

# Seaforth Mineral & Ore Co., Inc.

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## MATERIAL SAFETY DATA SHEET

### STRONTIUM CARBONATE

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

##### 1.1. Identification of the substance or preparation

Product name : STRONTIUM CARBONATE  
Chemical Name : Strontium carbonate  
Synonyms : Strontionit  
Molecular formula : SrCO<sub>3</sub>  
Molecular Weight : 147.6 g/mol  
CAS# : 1633-05-2

##### 1.2. Use of the Substance/Preparation

Recommended use :  
- Glass industry  
- concrete, bricks, tiles and ceramics  
- Electronic industry  
- Chemical industry

#### 2. HAZARDS IDENTIFICATION

Appearance : powder or granular  
Color : white  
Odor : odorless

- Not classified as hazardous according to criteria of NOHSC.
- Product dust may be irritating to eyes, skin and respiratory system.
- Possible risk of irreversible effects through inhalation.
- Risk of pulmonary overload (respirable particulates)

#### 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance name (CAS-No. / EC-No. / Annex-1)	Concentration (W/W)	Classification	R-phrases
<b>Strontium carbonate</b> (1633-05-2 / 216-643-7 / Exempt or not available )	<b>&gt;= 96.5 %</b>		
<b>Barium carbonate</b> (51 3-77-9 / 208-1 67-3 / 056-003-00-2 )	<b>&lt;= 2.5 %</b>	Xn	R22

#### 4. FIRST AID MEASURES

##### 4.1. Inhalation

- Remove the subject from dusty environment and let him blow his nose.
- If symptoms persist, call a physician.

##### 4.2. Eye contact

- Rinse thoroughly with plenty of water, also under the eyelids.
- If eye irritation persists, consult a specialist.

#### **4.3. Skin contact**

- Wash off with soap and water.
- Remove and wash contaminated clothing before re-use.
- If symptoms persist, call a physician.

#### **4.4. Ingestion**

- Call a physician immediately.
- If victim is conscious:***
- If swallowed, rinse mouth with water (only if the person is conscious).
  - Do NOT induce vomiting.
- If victim is unconscious but breathing:***
- Artificial respiration and/or oxygen may be necessary.

### **5. FIRE-FIGHTING MEASURES**

#### **5.1. Suitable extinguishing media**

- Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

#### **5.2. Extinguishing media which shall not be used for safety reasons**

- None.

#### **5.3. Special exposure hazards in a fire**

- Not combustible.
- Hazardous decomposition products formed under fire conditions.

#### **5.4. Special protective equipment for fire-fighters**

- No special precautions required.

### **6. ACCIDENTAL RELEASE MEASURES**

#### **6.1. Personal precautions**

- Refer to protective measures listed in sections 7 and 8.

#### **6.2. Environmental precautions**

- Should not be released into the environment.

#### **6.3. Methods for cleaning up**

- Sweep up and shovel into suitable containers for disposal.
- Avoid dust formation.
- Keep in properly labelled containers.
- Keep in suitable, closed containers for disposal.
- Treat recovered material as described in the section "Disposal considerations".

### **7. HANDLING AND STORAGE**

#### **7.1. Handling**

- Use only in well-ventilated areas.
- Keep away from incompatible products

#### **7.2. Storage**

- Keep in a dry place.
- Store in original container.
- Keep container closed.
- Keep away from Incompatible products.

#### **7.3. Specific use(s)**

- For further information, please contact: Supplier

#### **7.4. Packaging material**

- Paper + PE.

#### **7.5. Other information**

- Avoid dust formation.
- Refer to protective measures listed in sections 7 and 8.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### 8.1. Exposure Limit Values

#### Barium carbonate

- US. ACGIH Threshold Limit Values 01 2006

time weighted average = 0.5 mg/m<sup>3</sup>

Remarks: as Ba

#### Nanoparticles

Remarks: none established, Avoid exposure - obtain special instructions before use.

### 8.2. Exposure controls

- Ensure adequate ventilation.
- Provide appropriate exhaust ventilation at places where dust is formed.
- Refer to protective measures listed in sections 7 and 8.
- Apply technical measures to comply with the occupational exposure limits.

#### 8.2.1. Occupational exposure controls

##### 8.2.1.1. Respiratory protection

- Use only respiratory protection that conforms to international/ national standards.
- Recommended Filter type:

- P3

##### 8.2.1.2. Hand protection

- Protective gloves
- Suitable material : PVC, Natural Rubber
- Unsuitable material : Do not wear neoprene gloves, as neoprene absorbs nanoparticles.

##### 8.2.1.3. Eye protection

- Dust proof goggles, if dusty.

##### 8.2.1.4. Skin and body protection

- long sleeved clothing
- Apron
- Boots
- PVC

##### 8.2.1.5. Hygiene measures

- When using do not eat, drink or smoke.
- Wash hands before breaks and at the end of workday.
- Handle in accordance with good industrial hygiene and safety practice.

#### 8.2.2. Environmental exposure controls

- Dispose of rinse water in accordance with local and national regulations.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### 9.1. General Information (appearance, odor)

Appearance	: powder, pellets
Color	: white
Odor	: odorless

### 9.2. Important health safety and environmental information

pH	: 7 - 8 <i>Remarks: saturated aqueous solution</i> <i>Temperature: 20 °C</i>
Boiling point/boiling range	: <i>Remarks: not applicable, Decomposition</i>
Flash point	: <i>Remarks: not applicable</i>
Flammability	: <i>Remarks: The product is not flammable.</i>
Explosive properties	: <u><i>Explosion danger</i></u> <i>Remarks: Not explosive</i>

<b>Oxidizing properties</b>	: <i>Remarks:</i> Non oxidizer
<b>Vapor pressure</b>	: <i>Remarks:</i> not applicable
<b>Relative density / Density</b>	: 3.7
<b>Bulk density</b>	: from 300 - 700 kg/m <sup>3</sup> (powder) : from 1,200 - 2,000 kg/m <sup>3</sup> (pellets)
<b>Solubility</b>	: Water 0.01 g/l <i>Temperature:</i> 18 °C
<b>Partition coefficient: n-octanol/water</b>	: <i>Remarks:</i> not applicable
<b>Vapor density</b>	: <i>Remarks:</i> not applicable

### 9.3. Other data

<b>Melting point/range</b>	: <i>Remarks:</i> not applicable, Decomposition
<b>Auto-flammability</b>	: <i>Remarks:</i> no data available
<b>Granulometry</b>	: 0.74 - 10 µm (powder) <i>Remarks:</i> d 50, nanoparticles 80 % > 0.15 - 0.85 mm (pellets)
<b>Decomposition temperature</b>	: > 1,340 °C

## 10. STABILITY AND REACTIVITY

### 10.1. Stability

- Stable under recommended storage conditions.
- Contact with acids liberates CO<sub>2</sub>, sometimes violently.

### 10.2. Conditions to avoid

- none

### 10.3. Materials to avoid

- Incompatible with acids.

### 10.4. Hazardous decomposition products

- Strontium oxide, The release of other hazardous decomposition products is possible.

## 11. TOXICOLOGICAL INFORMATION

### 11.1 Toxicological data

#### **Acute oral toxicity**

- LD50, rat, > 2,000 mg/kg

#### **Chronic toxicity**

- Oral, Repeated exposure, rat, Target Organs: skeleton, observed effect
- Inhalation, after a single exposure, rat, Target Organs: Respiratory system, observed effect

#### **Possible hazards (summary)**

- Product dust may be irritating to eyes, skin and respiratory system.
- No data exists on the effects of nanometre sized particles on the body.
- Other dangerous properties can not be excluded.

### 11.2. Health effects

#### **Main effects**

- Chronic exposure to the product can cause bone calcification disorders.
- Product dust may be irritating to eyes, skin and respiratory system.
- Possible risk of irreversible effects through inhalation.

**Inhalation**

- Repeated or prolonged exposure: chronic bronchitis, Risk of pulmonary overload (respirable particulates).
- (in case of higher concentration): chemical pneumonitis.

**Eye contact**

- Contact with eyes may cause irritation.

**Skin contact**

- The product may be absorbed through the skin.
- May cause skin irritation and/or dermatitis.

**Ingestion**

- No reported cases of intoxication in man.

## 12. ECOLOGICAL INFORMATION

### 12.1. Ecotoxicity effects

**Acute toxicity**

- Remarks: no data available

**Chronic toxicity**

- Remarks: no data available

### 12.2. Mobility

- Air  
Remarks: mobility as solid aerosols
- Water/soil  
Remarks: low solubility and mobility

### 12.3. Persistence and degradability

**Abiotic degradation**

- Water/soil  
Result: slow ionization and cation precipitation in presence of sulfates or carbonates

**Biodegradation**

- Remarks: The methods for determining biodegradability are not applicable to inorganic substances.

### 12.4. Bioaccumulative potential

- Bioconcentration: Terrestrial plants, various species  
Result: potential accumulation of the cation

### 12.5. Other adverse effects

- no data available

### 12.6. Possible hazards (summary)

- no data available
- Ecological injuries are not known or expected under normal use.
- Persistent product mainly in its inert form.

## 13. DISPOSAL CONSIDERATIONS

### 13.1. Waste from residues / unused products

- In accordance with local and national regulations.
- Dispose of wastes in an approved waste disposal facility.

### 13.2. Packaging treatment

- Containers that cannot be cleaned must be treated as waste.
- or
- Must be incinerated in a suitable incineration plant holding a permit delivered by the competent authorities.

## 14. TRANSPORT INFORMATION

**Remarks:**

- not regulated

## 15. REGULATORY INFORMATION

### 15.1. Labels

- Not classified as hazardous according to criteria of NOHSC.

### 15.2. Inventory Information

<b>Toxic Substance Control Act list (TSCA)</b>	:	-	In compliance with inventory.
<b>Australian Inventory of Chemical Substances (AICS)</b>	:	-	In compliance with inventory.
<b>Canadian Domestic Substances List (DSL)</b>	:	-	In compliance with inventory.
<b>Korea Existing Chemicals Inv. (KECI) (KECI (KR))</b>	:	-	In compliance with inventory.
<b>EU list of existing chemical substances (EINECS)</b>	:	-	In compliance with inventory.
<b>Japan (ENCS) List (ENCS (JP))</b>	:	-	In compliance with inventory.
<b>Inventory of Existing Chemical Substances (China) (IECS)</b>	:	-	In compliance with inventory.
<b>Philippine Inventory of Chemicals and Chemical Substances (PICCS)</b>	:	-	In compliance with inventory.
<b>New Zealand Inventory (in preparation) (NZ)</b>	:	-	In compliance with inventory.

## 16. OTHER INFORMATION

### 16.1. Administrative information

- General revision
- Distribute new edition to clients

The information given corresponds to the current state of our knowledge and experience of the product, and is not exhaustive. This applies to product which conforms to the specification, unless otherwise stated. In this case of combinations and mixtures one must make sure that no new dangers can arise. In any case, the user is not exempt from observing all legal, administrative and regulatory procedures relating to the product, personal hygiene, and protection of human welfare and the environment.