SAFETY DATA SHEET
According to OSHA Hazard Communication Standard 2012

Revision date: 13-Jan-2015  Supercedes: 13-May-2014  SDS Number: 10800

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Product Identifier
Product name: BENTONE SD®-2

Other means of identification

Recommended use of the chemical and restrictions on use
Product Use Description: Rheological additive

Details of the supplier of the safety data sheet

Company/Undertaking Identification
Elementis Specialties, Inc.
469 Old Trenton Road
East Windsor, NJ 08512
USA
Tel: +1 (609) 443-2000

Elementis UK Ltd.
c/o Elementis GmbH
Stolberger Str. 370
50933 Cologne, Germany
Tel: +49 (0) 221 2923 2000

Emergency Telephone Number
For Chemical Emergency ONLY (spill, leak, fire, exposure or accident), call CHEMTREC at: 1-800-424-9300 or 1-703-527-3887

For ALL other inquiries about this product, call Elementis Specialties at: 1-609-443-2000 (USA) or +(49)-221-2923-2000 (EU)
Product_Stewardship@elementis.com

2. HAZARDS IDENTIFICATION

Classification

OSHA Regulatory Status
This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Carcinogenicity
Category 1A

Label Elements

EMERGENCY OVERVIEW

Danger

Hazard Statements
May cause cancer by inhalation
Causes damage to organs through prolonged or repeated exposure
Appearance: Powder	Physical state: Solid	Odor: Odourless

Precautionary Statements - Prevention
Obtain special instructions before use
Do not handle until all safety precautions have been read and understood
Use personal protective equipment as required

Precautionary Statements - Response
IF exposed or concerned: Get medical advice/attention

Precautionary Statements - Storage
Store locked up

Precautionary Statements - Disposal
Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)

Other Information
May form combustible dust concentrations in air

3. COMPOSITION/INFORMATION ON INGREDIENTS
This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200)

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No</th>
<th>Weight %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crystalline Silica (Quartz)</td>
<td>14808-60-7</td>
<td>&lt; 3%</td>
</tr>
</tbody>
</table>

4. FIRST AID MEASURES

FIRST AID MEASURES

General Advice
Get medical attention immediately if symptoms occur. Show this safety data sheet to the doctor in attendance.

Inhalation:
IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing. If breathing is difficult, give oxygen.

Skin contact:
Wash off immediately with soap and plenty of water. If a person feels unwell or symptoms of skin irritation appear, consult a physician.

Eye contact:
Rinse immediately carefully and thoroughly with eye-bath or water. If eye irritation persists, consult a specialist.

Ingestion
If swallowed, seek medical advice immediately and show this SDS or label. Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person.

Protection of first-aiders:
Avoid contact with skin and eyes.

Revision Number: 3.1
Most important symptoms and effects, both acute and delayed

Most Important Symptoms/Effects: Difficulty in breathing.

Indication of any immediate medical attention and special treatment needed

Notes to physician Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media
Carbon dioxide (CO2)
Dry powder
Dry sand
Alcohol-resistant foam

Extinguishing media which must not be used for safety reasons
None

Special exposure hazards arising from the substance or preparation itself, combustion products, resulting gases
None in particular

Unusual Fire and Explosion Hazards:
Excess dust dispersed in air represents an explosion hazard in the presence of electrical sparks and static discharges

Hazardous combustion products
Carbon monoxide
Carbon dioxide (CO2)
Nitrogen oxides (NOx)
Gaseous hydrogen chloride (HCl)

Explosion data

Explosive properties:
Powdered material may form explosive dust-air mixtures

Reactivity Hazard:
None known

Special protective equipment for fire-fighters
Wear self contained breathing apparatus for fire fighting if necessary.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions
Keep people away from and upwind of spill/leak. Use personal protective equipment.

Other Information:
See Section 12 for additional information.

Environmental precautions

Environmental precautions:
Prevent further leakage or spillage if safe to do so. Do not flush into surface water or sanitary sewer system.

Methods and material for containment and cleaning up

Revision Number: 3.1
Clean-up methods: Do not create a powder cloud by using a brush or compressed air. Take precautionary measures against static discharges. Take up mechanically and collect in suitable container for disposal. Prevent product from entering drains. Clean contaminated surface thoroughly. Local authorities should be advised if significant spillages cannot be contained.

7. HANDLING AND STORAGE

Precautions for Safe Handling

Handling: Take precautionary measures against static discharges. Remove all sources of ignition. Avoid contact with skin, eyes and clothing. Avoid breathing mists, dusts, or vapors. Wash hands thoroughly after handling.

Conditions for safe storage, including any incompatibilities

Storage Conditions Keep containers dry and tightly closed to avoid moisture absorption and contamination. Keep product and empty container away from heat and sources of ignition.

Additional Storage: Not required under normal use

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines

<table>
<thead>
<tr>
<th>Components</th>
<th>OSHA STEL</th>
<th>OSHA PEL</th>
<th>OSHA TWA</th>
<th>OEL - Long-term TWA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crystalline Silica (Quartz)</td>
<td>0.1 mg/m³ (respirable fraction)</td>
<td>0.1 mg/m³ (respirable fraction)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Components</th>
<th>ACGIH TLV</th>
<th>AIHA TLV</th>
<th>OSHA TWA</th>
<th>IDLH:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crystalline Silica (Quartz) 14808-60-7</td>
<td>TWA: 0.025 mg/m³</td>
<td></td>
<td></td>
<td>50 mg/m³ respirable dust</td>
</tr>
</tbody>
</table>

TLV/PEL: Particles (insoluble or poorly soluble) Not Otherwise Specified [PNOS]

OSHA TWA 15 mg/m³ (total dust)
5 mg/m³ (respirable fraction)

ACGIH TWA 10 mg/m³ (total dust)
3 mg/m³ (respirable fraction)

Appropriate engineering controls

Engineering Measures Maintain adequate engineering controls and/or ventilation to keep hazardous ingredients below their statutory limits. Use an approved respirator whenever exposure limits are exceeded

Individual protection measures, such as personal protective equipment

Eye protection Safety glasses.

Skin and body protection Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place

Respiratory protection: Effective dust mask.

Hand protection Protective gloves Neoprene gloves

Hygiene Measures Handle in accordance with good industrial hygiene and safety practice

Revision Number: 3.1
9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Values</th>
<th>Remarks / Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical state</td>
<td>Solid</td>
<td></td>
</tr>
<tr>
<td>Appearance</td>
<td>Powder</td>
<td></td>
</tr>
<tr>
<td>Odor</td>
<td>Odourless</td>
<td></td>
</tr>
<tr>
<td>Color</td>
<td>Light cream</td>
<td></td>
</tr>
<tr>
<td>Odor Threshold</td>
<td>No data available</td>
<td></td>
</tr>
<tr>
<td>pH</td>
<td>No data available</td>
<td></td>
</tr>
<tr>
<td>Melting point/Range</td>
<td>No data available</td>
<td></td>
</tr>
<tr>
<td>Freezing point</td>
<td>No data available</td>
<td></td>
</tr>
<tr>
<td>Boiling Point/Range</td>
<td>No data available</td>
<td></td>
</tr>
<tr>
<td>Flash Point</td>
<td>Not applicable</td>
<td></td>
</tr>
<tr>
<td>Explosion limits</td>
<td>LEL: 105 g/m³</td>
<td></td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>No data available</td>
<td></td>
</tr>
<tr>
<td>Vapor density</td>
<td>No data available</td>
<td></td>
</tr>
<tr>
<td>Density</td>
<td>1.62 g/cm³</td>
<td></td>
</tr>
<tr>
<td>Water solubility</td>
<td>insoluble</td>
<td></td>
</tr>
<tr>
<td>Solubility in other solvents</td>
<td>No data available</td>
<td></td>
</tr>
<tr>
<td>Partition coefficient: n-octanol/water</td>
<td>No data available</td>
<td></td>
</tr>
<tr>
<td>Autoignition temperature</td>
<td>Not self-igniting</td>
<td></td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>No data available</td>
<td></td>
</tr>
<tr>
<td>Viscosity</td>
<td>No data available</td>
<td></td>
</tr>
<tr>
<td>Explosive properties</td>
<td>Powdered material may form explosive dust-air mixtures</td>
<td></td>
</tr>
<tr>
<td>Oxidizing Properties</td>
<td>No information available</td>
<td></td>
</tr>
</tbody>
</table>

Other Information

Bulk Density: No data available

10. STABILITY AND REACTIVITY

Reactivity
No dangerous reaction known under conditions of normal use

Chemical Stability
Stable under recommended storage conditions.

Possibility of Hazardous Reactions
None known

Conditions to Avoid
Heat, flames and sparks

Incompatible Materials:
Oxidizing agents

Hazardous Decomposition Products
None reasonably foreseeable

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Revision Number: 3.1
Inhalation: No data available.
Eye contact: No data available.
Skin contact: No data available.
Ingestion: No data available.

Product Information The data listed, below, is based on this or a similar product:
LD50/Oral/Rat: > 5000 mg/kg

Component Information

<table>
<thead>
<tr>
<th>Components</th>
<th>LD50/Oral</th>
<th>LD50/Dermal</th>
<th>LC50/inhalation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crystalline Silica (Quartz)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14808-60-7</td>
<td>500 mg/kg</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Information on Toxicological Effects

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Corrosivity: No information available.
Sensitization: No information available.
Mutagenic effects: No information available.
Carcinogenic effects: This product contains one or more substances which are classified by IARC as carcinogenic to humans (Group I), probably carcinogenic to humans (Group 2A) or possibly carcinogenic to humans (Group 2B).

<table>
<thead>
<tr>
<th>Components</th>
<th>ACGIH</th>
<th>IARC</th>
<th>NTP</th>
<th>OSHA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crystalline Silica (Quartz)</td>
<td>A2 Suspected Human Carcinogen</td>
<td>Group 1 - Carcinogenic to Humans</td>
<td>Group A - Known to be human carcinogens</td>
<td>Present</td>
</tr>
<tr>
<td>14808-60-7</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Reproductive Toxicity: No information available.
Developmental Toxicity: No information available.

Chronic Toxicity
Chronic toxicity: No data is available on the product itself.
Target Organ Effects: Lungs.
Other Adverse Effects: No information available.

12. ECOLOGICAL INFORMATION

Product Information The data listed, below, is based on this or a similar product:
LC50
- > 500 mg/L (Rainbow trout)
- > 300 mg/L (Daphnia magna; 48hr)
- > 230 mg/L (Daphnia magna; 96hr)

Ecotoxicity The environmental impact of this product has not been fully investigated.
**Persistence and degradability:**
No data available

**Bioaccumulative potential:**
No data available

**Mobility:**
No information available

**General Note:**
Do not allow product to reach ground water, water course or sewage system.

### 13. DISPOSAL CONSIDERATIONS

**Waste treatment methods**

- **Waste from residues /unused products**
  Do not contaminate ponds, waterways or ditches with chemical or used container Dispose of in accordance with Local and National regulations

- **Contaminated packaging**
  Empty containers should be taken for local recycling, recovery or waste disposal

**RCRA Hazardous Waste:**

- **RCRA:**
  Not listed

### 14. TRANSPORT INFORMATION

- **U.S. Department of Transportation Ground (49 CFR):**
  Not regulated

- **International Air Transportation (ICAO/IATA):**
  Not regulated

- **International Maritime Organization (IMO/IMDG):**
  Not regulated

- **Surface Shipments in Europe (ADR/RID):**
  Not regulated

### 15. REGULATORY INFORMATION

**International Inventories**

- **USA (TSCA):**
  In Compliance

- **EU (EINECS):**
  In Compliance

- **REACH**
  In Compliance

- **CANADA (DSL):**
  In Compliance

- **CANADA (NDSEL):**
  Not applicable

- **JAPAN (ENCS):**
  In Compliance

- **PHILIPPINES (PICCS):**
  In Compliance

- **KOREA (KECL):**
  In Compliance

- **China (IECSC):**
  In Compliance

- **AUSTRALIA (AICS):**
  In Compliance

- **NEW ZEALAND (NZIoC):**
  In Compliance

- **TAIWAN (NECSI):**
  In Compliance

**Legend:**

- **TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory
- **EINECS/ELINCS** - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances
- **REACH** - Registration, Evaluation, Authorisation and Restriction of Chemicals
- **DSL/NDSEL** - Canadian Domestic Substances List/Non-Domestic Substances List
- **ENCS** - Japan Existing and New Chemical Substances
- **PICCS** - Philippines Inventory of Chemicals and Chemical Substances

**Revision Number:** 3.1
Federal Regulations

SARA 313
Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

SARA 311/312 Hazard Categories
Chronic Health Hazard

CWA (Clean Water Act)
This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

TSCA Section 12(b) Export Notification
This product does not contain chemicals that are required to be notified under the TSCA 12(b) Export Notification.

State Regulations (RTK)

California Proposition 65
This Product contains the following substance (s) known to the state of California to cause cancer and/or developmental effects.

<table>
<thead>
<tr>
<th>Components</th>
<th>Carcinogen</th>
<th>Reproductive toxicity</th>
<th>No significant risk level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crystalline Silica (Quartz)</td>
<td>Listed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>14808-60-7</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Canada

WHMIS hazard class: D2A Possible, probable or known human carcinogen according to classifications by IARC or ACGIH.

This MSDS has been prepared according to the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all of the information required by the CPR.

16. OTHER INFORMATION

HMIS:
Health: 1 *
Flammability: 1
Physical Hazard: 0

This Material Safety Data Sheet contains changes from the previous version in Sections:
Previous Revision Date: 13-May-2014

Revision Number: 3.1
The information provided in this Safety Data Sheet is correct to the best of ELEMENTIS’ knowledge, information and belief at the date of its publication. The information given is designed only as guidance for safe handling, use, processing, storage, transportation, disposal and release, and is not to be considered a warranty or quality specification. The information relates only to the specific product designated and may not be valid for such product when used in combination with any other material or in any process, unless specified in this SDS. ELEMENTIS specifically disclaims any liability for any loss, injury or damage which may result from use or misuse of this product.

All chemicals should be handled only by competent personnel, within a controlled environment. It is the buyer’s/user’s responsibility to ensure that his activities comply with all applicable federal, state, provincial and local laws, and to determine the conditions necessary for the safe use of this product. ELEMENTIS urges each customer or recipient of this SDS to study it carefully and consult appropriate expertise, as necessary or appropriate, to become aware of and understand the data contained in this SDS and any hazards associated with the product.

End of Safety Data Sheet