



# Fisher Scientific

Part of Thermo Fisher Scientific

## SAFETY DATA SHEET

Creation Date 09-Dec-2009

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Revision Number 2

### 1. Identification

**Product Name** Barium chloride dihydrate

**Cat No. :** B33-10; B33-50; B34-3; B34-10; B34-100; B34-500

**Synonyms** Barium dichloride dihydrate (Crystalline/Technical/Certified ACS)

**Recommended Use** Laboratory chemicals.

**Uses advised against** No Information available

**Details of the supplier of the safety data sheet**

**Company**

Fisher Scientific  
One Reagent Lane  
Fair Lawn, NJ 07410  
Tel: (201) 796-7100

**Emergency Telephone Number**

CHEMTREC®, Inside the USA: 800-424-9300  
CHEMTREC®, Outside the USA: 001-703-527-3887

### 2. Hazard(s) identification

**Classification**

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

|  |            |
|--|------------|
| Acute oral toxicity                                  | Category 3 |
| Acute Inhalation Toxicity - Dusts and Mists          | Category 4 |
| Specific target organ toxicity (single exposure)     | Category 3 |
| Target Organs - Central nervous system (CNS).        |            |
| Specific target organ toxicity - (repeated exposure) | Category 2 |
| Target Organs - Kidney, Liver, Heart, Blood.         |            |

**Label Elements**

**Signal Word**

Danger

**Hazard Statements**

Toxic if swallowed  
Harmful if inhaled  
May cause drowsiness or dizziness  
May cause damage to organs through prolonged or repeated exposure

**Precautionary Statements****Prevention**

Wash face, hands and any exposed skin thoroughly after handling  
Do not eat, drink or smoke when using this product  
Use only outdoors or in a well-ventilated area  
Do not breathe dust/fume/gas/mist/vapors/spray

**Response**

Get medical attention/advice if you feel unwell

**Inhalation**

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing  
Call a POISON CENTER or doctor/physician if you feel unwell

**Ingestion**

IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician  
Rinse mouth

**Storage**

Store locked up  
Store in a well-ventilated place. Keep container tightly closed

**Disposal**

Dispose of contents/container to an approved waste disposal plant

**Hazards not otherwise classified (HNOC)**

None identified

### 3. Composition / information on ingredients

| Component                 | CAS-No     | Weight % |
|---------------------------|------------|----------|
| Barium Chloride dihydrate | 10326-27-9 | 100      |
| Barium chloride           | 10361-37-2 | -        |

### 4. First-aid measures

|  |   |
|--|---|
| <b>Eye Contact</b>                     | Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Obtain medical attention.  |
| <b>Skin Contact</b>                    | Wash off immediately with plenty of water for at least 15 minutes. Get medical attention immediately if symptoms occur.   |
| <b>Inhalation</b>                      | Move to fresh air. If breathing is difficult, give oxygen. Do not use mouth-to-mouth resuscitation if victim ingested or inhaled the substance; induce artificial respiration with a respiratory medical device. Immediate medical attention is required. |
| <b>Ingestion</b>                       | Do not induce vomiting. Call a physician or Poison Control Center immediately.  |
| <b>Most important symptoms/effects</b> | No information available.   |
| <b>Notes to Physician</b>              | Treat symptomatically   |

### 5. Fire-fighting measures

|                                       |   |
|---------------------------------------|---|
| <b>Suitable Extinguishing Media</b>   | Substance is nonflammable; use agent most appropriate to extinguish surrounding fire. |
| <b>Unsuitable Extinguishing Media</b> | No information available  |

**Flash Point** Not applicable  
**Method -** No information available

**Autoignition Temperature** No information available

**Explosion Limits**

**Upper** No data available

**Lower** No data available

**Sensitivity to Mechanical Impact** No information available

**Sensitivity to Static Discharge** No information available

**Specific Hazards Arising from the Chemical**

Containers may explode when heated. Thermal decomposition can lead to release of irritating gases and vapors.

**Hazardous Combustion Products**

Thermal decomposition can lead to release of irritating gases and vapors Hydrogen chloride gas Chlorine

**Protective Equipment and Precautions for Firefighters**

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

**NFPA**

**Health**  
3

**Flammability**  
1

**Instability**  
0

**Physical hazards**  
N/A

**6. Accidental release measures****Personal Precautions**

Use personal protective equipment. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak. Avoid dust formation. Do not get in eyes, on skin, or on clothing.

**Environmental Precautions**

Should not be released into the environment. See Section 12 for additional ecological information.

**Methods for Containment and Clean Up**

Sweep up or vacuum up spillage and collect in suitable container for disposal. Avoid dust formation.

**7. Handling and storage****Handling**

Use only under a chemical fume hood. Wear personal protective equipment. Avoid dust formation. Do not breathe dust. Do not get in eyes, on skin, or on clothing.

**Storage**

Keep containers tightly closed in a dry, cool and well-ventilated place.

**8. Exposure controls / personal protection****Exposure Guidelines**

| Component                 | ACGIH TLV                  | OSHA PEL                             | NIOSH IDLH   |
|---------------------------|----------------------------|--------------------------------------|--|
| Barium Chloride dihydrate | TWA: 0.5 mg/m <sup>3</sup> | (Vacated) TWA: 0.5 mg/m <sup>3</sup> | TWA: 0.5 mg/m <sup>3</sup>                               |
| Barium chloride           | TWA: 0.5 mg/m <sup>3</sup> | (Vacated) TWA: 0.5 mg/m <sup>3</sup> | IDLH: 50 mg/m <sup>3</sup><br>TWA: 0.5 mg/m <sup>3</sup> |

| Component                 | Quebec                     | Mexico OEL (TWA)           | Ontario TWA EV             |
|---------------------------|----------------------------|----------------------------|----------------------------|
| Barium Chloride dihydrate | TWA: 0.5 mg/m <sup>3</sup> | TWA: 0.5 mg/m <sup>3</sup> | TWA: 0.5 mg/m <sup>3</sup> |
| Barium chloride           | TWA: 0.5 mg/m <sup>3</sup> | TWA: 0.5 mg/m <sup>3</sup> | TWA: 0.5 mg/m <sup>3</sup> |

**Legend**

ACGIH - American Conference of Governmental Industrial Hygienists

OSHA - Occupational Safety and Health Administration

NIOSH IDLH: The National Institute for Occupational Safety and Health Immediately Dangerous to Life or Health

**Engineering Measures**

Use only under a chemical fume hood. Ensure adequate ventilation, especially in confined

areas. Ensure that eyewash stations and safety showers are close to the workstation location.

#### **Personal Protective Equipment**

|                                 |   |
|---------------------------------|---|
| <b>Eye/face Protection</b>      | Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.   |
| <b>Skin and body protection</b> | Wear appropriate protective gloves and clothing to prevent skin exposure.   |
| <b>Respiratory Protection</b>   | Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced. |
| <b>Hygiene Measures</b>         | Handle in accordance with good industrial hygiene and safety practice.  |

### **9. Physical and chemical properties**

|   |                                      |
|---|--------------------------------------|
| <b>Physical State</b>                         | Solid                                |
| <b>Appearance</b>                             | White                                |
| <b>Odor</b>                                   | Odorless                             |
| <b>Odor Threshold</b>                         | No information available             |
| <b>pH</b>                                     | 5 - 8 (5 %)                          |
| <b>Melting Point/Range</b>                    | 962 °C / 1763.6 °F                   |
| <b>Boiling Point/Range</b>                    | 1560 °C / 2840 °F @ 760 mmHg         |
| <b>Flash Point</b>                            | Not applicable                       |
| <b>Evaporation Rate</b>                       | No information available             |
| <b>Flammability (solid,gas)</b>               | No information available             |
| <b>Flammability or explosive limits</b>       |                                      |
| <b>Upper</b>                                  | No data available                    |
| <b>Lower</b>                                  | No data available                    |
| <b>Vapor Pressure</b>                         | No information available             |
| <b>Vapor Density</b>                          | No information available             |
| <b>Relative Density</b>                       | No information available             |
| <b>Solubility</b>                             | Soluble in water                     |
| <b>Partition coefficient; n-octanol/water</b> | No data available                    |
| <b>Autoignition Temperature</b>               | No information available             |
| <b>Decomposition Temperature</b>              | No information available             |
| <b>Viscosity</b>                              | No information available             |
| <b>Molecular Formula</b>                      | BaCl <sub>2</sub> ·2H <sub>2</sub> O |
| <b>Molecular Weight</b>                       | 244.28                               |

### **10. Stability and reactivity**

|   |   |
|---|---|
| <b>Reactive Hazard</b>                  | None known, based on information available  |
| <b>Stability</b>                        | Stable under normal conditions.   |
| <b>Conditions to Avoid</b>              | Avoid dust formation. Incompatible products. Excess heat.   |
| <b>Incompatible Materials</b>           | Strong oxidizing agents   |
| <b>Hazardous Decomposition Products</b> | Thermal decomposition can lead to release of irritating gases and vapors, Hydrogen chloride gas, Chlorine |
| <b>Hazardous Polymerization</b>         | Hazardous polymerization does not occur.  |
| <b>Hazardous Reactions</b>              | None under normal processing.   |

## 11. Toxicological information

### Acute Toxicity

#### Component Information

| Component       | LD50 Oral         | LD50 Dermal | LC50 Inhalation |
|-----------------|-------------------|-------------|-----------------|
| Barium chloride | 118 mg/kg ( Rat ) | Not listed  | Not listed      |

**Toxicologically Synergistic Products** No information available

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

**Irritation** No information available

**Sensitization** No information available

**Carcinogenicity** The table below indicates whether each agency has listed any ingredient as a carcinogen.

| Component                 | CAS-No     | IARC       | NTP        | ACGIH      | OSHA       | Mexico     |
|---------------------------|------------|------------|------------|------------|------------|------------|
| Barium Chloride dihydrate | 10326-27-9 | Not listed | Not listed | Not listed | Not listed | Not listed |
| Barium chloride           | 10361-37-2 | Not listed | Not listed | Not listed | Not listed | Not listed |

**Mutagenic Effects** Mutagenic effects have occurred in experimental animals.

**Reproductive Effects** Experiments have shown reproductive toxicity effects on laboratory animals.

**Developmental Effects** No information available.

**Teratogenicity** No information available.

**STOT - single exposure** Central nervous system (CNS)

**STOT - repeated exposure** Kidney Liver Heart Blood

**Aspiration hazard** No information available

**Symptoms / effects, both acute and delayed** No information available

**Endocrine Disruptor Information** No information available

**Other Adverse Effects** The toxicological properties have not been fully investigated. See actual entry in RTECS for complete information.

## 12. Ecological information

### Ecotoxicity

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| Component       | Freshwater Algae | Freshwater Fish | Microtox   | Water Flea            |
|-----------------|------------------|-----------------|------------|-----------------------|
| Barium chloride | Not listed       | Not listed      | Not listed | 14.5 mg/L EC50 = 48 h |

**Persistence and Degradability** No information available

**Bioaccumulation/ Accumulation** No information available.

**Mobility** No information available.

## 13. Disposal considerations

**Waste Disposal Methods** Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

## 14. Transport information

### DOT

UN-No UN1564  
 Proper Shipping Name BARIUM COMPOUNDS, N.O.S.  
 Hazard Class 6.1  
 Packing Group III

**TDG**

UN-No UN1564  
 Proper Shipping Name BARIUM COMPOUNDS, N.O.S.  
 Hazard Class 6.1  
 Packing Group III

**IATA**

UN-No UN1564  
 Proper Shipping Name BARIUM COMPOUND, N.O.S.  
 Hazard Class 6.1  
 Packing Group III

**IMDG/IMO**

UN-No UN1564  
 Proper Shipping Name BARIUM COMPOUND, N.O.S.  
 Hazard Class 6.1  
 Packing Group III

## 15. Regulatory information

**International Inventories**

| Component                 | TSCA | DSL | NDSL | EINECS    | ELINCS | NLP | PICCS | ENCS | AICS | IECSC | KECL |
|---------------------------|------|-----|------|-----------|--------|-----|-------|------|------|-------|------|
| Barium Chloride dihydrate | -    | -   | -    | -         | -      |     | X     | X    | X    | X     | -    |
| Barium chloride           | X    | X   | -    | 233-788-1 | -      |     | X     | X    | X    | X     | X    |

**Legend:**

X - Listed

E - Indicates a substance that is the subject of a Section 5(e) Consent order under TSCA.

F - Indicates a substance that is the subject of a Section 5(f) Rule under TSCA.

N - Indicates a polymeric substance containing no free-radical initiator in its inventory name but is considered to cover the designated polymer made with any free-radical initiator regardless of the amount used.

P - Indicates a commenced PMN substance

R - Indicates a substance that is the subject of a Section 6 risk management rule under TSCA.

S - Indicates a substance that is identified in a proposed or final Significant New Use Rule

T - Indicates a substance that is the subject of a Section 4 test rule under TSCA.

XU - Indicates a substance exempt from reporting under the Inventory Update Rule, i.e. Partial Updating of the TSCA Inventory Data Base Production and Site Reports (40 CFR 710(B)).

Y1 - Indicates an exempt polymer that has a number-average molecular weight of 1,000 or greater.

Y2 - Indicates an exempt polymer that is a polyester and is made only from reactants included in a specified list of low concern reactants that comprises one of the eligibility criteria for the exemption rule.

**U.S. Federal Regulations****TSCA 12(b)**

Not applicable

**SARA 313**

| Component                 | CAS-No     | Weight % | SARA 313 - Threshold Values % |
|---------------------------|------------|----------|-------------------------------|
| Barium Chloride dihydrate | 10326-27-9 | 100      | 1.0                           |
| Barium chloride           | 10361-37-2 | -        | 1.0                           |

**SARA 311/312 Hazardous Categorization**

Acute Health Hazard Yes  
 Chronic Health Hazard Yes  
 Fire Hazard No  
 Sudden Release of Pressure Hazard No  
 Reactive Hazard No

**Clean Water Act**

Not applicable

**Clean Air Act** Not applicable

**OSHA** Occupational Safety and Health Administration  
Not applicable

**CERCLA**  
Not applicable

**California Proposition 65** This product does not contain any Proposition 65 chemicals

**State Right-to-Know**

| Component                 | Massachusetts | New Jersey | Pennsylvania | Illinois | Rhode Island |
|---------------------------|---------------|------------|--------------|----------|--------------|
| Barium Chloride dihydrate | -             | X          | X            | -        | X            |
| Barium chloride           | -             | X          | X            | -        | X            |

**U.S. Department of Transportation**

Reportable Quantity (RQ): N  
DOT Marine Pollutant N  
DOT Severe Marine Pollutant N

**U.S. Department of Homeland Security**

This product does not contain any DHS chemicals.

**Other International Regulations**

**Mexico - Grade** No information available

**Canada**

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR

**WHMIS Hazard Class** D1B Toxic materials

**16. Other information**

**Prepared By** Regulatory Affairs  
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**Revision Summary** This document has been updated to comply with the US OSHA HazCom 2012 Standard replacing the current legislation under 29 CFR 1910.1200 to align with the Globally Harmonized System of Classification and Labeling of Chemicals (GHS)

**Disclaimer**

The information provided on this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

**End of SDS**