

## SAFETY DATA SHEET

Revision Date 14-Feb-2020

Revision Number 2

### 1. Identification

**Product Name** Barium chlorate monohydrate

**Cat No. :** A10128

**CAS-No** 10294-38-9  
**Synonyms** No information available

**Recommended Use** Laboratory chemicals.  
**Uses advised against** Food, drug, pesticide or biocidal product use.  
**Details of the supplier of the safety data sheet**

**Company**

Alfa Aesar  
Thermo Fisher Scientific Chemicals, Inc.  
30 Bond Street  
Ward Hill, MA 01835-8099  
Tel: 800-343-0660  
Fax: 800-322-4757  
**Email:** tech@alfa.com  
www.alfa.com

**Emergency Telephone Number**

During normal business hours (Monday-Friday, 8am-7pm EST), call (800) 343-0660.  
After normal business hours, call Carechem 24 at (866) 928-0789.

### 2. Hazard(s) identification

**Classification**

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

|                                             |            |
|---------------------------------------------|------------|
| Oxidizing solids                            | Category 1 |
| Acute oral toxicity                         | Category 4 |
| Acute Inhalation Toxicity - Dusts and Mists | Category 4 |

**Label Elements**

**Signal Word**

Danger

**Hazard Statements**

May cause fire or explosion; strong oxidizer  
Harmful if swallowed or if inhaled

**Precautionary Statements****Prevention**

Wash face, hands and any exposed skin thoroughly after handling  
Do not eat, drink or smoke when using this product  
Avoid breathing dust/fume/gas/mist/vapors/spray  
Use only outdoors or in a well-ventilated area  
Keep away from heat/sparks/open flames/hot surfaces. - No smoking  
Keep/Store away from clothing/ other combustible materials  
Take any precaution to avoid mixing with combustibles  
Wear protective gloves/protective clothing/eye protection/face protection  
Wear fire/ flame resistant/retardant clothing

**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

**Skin**

IF ON CLOTHING: Rinse immediately contaminated clothing and skin with plenty of water before removing clothes

**Ingestion**

IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell  
Rinse mouth

**Fire**

In case of major fire and large quantities: Evacuate area. Fight fire remotely due to the risk of explosion  
In case of fire: Use CO<sub>2</sub>, dry chemical, or foam for extinction

**Disposal**

Dispose of contents/container to an approved waste disposal plant

**Hazards not otherwise classified (HNOC)**

Toxic to aquatic life with long lasting effects

### 3. Composition/Information on Ingredients

| Component       | CAS-No     | Weight % |
|-----------------|------------|----------|
| Barium chlorate | 10294-38-9 | <=100    |

### 4. First-aid measures

|                                    |                                                                                                                   |
|------------------------------------|-------------------------------------------------------------------------------------------------------------------|
| <b>General Advice</b>              | If symptoms persist, call a physician.                                                                            |
| <b>Eye Contact</b>                 | Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention.   |
| <b>Skin Contact</b>                | Wash off immediately with plenty of water for at least 15 minutes. If skin irritation persists, call a physician. |
| <b>Inhalation</b>                  | Remove to fresh air. If not breathing, give artificial respiration. Get medical attention if symptoms occur.      |
| <b>Ingestion</b>                   | Clean mouth with water and drink afterwards plenty of water. Get medical attention if symptoms occur.             |
| <b>Most important symptoms and</b> | None reasonably foreseeable.                                                                                      |

## effects

## Notes to Physician

Treat symptomatically

## 5. Fire-fighting measures

|                                         |                          |
|-----------------------------------------|--------------------------|
| <b>Suitable Extinguishing Media</b>     | Not combustible.         |
| <b>Unsuitable Extinguishing Media</b>   | No information available |
| <b>Flash Point</b>                      | No information available |
| <b>Method -</b>                         | No information available |
| <b>Autoignition Temperature</b>         | No information available |
| <b>Explosion Limits</b>                 |                          |
| <b>Upper</b>                            | No data available        |
| <b>Lower</b>                            | No data available        |
| <b>Oxidizing Properties</b>             | Oxidizer                 |
| <b>Sensitivity to Mechanical Impact</b> | No information available |
| <b>Sensitivity to Static Discharge</b>  | No information available |

## Specific Hazards Arising from the Chemical

Oxidizer: Contact with combustible/organic material may cause fire. May ignite combustibles (wood paper, oil, clothing, etc.).

## Hazardous Combustion Products

Hydrogen chloride. Barium oxides.

## 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**  
2

**Flammability**  
0

**Instability**  
0

**Physical hazards**  
- OX

## 6. Accidental release measures

|                                             |                                                                                                                                                                                                                |
|---------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Personal Precautions</b>                 | Ensure adequate ventilation. Use personal protective equipment as required. Avoid dust formation.                                                                                                              |
| <b>Environmental Precautions</b>            | Do not flush into surface water or sanitary sewer system.                                                                                                                                                      |
| <b>Methods for Containment and Clean Up</b> | Sweep up and shovel into suitable containers for disposal. Keep in suitable, closed containers for disposal. Soak up with inert absorbent material. Sweep up and shovel into suitable containers for disposal. |

## 7. Handling and storage

|                 |                                                                                                                                                                                                                                              |
|-----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Handling</b> | Wear personal protective equipment/face protection. Ensure adequate ventilation. Do not get in eyes, on skin, or on clothing. Avoid ingestion and inhalation. Avoid dust formation. Keep away from clothing and other combustible materials. |
| <b>Storage</b>  | Protect from light. Keep containers tightly closed in a dry, cool and well-ventilated place. Do not store near combustible materials.                                                                                                        |

## 8. Exposure controls / personal protection

## Exposure Guidelines

| Component       | ACGIH TLV                  | OSHA PEL                             | NIOSH IDLH                                               | Mexico OEL (TWA)           |
|-----------------|----------------------------|--------------------------------------|----------------------------------------------------------|----------------------------|
| Barium chlorate | 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> | TWA: 0.5 mg/m <sup>3</sup> |

Legend

ACGIH - American Conference of Governmental Industrial Hygienists

OSHA - Occupational Safety and Health Administration

NIOSH IDLH: NIOSH - National Institute for Occupational Safety and Health

**Engineering Measures** Ensure that eyewash stations and safety showers are close to the workstation location.  
Ensure adequate ventilation, especially in confined areas.

**Personal Protective Equipment**

**Eye/face Protection** 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.

**Skin and body protection** Wear appropriate protective gloves and clothing to prevent skin exposure.

**Respiratory Protection** 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.

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

## 9. Physical and chemical properties

|                                        |                          |
|----------------------------------------|--------------------------|
| Physical State                         | Solid                    |
| Appearance                             | White                    |
| Odor                                   | Odorless                 |
| Odor Threshold                         | No information available |
| pH                                     | No information available |
| Melting Point/Range                    | 414 °C / 777.2 °F        |
| Boiling Point/Range                    | No information available |
| Flash Point                            | No information available |
| Evaporation Rate                       | Not applicable           |
| Flammability (solid,gas)               | No information available |
| Flammability or explosive limits       |                          |
| Upper                                  | No data available        |
| Lower                                  | No data available        |
| Vapor Pressure                         | No information available |
| Vapor Density                          | Not applicable           |
| Specific Gravity                       | 3.18 g/cm3               |
| Solubility                             | No information available |
| Partition coefficient; n-octanol/water | No data available        |
| Autoignition Temperature               | No information available |
| Decomposition Temperature              | No information available |
| Viscosity                              | Not applicable           |
| Molecular Formula                      | Ba(Cl O3)2.H2 O          |
| Molecular Weight                       | 322.26 (304.24anhy)      |

## 10. Stability and reactivity

|                               |                                                                                      |
|-------------------------------|--------------------------------------------------------------------------------------|
| <b>Reactive Hazard</b>        | Yes                                                                                  |
| <b>Stability</b>              | Light sensitive. Oxidizer: Contact with combustible/organic material may cause fire. |
| <b>Conditions to Avoid</b>    | Exposure to light. Incompatible products. Excess heat. Combustible material.         |
| <b>Incompatible Materials</b> | Acids, Strong reducing agents, Combustible material                                  |

**Hazardous Decomposition Products** Hydrogen chloride, Barium oxides

**Hazardous Polymerization** Hazardous polymerization does not occur.

**Hazardous Reactions** None under normal processing.

## 11. Toxicological information

### Acute Toxicity

#### **Product Information**

#### **Component Information**

**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 chlorate | 10294-38-9 | Not listed | Not listed | Not listed | Not listed | Not listed |

**Mutagenic Effects** No information available

**Reproductive Effects** No information available.

**Developmental Effects** No information available.

**Teratogenicity** No information available.

**STOT - single exposure** None known

**STOT - repeated exposure** None known

**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.

## 12. Ecological information

### Ecotoxicity

Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. The product contains following substances which are hazardous for the environment.

**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 UN1445  
 Proper Shipping Name BARIUM CHLORATE, SOLID  
 Hazard Class 5.1  
 Subsidiary Hazard Class 6.1  
 Packing Group II

**TDG**

UN-No UN1445  
 Proper Shipping Name BARIUM CHLORATE, SOLID  
 Hazard Class 5.1  
 Subsidiary Hazard Class 6.1  
 Packing Group II

**IATA**

UN-No UN1445  
 Proper Shipping Name BARIUM CHLORATE, SOLID  
 Hazard Class 5.1  
 Subsidiary Hazard Class 6.1  
 Packing Group II

**IMDG/IMO**

UN-No UN1445  
 Proper Shipping Name BARIUM CHLORATE, SOLID  
 Hazard Class 5.1  
 Subsidiary Hazard Class 6.1  
 Packing Group II

## 15. Regulatory information

**United States of America Inventory**

| Component       | CAS-No     | TSCA | TSCA Inventory notification - Active/Inactive | TSCA - EPA Regulatory Flags |
|-----------------|------------|------|-----------------------------------------------|-----------------------------|
| Barium chlorate | 10294-38-9 | -    | -                                             | -                           |

**Legend:**

TSCA - Toxic Substances Control Act, (40 CFR Part 710)

X - Listed

'-' - Not Listed

TSCA 12(b) - Notices of Export Not applicable

**International Inventories**

Canada (DSL/NDL), Europe (EINECS/ELINCS/NLP), Philippines (PICCS), Japan (ENCS), Australia (AICS), China (IECSC), Korea (ECL).

| Component       | CAS-No     | DSL | NDL | EINECS | PICCS | ENCS | AICS | IECSC | KECL |
|-----------------|------------|-----|-----|--------|-------|------|------|-------|------|
| Barium chlorate | 10294-38-9 | -   | -   | -      | X     | -    | -    | -     | -    |

**U.S. Federal Regulations****SARA 313**

| Component       | CAS-No     | Weight % | SARA 313 - Threshold Values % |
|-----------------|------------|----------|-------------------------------|
| Barium chlorate | 10294-38-9 | <=100    | 1.0                           |

SARA 311/312 Hazard Categories See section 2 for more information

CWA (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.

**U.S. State Right-to-Know Regulations**

| Component       | Massachusetts | New Jersey | Pennsylvania | Illinois | Rhode Island |
|-----------------|---------------|------------|--------------|----------|--------------|
| Barium chlorate | -             | 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

## 16. Other information

Prepared By Health, Safety and Environmental Department  
Email: tech@alfa.com  
www.alfa.com

Revision Date 14-Feb-2020

Print Date 14-Feb-2020

Revision Summary SDS authoring systems update, replaces ChemGes SDS No. 10294-38-9.

**Disclaimer**

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 given is designed only as a 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 material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

**End of SDS**