

### 1. PRODUCT AND COMPANY IDENTIFICATION

Product name : Barium chloride dihydrate

Product Number : 217565  
Brand : Sigma-Aldrich

Supplier : Sigma-Aldrich  
3050 Spruce Street  
SAINT LOUIS MO 63103  
USA

Telephone : +1 800-325-5832  
Fax : +1 800-325-5052  
Emergency Phone # (For both supplier and manufacturer) : (314) 776-6555

Preparation Information : Sigma-Aldrich Corporation  
Product Safety - Americas Region  
1-800-521-8956

### 2. HAZARDS IDENTIFICATION

#### Emergency Overview

##### OSHA Hazards

Target Organ Effect, Toxic by inhalation., Toxic by ingestion

##### Target Organs

Heart, Nerves., Kidney, Gastrointestinal tract, Bone marrow, Spleen., Liver

##### GHS Classification

Acute toxicity, Oral (Category 3)

Acute toxicity, Inhalation (Category 4)

##### GHS Label elements, including precautionary statements

Pictogram



Signal word : Danger

Hazard statement(s)

H301 : Toxic if swallowed.

H332 : Harmful if inhaled.

Precautionary statement(s)

P301 + P310 : IF SWALLOWED: Immediately call a POISON CENTER or doctor/ physician.

##### HMIS Classification

Health hazard: 2

Chronic Health Hazard: \*

Flammability: 0

Physical hazards: 0

##### NFPA Rating

Health hazard: 2

Fire: 0

Reactivity Hazard: 0

## Potential Health Effects

|                   |   |
|-------------------|---|
| <b>Inhalation</b> | Toxic if inhaled. May cause respiratory tract irritation.           |
| <b>Skin</b>       | May be harmful if absorbed through skin. May cause skin irritation. |
| <b>Eyes</b>       | May cause eye irritation.   |
| <b>Ingestion</b>  | Toxic if swallowed.   |

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## 3. COMPOSITION/INFORMATION ON INGREDIENTS

Formula :  $\text{BaCl}_2 \cdot 2\text{H}_2\text{O}$   
Molecular Weight : 244.26 g/mol

| Component                        | Concentration |
|----------------------------------|---------------|
| <b>Barium chloride dihydrate</b> |               |
| CAS-No.                          | 10326-27-9    |
| EC-No.                           | 233-788-1     |
| Index-No.                        | 056-004-00-8  |

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## 4. FIRST AID MEASURES

### General advice

Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

### If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

### In case of skin contact

Wash off with soap and plenty of water. Take victim immediately to hospital. Consult a physician.

### In case of eye contact

Flush eyes with water as a precaution.

### If swallowed

Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

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## 5. FIREFIGHTING MEASURES

### Conditions of flammability

Not flammable or combustible.

### Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

### Special protective equipment for firefighters

Wear self contained breathing apparatus for fire fighting if necessary.

### Hazardous combustion products

Hazardous decomposition products formed under fire conditions. - Hydrogen chloride gas, Barium oxide

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## 6. ACCIDENTAL RELEASE MEASURES

### Personal precautions

Wear respiratory protection. Avoid dust formation. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust.

### Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

### Methods and materials for containment and cleaning up

Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal.

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## 7. HANDLING AND STORAGE

### Precautions for safe handling

Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed.

**Conditions for safe storage**

Keep container tightly closed in a dry and well-ventilated place.

**8. EXPOSURE CONTROLS/PERSONAL PROTECTION****Components with workplace control parameters**

| Components                | CAS-No.  | Value | Control parameters    | Basis  |
|---------------------------|--|-------|-----------------------|--|
| Barium chloride dihydrate | 10326-27-9   | TWA   | 0.5 mg/m <sup>3</sup> | USA. NIOSH Recommended Exposure Limits   |
|                           |  | TWA   | 0.5 mg/m <sup>3</sup> | USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants |
|                           |  | TWA   | 0.5 mg/m <sup>3</sup> | USA. ACGIH Threshold Limit Values (TLV)  |
| Remarks                   | Eye, skin, & Gastrointestinal irritation Muscular stimulation Not classifiable as a human carcinogen |       |                       |  |
|                           |  | TWA   | 0.5 mg/m <sup>3</sup> | USA. OSHA - TABLE Z-1 Limits for Air Contaminants - 1910.1000                    |

**Personal protective equipment****Respiratory protection**

Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N99 (US) or type P2 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

**Hand protection**

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

**Immersion protection**

Material: Nitrile rubber

Minimum layer thickness: 0.11 mm

Break through time: > 480 min

Material tested: Dermatrill® (Aldrich Z677272, Size M)

**Splash protection**

Material: Nitrile rubber

Minimum layer thickness: 0.11 mm

Break through time: > 30 min

Material tested: Dermatrill® (Aldrich Z677272, Size M)

data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 873000, e-mail sales@kcl.de, test method: EN374

If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an Industrial Hygienist familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

**Eye protection**

Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

**Skin and body protection**

Complete suit protecting against chemicals, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

**Hygiene measures**

Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### Appearance

|        |             |
|--------|-------------|
| Form   | crystalline |
| Colour | white       |

### Safety data

|  |                                      |
|--|--------------------------------------|
| pH                                     | 5.0 - 8.0 at 50 g/l at 25 °C (77 °F) |
| Melting point/freezing point           | no data available                    |
| Boiling point                          | no data available                    |
| Flash point                            | not applicable                       |
| Ignition temperature                   | no data available                    |
| Autoignition temperature               | no data available                    |
| Lower explosion limit                  | no data available                    |
| Upper explosion limit                  | no data available                    |
| Vapour pressure                        | no data available                    |
| Density                                | 3.100 g/cm <sup>3</sup>              |
| Water solubility                       | no data available                    |
| Partition coefficient: n-octanol/water | no data available                    |
| Relative vapour density                | no data available                    |
| Odour                                  | no data available                    |
| Odour Threshold                        | no data available                    |
| Evaporation rate                       | no data available                    |

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## 10. STABILITY AND REACTIVITY

### Chemical stability

Stable under recommended storage conditions.

### Possibility of hazardous reactions

no data available

### Conditions to avoid

no data available

### Materials to avoid

Strong oxidizing agents

### Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Hydrogen chloride gas, Barium oxide  
Other decomposition products - no data available

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## 11. TOXICOLOGICAL INFORMATION

### Acute toxicity

#### Oral LD50

#### Inhalation LC50

#### Dermal LD50

no data available

### Other information on acute toxicity

LD50 Intraperitoneal - mouse - 51 mg/kg

**Skin corrosion/irritation**

no data available

**Serious eye damage/eye irritation**

no data available

**Respiratory or skin sensitization**

no data available

**Germ cell mutagenicity**

no data available

**Carcinogenicity**

This product is or contains a component that is probably not carcinogenic based on its IARC, ACGIH, NTP, or EPA classification.

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

**Reproductive toxicity**

no data available

**Teratogenicity**

no data available

**Specific target organ toxicity - single exposure (Globally Harmonized System)**

no data available

**Specific target organ toxicity - repeated exposure (Globally Harmonized System)**

no data available

**Aspiration hazard**

no data available

**Potential health effects**

|                   |   |
|-------------------|---|
| <b>Inhalation</b> | Toxic if inhaled. May cause respiratory tract irritation.           |
| <b>Ingestion</b>  | Toxic if swallowed.   |
| <b>Skin</b>       | May be harmful if absorbed through skin. May cause skin irritation. |
| <b>Eyes</b>       | May cause eye irritation.   |

**Signs and Symptoms of Exposure**

Vomiting, Diarrhoea, To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

**Synergistic effects**

no data available

**Additional Information**

RTECS: CQ8751000

## 12. ECOLOGICAL INFORMATION

### Toxicity

no data available

### Persistence and degradability

no data available

### Bioaccumulative potential

no data available

### Mobility in soil

no data available

### PBT and vPvB assessment

no data available

### Other adverse effects

no data available

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## 13. DISPOSAL CONSIDERATIONS

### Product

Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

### Contaminated packaging

Dispose of as unused product.

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## 14. TRANSPORT INFORMATION

### DOT (US)

UN number: 1564 Class: 6.1 Packing group: III  
Proper shipping name: Barium compounds, n.o.s. (Barium chloride dihydrate)  
Marine pollutant: No  
Poison Inhalation Hazard: No

### IMDG

UN number: 1564 Class: 6.1 Packing group: III EMS-No: F-A, S-A  
Proper shipping name: BARIUM COMPOUND, N.O.S. (Barium chloride dihydrate)  
Marine pollutant: No

### IATA

UN number: 1564 Class: 6.1 Packing group: III  
Proper shipping name: Barium compound, n.o.s. (Barium chloride dihydrate)

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## 15. REGULATORY INFORMATION

### OSHA Hazards

Target Organ Effect, Toxic by inhalation., Toxic by ingestion

### SARA 302 Components

SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

### SARA 313 Components

The following components are subject to reporting levels established by SARA Title III, Section 313:

|                           | CAS-No.    | Revision Date |
|---------------------------|------------|---------------|
| Barium chloride dihydrate | 10326-27-9 | 2007-07-01    |

### SARA 311/312 Hazards

Acute Health Hazard, Chronic Health Hazard

### Massachusetts Right To Know Components

No components are subject to the Massachusetts Right to Know Act.

**Pennsylvania Right To Know Components**

Barium chloride dihydrate

CAS-No.  
10326-27-9Revision Date  
2007-07-01**New Jersey Right To Know Components**

Barium chloride dihydrate

CAS-No.  
10326-27-9Revision Date  
2007-07-01**California Prop. 65 Components**

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

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**16. OTHER INFORMATION****Further information**

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