from similar materials

Serious eye damage/eye irritation
Causes serious eye irritation.

Components:

Calcium oxide:
Species: Rabbit
Method: OECD Test Guideline 405
Result: Irreversible effects on the eye

Respiratory or skin sensitisation

Skin sensitisation
Not classified based on available information.

Respiratory sensitisation
Not classified based on available information.

Components:

Calcium oxide:
Test Type: Local lymph node assay (LLNA)
Exposure routes: Skin contact
Species: Mouse
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Method : OECD Test Guideline 429
Result : negative
Remarks : Based on data from similar materials

Germ cell mutagenicity
Not classified based on available information.

Components:

Calcium oxide:
Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)
Method: OECD Test Guideline 471
Result: negative

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

Test Type: In vitro mammalian cell gene mutation test
Method: OECD Test Guideline 476
Result: negative
Remarks: Based on data from similar materials

Antimony, dialkyl dithiocarbamate:
Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)
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: equivocal

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:

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

Reproductive toxicity
Not classified based on available information.

Components:

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

Effects on foetal development:
Species: Mouse
Application Route: Ingestion
Method: OECD Test Guideline 414
Result: negative

Antimony, dialkyl dithiocarbamate:
Effects on fertility:
Species: Rat
Application Route: Ingestion
Result: negative

Effects on foetal development:
Species: Rat
Application Route: Ingestion
Result: negative

STOT - single exposure
Not classified based on available information.

Components:

Calcium oxide:
Assessment: May cause respiratory irritation.
STOT - repeated exposure
Not classified based on available information.

**Components:**

**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:**

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

**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.

**Antimony, dialkyl dithiocarbamate:**
- Species: Rat
- NOAEL: >= 1,000 mg/kg
- Application Route: Ingestion
- Exposure time: 54 Days

Aspiration toxicity
Not classified based on available information.

SECTION 12: Ecological information

12.1 Toxicity

**Components:**

**Calcium oxide:**
- Toxicity to fish: LC50 (Oncorhynchus mykiss (rainbow trout)): > 100 mg/l
- Exposure time: 96 h
- Method: OECD Test Guideline 203
- Remarks: Based on data from similar materials
## Toxicity to daphnia and other aquatic invertebrates

<table>
<thead>
<tr>
<th>EC50 (Daphnia magna (Water flea)):</th>
<th>&gt; 100 mg/l</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exposure time:</td>
<td>96 h</td>
</tr>
<tr>
<td>Method:</td>
<td>OECD Test Guideline 202</td>
</tr>
<tr>
<td>Remarks:</td>
<td>Based on data from similar materials</td>
</tr>
</tbody>
</table>

## Toxicity to algae/aquatic plants

<table>
<thead>
<tr>
<th>EC50 (Pseudokirchneriella subcapitata (green algae)):</th>
<th>&gt; 100 mg/l</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exposure time:</td>
<td>72 h</td>
</tr>
<tr>
<td>Method:</td>
<td>OECD Test Guideline 201</td>
</tr>
<tr>
<td>Remarks:</td>
<td>Based on data from similar materials</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>EC10 (Pseudokirchneriella subcapitata (green algae)):</th>
<th>&gt; 1 mg/l</th>
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<tbody>
<tr>
<td>Exposure time:</td>
<td>72 h</td>
</tr>
<tr>
<td>Method:</td>
<td>OECD Test Guideline 201</td>
</tr>
<tr>
<td>Remarks:</td>
<td>Based on data from similar materials</td>
</tr>
</tbody>
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## Toxicity to microorganisms

<table>
<thead>
<tr>
<th>EC50:</th>
<th>&gt; 100 mg/l</th>
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<tbody>
<tr>
<td>Exposure time:</td>
<td>3 h</td>
</tr>
<tr>
<td>Method:</td>
<td>OECD Test Guideline 209</td>
</tr>
<tr>
<td>Remarks:</td>
<td>Based on data from similar materials</td>
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</tbody>
</table>

## Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)

<table>
<thead>
<tr>
<th>NOEC:</th>
<th>&gt; 1 mg/l</th>
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</thead>
<tbody>
<tr>
<td>Exposure time:</td>
<td>14 d</td>
</tr>
<tr>
<td>Species:</td>
<td>Crangon crangon (shrimp)</td>
</tr>
<tr>
<td>Method:</td>
<td>OECD Test Guideline 211</td>
</tr>
<tr>
<td>Remarks:</td>
<td>Based on data from similar materials</td>
</tr>
</tbody>
</table>

## Quartz:

**Ecotoxicology Assessment**

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

**Antimony, dialkyl dithiocarbamate:**

- **Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)**: NOEC: 0.02 mg/l
  - Exposure time: 21 d
  - Species: Daphnia magna (Water flea)
  - Method: OECD Test Guideline 211

**M-Factor (Chronic aquatic toxicity)**: 1

**Ecotoxicology Assessment**

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

### 12.2 Persistence and degradability

**Components:**

- **Antimony, dialkyl dithiocarbamate:**
  - Biodegradability: Result: Not readily biodegradable.
METAL FREE ARCTIC GRADE

12.3 Bioaccumulative potential
No data available

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
Not regulated as a dangerous good

14.2 UN proper shipping name
Not regulated as a dangerous good

14.3 Transport hazard class(es)
Not regulated as a dangerous good

14.4 Packing group
Not regulated as a dangerous good

14.5 Environmental hazards
Not regulated as a dangerous good

14.6 Special precautions for user
Not applicable

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

REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, preparations and articles (Annex XVII) : Not applicable
REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59) : Not applicable
REACH - List of substances subject to authorisation (Annex XIV) : Not applicable
Regulation (EC) No 1005/2009 on substances that deplete the ozone layer : Not applicable
Regulation (EU) 2019/1021 on persistent organic pollutants (recast) : Not applicable
Regulation (EC) No 649/2012 of the European Parliament and the Council concerning the export and import of dangerous chemicals : Not applicable

The components 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.

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

H302 : Harmful if swallowed.
H315 : Causes skin irritation.
H318 : Causes serious eye damage.
H332 : Harmful if inhaled.
H335 : May cause respiratory irritation.
H350i : May cause cancer by inhalation.
H372 : Causes damage to organs through prolonged or repeated exposure if inhaled.
H410 : Very toxic to aquatic life with long lasting effects.
Full text of other abbreviations

- **Acute Tox.** : Acute toxicity
- **Aquatic Chronic** : Long-term (chronic) aquatic hazard
- **Carc.** : Carcinogenicity
- **Eye Dam.** : Serious eye damage
- **Skin Irrit.** : Skin irritation
- **STOT RE** : Specific target organ toxicity - repeated exposure
- **STOT SE** : Specific target organ toxicity - single 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
- **GB EH40** : UK. EH40 WEL - Workplace Exposure Limits
- **2004/37/EC / TWA** : Long term exposure limit
- **2017/164/EU / STEL** : Short term exposure limit
- **2017/164/EU / TWA** : Limit Value - eight hours
- **GB EH40 / TWA** : Long-term exposure limit (8-hour TWA reference period)
- **GB EH40 / STEL** : Short-term exposure limit (15-minute reference period)

Further information
SAFETY DATA SHEET
generated according to Regulation (EC) No. 1907/2006

METAL FREE ARCTIC GRADE

<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>
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<td>3.0</td>
<td>02.11.2020</td>
<td>120358-00014</td>
<td>06.05.2020</td>
<td>18.05.2015</td>
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Sources of key data used to compile the Safety Data Sheet:

Classification of the mixture:

<table>
<thead>
<tr>
<th>Category</th>
<th>Code</th>
<th>Classification procedure</th>
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</thead>
<tbody>
<tr>
<td>Eye Irrit. 2</td>
<td>H319</td>
<td>Calculation method</td>
</tr>
<tr>
<td>Aquatic Chronic 3</td>
<td>H412</td>
<td>Calculation method</td>
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</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.

GB / EN