

**Safety data sheet**  
according to 1907/2006/EC, Article 31

revised on: 23.05.2022

Version number 5

Creation Date: 03.04.2017

**SECTION 1: Identification of the substance/mixture and of the company/undertaking**

- **1.1 Product identifier**
- **Trade name:** Barium hydroxide octahydrate
- **Article number:** 2502
- **CAS Number:**  
12230-71-6
- **EC number:**  
241-234-5
- **Index number:**  
056-002-00-7
- **Registration number** 01-2119495571-31-XXXX
- **1.2 Relevant identified uses of the substance or mixture and uses advised against**
- **Life cycle stages**  
F Formulation or re-packing  
IS Use at industrial Sites
- **Application of the substance / the mixture**  
Industrial use  
Laboratory chemicals  
Reagent for analysis
- **1.3 Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
Th. Geyer GmbH & Co. KG  
Dornierstr. 4 – 6  
D-71272 Renningen  
  
Tel.: +49(0)7159-1637-0, Fax:+49 (0)7159/18417  
www.thgeyer.de  
sicherheitsdatenblaetter@thgeyer.de
- **Further information obtainable from:** Product management department
- **1.4 Emergency telephone number:**  
National Poisons Information Service  
City Hospital  
Dudley Road  
Birmingham B18 7QH  
Tel.:Emergency: (00 44) 87 06 00 62 66  
National Poisons Information Service  
+44 121 507 4123  
Members of the public seeking specific information on poisons should contact:  
In England and Wales: NHS 111 - dial 111  
In Scotland: NHS 24 - dial 111

**SECTION 2: Hazards identification**

- **2.1 Classification of the substance or mixture**
- **Classification according to Regulation (EC) No 1272/2008**



GHS05 corrosion

Skin Corr. 1B H314 Causes severe skin burns and eye damage.

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GHS07

Acute Tox. 4 H302 Harmful if swallowed.

Acute Tox. 4 H332 Harmful if inhaled.

### 2.2 Label elements

#### Labelling according to Regulation (EC) No 1272/2008

The substance is classified and labelled according to the GB CLP regulation.

#### Hazard pictograms



GHS05 GHS07

#### Signal word Danger

#### Hazard statements

H302+H332 Harmful if swallowed or if inhaled.

H314 Causes severe skin burns and eye damage.

#### Precautionary statements

P280 Wear protective gloves/protective clothing/eye protection/face protection.

P301+P330+P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P310 Immediately call a POISON CENTER/doctor.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

#### 2.3 Other hazards

#### Results of PBT and vPvB assessment

- PBT: Not applicable.

- vPvB: Not applicable.

## SECTION 3: Composition/information on ingredients

### 3.1 Substances

#### CAS No. Description

CAS: 12230-71-6 Barium hydroxide octahydrate

#### Identification number(s)

- EC number: 241-234-5

- Index number: 056-002-00-7

## SECTION 4: First aid measures

### 4.1 Description of first aid measures

#### General information:

First aider needs to protect himself.

Immediately remove any clothing soiled by the product.

Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.

#### After inhalation:

Remove person from danger area.

Supply fresh air.

Call a doctor immediately.

#### After skin contact:

Flush contaminated skin with soap and plenty of water.

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take care of a Possibility of inhalation at the same time

Call a doctor immediately.

· **After eye contact:**

Remove contact lenses

Protect unharmed eye.

Rinse out opened eye for several minutes under running water.

Consult an ophthalmologist immediately.

· **After swallowing:**

Rinse out mouth and then drink plenty of water.

If swallowed, there is a risk of perforation of the esophagus and stomach (strong caustic effect).

Call a doctor immediately.

· **Information for doctor:** Please observe safety data sheet/label.

· **4.2 Most important symptoms and effects, both acute and delayed**

Gastric or intestinal disorders

Cramp

Nausea

· **Hazards**

Danger of pulmonary oedema.

Danger of gastric perforation.

breathing difficulties

· **4.3 Indication of any immediate medical attention and special treatment needed**

Give Glucocorticoid-Aerosol in case of lung irritation.

If necessary oxygen respiration treatment.

If swallowed, gastric irrigation.

Monitor circulation.

Later observation for pneumonia and pulmonary oedema.

### SECTION 5: Firefighting measures

· **5.1 Extinguishing media**

· **Suitable extinguishing agents:**

Use fire extinguishing methods suitable to surrounding conditions.

Carbon dioxide, powder, water spray or alcohol-resistant foam.

· **For safety reasons unsuitable extinguishing agents:** Water with full jet.

· **5.2 Special hazards arising from the substance or mixture**

Not combustible.

Formation of toxic gases is possible during heating or in case of fire.

In case of fire, the following can be released:

Barium oxide

Ambient fire may liberate hazardous vapours.

· **5.3 Advice for firefighters**

· **Protective equipment:**

Mouth respiratory protective device.

Wear self-contained respiratory protective device.

Do not inhale explosion gases or combustion gases.

· **Additional information**

Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.

Prevent fire extinguishing water from contaminating surface water or the ground water system.

### SECTION 6: Accidental release measures

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

Ensure adequate ventilation.

Avoid formation of dust.

Avoid contact with eyes and skin.

· **6.2 Environmental precautions:** Do not allow to enter sewers/surface or ground water.

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· **6.3 Methods and material for containment and cleaning up:**

- Cover drains.
- Collect, dike, and pump out.
- Take up dry.
- Dispose of the material collected according to regulations.

· **6.4 Reference to other sections**

- See Section 7 for information on safe handling.
- See Section 8 for information on personal protection equipment.
- See Section 13 for disposal information.

### SECTION 7: Handling and storage

· **7.1 Precautions for safe handling**

- Apply the general protection and hygiene measures for the handling with chemicals.
- Thorough dedusting.
- Ensure good ventilation/exhaustion at the workplace.

· **Information about fire - and explosion protection:** No special measures required.

· **7.2 Conditions for safe storage, including any incompatibilities**

· **Storage:**

· **Requirements to be met by storerooms and receptacles:** Store only in the original receptacle.

· **Information about storage in one common storage facility:** Store away from water.

· **Further information about storage conditions:**

- Store in dry conditions.
- Protect from humidity and water.
- Keep container tightly sealed.

· **Storage class:** 8 B

· **7.3 Specific end use(s)** No further relevant information available.

### SECTION 8: Exposure controls/personal protection

· **8.1 Control parameters**

· **Additional information about design of technical facilities:** No further data; see item 7.

· **Ingredients with limit values that require monitoring at the workplace:**

**CAS: 12230-71-6 Barium hydroxide octahydrate**

WEL	Long-term value: 0.5 mg/m <sup>3</sup> as Ba
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· **Additional information:** The lists valid during the making were used as basis.

· **8.2 Exposure controls**

· **Personal protective equipment:**

· **General protective and hygienic measures:**

- Keep away from foodstuffs, beverages and feed.
- Wash hands before breaks and at the end of work.

· **Respiratory protection:**

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device. If air-purifying respiratory protection is required according to the risk assessment, wear a respirator with full-face mask with combination filter (US) or with filter type ABEK (EN 14387) filter cartridge. If the respirator is the only protective measure, an ambient air self-contained breathing apparatus with a full face mask must be worn. Respirators and components must be approved to appropriate government standards (for example, NIOSH (US) or CEN (EU)). Translated with [www.DeepL.com/Translator](http://www.DeepL.com/Translator) (free version)

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**Protection of hands:**


Protective gloves

Labsolute®protective

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

**Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.

NBR: acrylonitrile-butadiene rubber

Material thickness &gt; 0.11 mm

**Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

level 6 for application &gt; 480 min

**Eye protection:**


Safety glasses

Use safety goggles with side protection.

**Body protection:**


Protective work clothing (e. g. safety shoes EN ISO 20345, long-sleeved protective working garments).

### SECTION 9: Physical and chemical properties

**9.1 Information on basic physical and chemical properties**
**General Information**
**Appearance:**

Form:	Solid
Colour:	Colourless
Odour:	Odourless

pH-value: 12.5

**Change in condition**

Melting point/freezing point:	78 °C
Initial boiling point and boiling range:	Undetermined.

Flash point: Not applicable.

Flammability (solid, gas): Product is not flammable.

Decomposition temperature: Not determined.

Auto-ignition temperature: Not determined.

Explosive properties: Product does not present an explosion hazard.

**Explosion limits:**

Lower:	Not determined.
Upper:	Not determined.

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· <b>Vapour pressure:</b>	Not applicable.
· <b>Density at 20 °C:</b>	2.18 g/cm <sup>3</sup> Not determined.
· <b>Bulk density:</b>	1,000 kg/m <sup>3</sup>
· <b>Relative density</b>	Not determined.
· <b>Vapour density</b>	Not applicable.
· <b>Evaporation rate</b>	Not applicable.
· <b>Solubility in / Miscibility with water at 15 °C:</b>	56 g/l
· <b>Partition coefficient: n-octanol/water:</b>	Not determined.
· <b>Viscosity:</b>	
<b>Dynamic:</b>	Not applicable.
<b>Kinematic:</b>	Not applicable.
· <b>9.2 Other information</b>	No further relevant information available.

### SECTION 10: Stability and reactivity

- **10.1 Reactivity** No further relevant information available.
- **10.2 Chemical stability** Stable with proper storage and handling.
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **10.3 Possibility of hazardous reactions** Reacts with strong acids.
- **10.4 Conditions to avoid** Protect from humidity.
- **10.5 Incompatible materials:**  
Light metals  
Avoid contact with other chemicals.
- **10.6 Hazardous decomposition products:** On fire: see chapter 5

### SECTION 11: Toxicological information

- **11.1 Information on toxicological effects**
  - **Acute toxicity**  
Harmful if swallowed or if inhaled.
  - **LD/LC50 values relevant for classification:**
- |            |      |                 |
|------------|------|-----------------|
| Oral       | LD50 | 500 mg/kg (ATE) |
| Inhalative | LC50 | 1.5 mg/l (ATE)  |
- **Primary irritant effect:**
  - **Skin corrosion/irritation**  
Causes severe skin burns and eye damage.
  - **Serious eye damage/irritation**  
Causes severe skin burns and eye damage.
  - **Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.
  - **Additional toxicological information:**
  - **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**
  - **Germ cell mutagenicity** Based on available data, the classification criteria are not met.
  - **Carcinogenicity** Based on available data, the classification criteria are not met.
  - **Reproductive toxicity** Based on available data, the classification criteria are not met.
  - **STOT-single exposure** Based on available data, the classification criteria are not met.
  - **STOT-repeated exposure** Based on available data, the classification criteria are not met.

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 · **Aspiration hazard** Based on available data, the classification criteria are not met.

### SECTION 12: Ecological information

- **12.1 Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **12.2 Persistence and degradability** No further relevant information available.
- **12.3 Bioaccumulative potential** No further relevant information available.
- **12.4 Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:**  
Water hazard class 1 (German Regulation) (Assessment by list): slightly hazardous for water  
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
- **12.5 Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **12.6 Other adverse effects** No further relevant information available.

### SECTION 13: Disposal considerations

- **13.1 Waste treatment methods**  
Observe local (country-specific) regulations and laws  
This material and its container must be disposed of as hazardous waste. Dispose of contents/container in accordance with local/regional/national/international regulations.
- **Recommendation**  
Must not be disposed together with household garbage. Do not allow product to reach sewage system.  
Chemicals must be disposed of in compliance with the respective national regulations.

#### · European waste catalogue

06 00 00	WASTES FROM INORGANIC CHEMICAL PROCESSES
06 03 00	wastes from the MFSU of salts and their solutions and metallic oxides
06 03 14	solid salts and solutions other than those mentioned in 06 03 11 and 06 03 13
HP6	Acute Toxicity
HP8	Corrosive

- **Uncleaned packaging:**
- **Recommendation:** Disposal must be made according to official regulations.

### SECTION 14: Transport information

- **14.1 UN-Number**
- **ADR, IMDG, IATA** UN3262
- **14.2 UN proper shipping name**
- **ADR** 3262 CORROSIVE SOLID, BASIC, INORGANIC, N.O.S. (Barium hydroxide octahydrate)
- **IMDG, IATA** CORROSIVE SOLID, BASIC, INORGANIC, N.O.S. (Barium hydroxide octahydrate)

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<ul style="list-style-type: none"> <li>· 14.3 Transport hazard class(es)</li> <li>· ADR</li> </ul>	
	
<ul style="list-style-type: none"> <li>· Class</li> <li>· Label</li> </ul>	8 (C6) Corrosive substances. 8
<hr style="border-top: 1px dashed black;"/>	
<ul style="list-style-type: none"> <li>· IMDG, IATA</li> </ul>	
	
<ul style="list-style-type: none"> <li>· Class</li> <li>· Label</li> </ul>	8 Corrosive substances. 8
<ul style="list-style-type: none"> <li>· 14.4 Packing group</li> <li>· ADR, IMDG, IATA</li> </ul>	
	II
<ul style="list-style-type: none"> <li>· 14.5 Environmental hazards:</li> </ul>	
	Not applicable.
<ul style="list-style-type: none"> <li>· 14.6 Special precautions for user</li> <li>· Hazard identification number (Kemler code):</li> <li>· EMS Number:</li> <li>· Segregation groups</li> <li>· Stowage Category</li> <li>· Segregation Code</li> </ul>	
	Warning: Corrosive substances. 80 F-A,S-B Alkalis B SG35 Stow "separated from" SGG1-acids
<ul style="list-style-type: none"> <li>· 14.7 Transport in bulk according to Annex II of Marpol and the IBC Code</li> </ul>	
	Not applicable.
<ul style="list-style-type: none"> <li>· Transport/Additional information:</li> </ul>	
<hr style="border-top: 1px dashed black;"/>	
<ul style="list-style-type: none"> <li>· ADR</li> <li>· Limited quantities (LQ)</li> <li>· Excepted quantities (EQ)</li> </ul>	
	1 kg Code: E2 Maximum net quantity per inner packaging: 30 g Maximum net quantity per outer packaging: 500 g
<ul style="list-style-type: none"> <li>· Transport category</li> <li>· Tunnel restriction code</li> </ul>	
	2 E
<hr style="border-top: 1px dashed black;"/>	
<ul style="list-style-type: none"> <li>· IMDG</li> <li>· Limited quantities (LQ)</li> <li>· Excepted quantities (EQ)</li> </ul>	
	1 kg Code: E2 Maximum net quantity per inner packaging: 30 g Maximum net quantity per outer packaging: 500 g
<ul style="list-style-type: none"> <li>· UN "Model Regulation":</li> </ul>	
	UN 3262 CORROSIVE SOLID, BASIC, INORGANIC, N.O.S. (BARIUM HYDROXIDE OCTAHYDRATE), 8, II

### SECTION 15: Regulatory information

- 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
- Inventory of Hazardous Chemicals Substance is not listed.
- Directive 2012/18/EU
- Named dangerous substances - ANNEX I Substance is not listed.

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- **Seveso category** not assigned
- **DIRECTIVE 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment – Annex II**  
Substance is not listed.
- **REGULATION (EU) 2019/1148**
- **Annex I - RESTRICTED EXPLOSIVES PRECURSORS (Upper limit value for the purpose of licensing under Article 5(3))**  
Substance is not listed.
- **Annex II - REPORTABLE EXPLOSIVES PRECURSORS** Substance is not listed.
- **Regulation (EC) No 273/2004 on drug precursors** Substance is not listed.
- **Regulation (EC) No 111/2005 laying down rules for the monitoring of trade between the Community and third countries in drug precursors**  
Substance is not listed.
- **National regulations:**
- **Information about limitation of use:**  
Employment restrictions concerning juveniles must be observed.  
Employment restrictions concerning pregnant and lactating women must be observed.
- **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

### SECTION 16: Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.  
Application, use and handling of our products take place out of our control and are solely your responsibility.

- **Department issuing SDS:** Product management
- **Contact:** Product management
- **Abbreviations and acronyms:**  
ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)  
IMDG: International Maritime Code for Dangerous Goods  
IATA: International Air Transport Association  
GHS: Globally Harmonised System of Classification and Labelling of Chemicals  
EINECS: European Inventory of Existing Commercial Chemical Substances  
CAS: Chemical Abstracts Service (division of the American Chemical Society)  
LC50: Lethal concentration, 50 percent  
LD50: Lethal dose, 50 percent  
PBT: Persistent, Bioaccumulative and Toxic  
vPvB: very Persistent and very Bioaccumulative  
Acute Tox. 4: Acute toxicity – Category 4  
Skin Corr. 1B: Skin corrosion/irritation – Category 1B
- **\* Data compared to the previous version altered.**

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