

# SAFETY DATA SHEETS

According to Globally Harmonized System of Classification and Labelling of Chemicals (GHS) - Sixth revised edition

Version: 1.0

Creation Date: Aug 12, 2017

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## 1. Identification

### 1.1 GHS Product identifier

|              |                 |
|--------------|-----------------|
| Product name | barium chloride |
|--------------|-----------------|

### 1.2 Other means of identification

|                |   |
|----------------|---|
| Product number | –   |
| Other names    | Barium Chloride, Anhydrous (Metals Basis) |

### 1.3 Recommended use of the chemical and restrictions on use

|                      |   |
|----------------------|---|
| Identified uses      | For industry use only. Adsorbents and absorbents, Intermediates, Pigments |
| Uses advised against | no data available   |

## 2. Hazard identification

### 2.1 Classification of the substance or mixture

Acute toxicity - Oral, Category 3

Acute toxicity - Inhalation, Category 4

### 2.2 GHS label elements, including precautionary statements

|              |   |
|--------------|---|
| Pictogram(s) |  |
| Signal word  | Danger  |

|                                   |   |
|-----------------------------------|---|
| <b>Hazard statement(s)</b>        | H301 Toxic if swallowed<br>H332 Harmful if inhaled  |
| <b>Precautionary statement(s)</b> |   |
| <b>Prevention</b>                 | P264 Wash ... thoroughly after handling.<br>P270 Do not eat, drink or smoke when using this product.<br>P261 Avoid breathing dust/fume/gas/mist/vapours/spray.<br>P271 Use only outdoors or in a well-ventilated area.  |
| <b>Response</b>                   | P301+P310 IF SWALLOWED: Immediately call a POISON CENTER/doctor/...<br>P321 Specific treatment (see ... on this label).<br>P330 Rinse mouth.<br>P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.<br>P312 Call a POISON CENTER/doctor/...if you feel unwell. |
| <b>Storage</b>                    | P405 Store locked up.   |
| <b>Disposal</b>                   | P501 Dispose of contents/container to ...   |

### 2.3 Other hazards which do not result in classification

none

## 3. Composition/information on ingredients

### 3.1 Substances

| Chemical name   | Common names and synonyms | CAS number | EC number | Concentration |
|-----------------|---------------------------|------------|-----------|---------------|
| barium chloride | barium chloride           | 10361-37-2 | none      | 100%          |

## 4. First-aid measures

### 4.1 Description of necessary first-aid measures

General advice

Consult a physician. Show this safety data sheet to the doctor in attendance.

#### **If inhaled**

Fresh air, rest. Artificial respiration may be needed. Refer for medical attention.

#### **In case of skin contact**

Remove contaminated clothes. Rinse skin with plenty of water or shower.

#### **In case of eye contact**

First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then refer for medical attention.

#### **If swallowed**

Induce vomiting (ONLY IN CONSCIOUS PERSONS!). Rest. Refer for medical attention .

### **4.2Most important symptoms/effects, acute and delayed**

Exposure Routes: inhalation, ingestion, skin and/or eye contact Symptoms: Irritation eyes, skin, upper respiratory system; skin burns; gastroenteritis; muscle spasm; slow pulse, extrasystoles; hypokalemia Target Organs: Eyes, skin, respiratory system, heart, central nervous system (NIOSH, 2016)

### **4.3Indication of immediate medical attention and special treatment needed, if necessary**

/Acute effects from iv injections of barium chloride to dogs/ ... were due to prompt and substantial hypokalemia and could be prevented or reversed by potassium administration.

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## **5.Fire-fighting measures**

### **5.1Extinguishing media**

#### **Suitable extinguishing media**

If material on fire or involved in fire: Extinguish fire using agent suitable for type of surrounding fire. (Material itself does not burn or burns with difficulty.) Cool all affected containers with flooding quantities of water. Apply water from as far a distance as possible. Use foam, dry chemical, or carbon dioxide. Keep run-off water out of sewers and water sources.

### **5.2Specific hazards arising from the chemical**

The flash point of this chemical has not been determined, but it is probably not flammable.

### **5.3Special protective actions for fire-fighters**

Wear self-contained breathing apparatus for firefighting if necessary.

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## **6.Accidental release measures**

### **6.1Personal precautions, protective equipment and emergency procedures**

Use personal protective equipment. Avoid dust formation. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust. For personal protection see section 8.

### **6.2Environmental precautions**

Sweep spilled substance into covered sealable containers. If appropriate, moisten first to prevent dusting. Carefully collect remainder. Then store and dispose of according to local regulations. Do NOT let this chemical enter the environment. Personal protection: particulate filter respirator adapted to the airborne concentration of the substance.

### **6.3Methods and materials for containment and cleaning up**

Sweep spilled substance into sealable containers; if appropriate, moisten first to prevent dusting. Carefully collect remainder, then remove to safe place. Do NOT let this chemical enter the environment.

## 7. Handling and storage

### 7.1 Precautions for safe handling

Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Avoid exposure - obtain special instructions before use. Provide appropriate exhaust ventilation at places where dust is formed. For precautions see section 2.2.

### 7.2 Conditions for safe storage, including any incompatibilities

Separated from food and feedstuffs. Separated from food and feedstuffs.

## 8. Exposure controls/personal protection

### 8.1 Control parameters

#### Occupational Exposure limit values

Recommended Exposure Limit: 10 Hour Time-Weighted Average: 0.5 mg/cu m /Barium chloride (as Ba)/

#### Biological limit values

no data available

### 8.2 Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

### 8.3 Individual protection measures, such as personal protective equipment (PPE)

#### Eye/face protection

Safety glasses with side-shields conforming to EN166. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

#### Skin protection

Wear impervious clothing. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace. 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. The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

#### Respiratory protection

Wear dust mask when handling large quantities.

#### Thermal hazards

no data available

## 9. Physical and chemical properties

|                |                             |
|----------------|-----------------------------|
| Physical state | White Crystalline Powder    |
| Colour         | White orthorhombic crystals |

|   |   |
|---|---|
| Odour   | Odorless  |
| Melting point/<br>freezing point                                  | 960°C   |
| Boiling point or<br>initial boiling<br>point and boiling<br>range | 1560°C  |
| Flammability  | Noncombustible SolidNot combustible. Gives off irritating or<br>toxic fumes (or gases) in a fire. |
| Lower and upper<br>explosion limit /<br>flammability<br>limit     | no data available   |
| Flash point   | no data available   |
| Auto-ignition<br>temperature                                      | no data available   |
| Decomposition<br>temperature                                      | no data available   |
| pH  | no data available   |
| Kinematic<br>viscosity  | no data available   |
| Solubility  | 38 % (NIOSH, 2016)  |
| Partition<br>coefficient<br>n-octanol/water<br>(log value)        | no data available   |
| Vapour pressure   | Low (NIOSH, 2016)   |
| Density and/or<br>relative density                                | 3.856g/mLat 25° C(lit.)   |

|                          |                   |
|--------------------------|-------------------|
| Relative vapour density  | no data available |
| Particle characteristics | no data available |

## 10.Stability and reactivity

### 10.1Reactivity

no data available

### 10.2Chemical stability

Stable under recommended storage conditions.

### 10.3Possibility of hazardous reactions

Not combustible.BARIUM CHLORIDE may react violently with BrF3 and 2-Furan percarboxylic acid in its anhydrous form.

### 10.4Conditions to avoid

no data available

### 10.5Incompatible materials

Bromine trifluoride rapidly attacks barium chloride.

### 10.6Hazardous decomposition products

When heated to decomp it emits toxic fumes of /chlorine./

## 11.Toxicological information

### Acute toxicity

- Oral: LD50 Rat oral 150 mg/kg
- Inhalation: no data available
- Dermal: no data available

### Skin corrosion/irritation

no data available

### Serious eye damage/irritation

no data available

### Respiratory or skin sensitization

no data available

### Germ cell mutagenicity

no data available

### Carcinogenicity

A4: Not classifiable as a human carcinogen. /Barium and soluble cmpd, as Ba/

### Reproductive toxicity

no data available

#### STOT-single exposure

no data available

#### STOT-repeated exposure

no data available

#### Aspiration hazard

no data available

## 12. Ecological information

### 12.1 Toxicity

- Toxicity to fish: no data available
- Toxicity to daphnia and other aquatic invertebrates: EC50; Species: Daphnia magna (water flea); Conditions of bioassay not given; Endpoint: reproduction; Concentration: 13.4 mg/L for 21 days
- Toxicity to algae: no data available
- Toxicity to microorganisms: no data available

### 12.2 Persistence and degradability

no data available

### 12.3 Bioaccumulative potential

no data available

### 12.4 Mobility in soil

no data available

### 12.5 Other adverse effects

no data available

## 13. Disposal considerations

### 13.1 Disposal methods

#### Product

The material can be disposed of by removal to a licensed chemical destruction plant or by controlled incineration with flue gas scrubbing. Do not contaminate water, foodstuffs, feed or seed by storage or disposal. Do not discharge to sewer systems.

#### Contaminated packaging

Containers can be triply rinsed (or equivalent) and offered for recycling or reconditioning. Alternatively, the packaging can be punctured to make it unusable for other purposes and then be disposed of in a sanitary landfill. Controlled incineration with flue gas scrubbing is possible for combustible packaging materials.

## 14. Transport information

### 14.1 UN Number

ADR/RID: UN1564

IMDG: UN1564

IATA: UN1564

**14.2 UN Proper Shipping Name**

ADR/RID: BARIUM COMPOUND, N. O. S.

IMDG: BARIUM COMPOUND, N. O. S.

IATA: BARIUM COMPOUND, N. O. S.

**14.3 Transport hazard class(es)**

ADR/RID: 6.1

IMDG: 6.1

IATA: 6.1

**14.4 Packing group, if applicable**

ADR/RID: Not dangerous goods.

IMDG: Not dangerous goods.

IATA: Not dangerous goods.

**14.5 Environmental hazards**

ADR/RID: no

IMDG: no

IATA: no

**14.6 Special precautions for user**

no data available

**14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**

no data available

**15. Regulatory information****15.1 Safety, health and environmental regulations specific for the product in question**

| Chemical name  | Common names and synonyms | CAS number | EC number |
|--|---------------------------|------------|-----------|
| barium chloride  | barium chloride           | 10361-37-2 | none      |
| European Inventory of Existing Commercial Chemical Substances (EINECS) |                           |            | Listed.   |
| EC Inventory   |                           |            | Listed.   |
| United States Toxic Substances Control Act (TSCA) Inventory            |                           |            | Listed.   |



|  |         |
|--|---------|
| China Catalog of Hazardous chemicals 2015                                | Listed. |
| New Zealand Inventory of Chemicals (NZIoC)                               | Listed. |
| Philippines Inventory of Chemicals and Chemical Substances (PICCS)       | Listed. |
| Vietnam National Chemical Inventory                                      | Listed. |
| Chinese Chemical Inventory of Existing Chemical Substances (China IECSC) | Listed. |

## 16.Other information

### Information on revision

|               |              |
|---------------|--------------|
| Creation Date | Aug 12, 2017 |
| Revision Date | Aug 12, 2017 |

### Abbreviations and acronyms

- CAS: Chemical Abstracts Service
- ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road
- RID: Regulation concerning the International Carriage of Dangerous Goods by Rail
- IMDG: International Maritime Dangerous Goods
- IATA: International Air Transportation Association
- TWA: Time Weighted Average
- STEL: Short term exposure limit
- LC50: Lethal Concentration 50%
- LD50: Lethal Dose 50%
- EC50: Effective Concentration 50%

### References

- IPCS - The International Chemical Safety Cards (ICSC), website: <http://www.ilo.org/dyn/icsc/showcard.home>
- HSDB - Hazardous Substances Data Bank, website: <https://toxnet.nlm.nih.gov/newtoxnet/hsdb.htm>
- IARC - International Agency for Research on Cancer, website: <http://www.iarc.fr/>
- eChemPortal - The Global Portal to Information on Chemical Substances by OECD, website: [http://www.echemportal.org/echemportal/index?pageID=0&request\\_locale=en](http://www.echemportal.org/echemportal/index?pageID=0&request_locale=en)
- CAMEO Chemicals, website: <http://cameochemicals.noaa.gov/search/simple>
- ChemIDplus, website: <http://chem.sis.nlm.nih.gov/chemidplus/chemidlite.jsp>
- ERG - Emergency Response Guidebook by U.S. Department of Transportation, website: <http://www.phmsa.dot.gov/hazmat/library/erg>
- Germany GESTIS-database on hazard substance, website: <http://www.dguv.de/ifa/gestis/gestis-stoffdatenbank/index-2.jsp>
- ECHA - European Chemicals Agency, website: <https://echa.europa.eu/>

*Disclaimer: The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. We as supplier shall not be held liable for any damage resulting from handling or from contact with the above product.*