

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

Page 1/10  
Printing date 24.05.2023  
Revision: 24.05.2023  
Version number 7.03 (replaces version 7.02)

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

- **1.1 Product identifier**
- **Trade name:** Barium chloride
- **Article number:** 1182
- **CAS Number:**  
10326-27-9
- **EC number:**  
233-788-1
- **Index number:**  
056-004-00-8
- **Application of the substance / the mixture** Laboratory chemicals
- **1.3 Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
PANREAC QUIMICA S.L.U. Tel. (+34) 937 489 400  
C/Garraf 2 Fax. (+34) 937 489 401  
Polígono Pla de la Bruguera e-mail: product.safety@itwreagents.com  
E-08211 Castellar del Vallès (Barcelona)
- **Further information obtainable from:** email: product.safety@panreac.com
- **1.4 Emergency telephone number:**  
Single telephone number for emergency calls: 112 (EU)  
Tel.: (+34) 937 489 499

**SECTION 2: Hazards identification**

- **2.1 Classification of the substance or mixture**
- **Classification according to Regulation (EC) No 1272/2008**  
Acute Tox. 3 H301 Toxic if swallowed.  
Acute Tox. 4 H332 Harmful if inhaled.  
Eye Irrit. 2 H319 Causes serious eye irritation.
- **2.2 Label elements**
- **Labelling according to Regulation (EC) No 1272/2008**  
The substance is classified and labelled according to the GB CLP regulation.

(Contd. on page 2)

Trade name: Barium chloride

(Contd. of page 1)

· **Hazard pictograms**



GHS06

· **Signal word** Danger

· **Hazard statements**

H301 Toxic if swallowed.

H332 Harmful if inhaled.

H319 Causes serious eye irritation.

· **Precautionary statements**

P261 Avoid breathing dust/fume/gas/mist/vapours/spray.

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

P321 Specific treatment (see on this label).

P330 Rinse mouth.

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

P405 Store locked up.

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**

10326-27-9 Barium chloride

· **Identification number(s)**

· **EC number:** 233-788-1

· **Index number:** 056-004-00-8

### SECTION 4: First aid measures

· **4.1 Description of first aid measures**

· **General information:**

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

Involve doctor immediately.

· **After inhalation:**

Supply fresh air. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist.

In case of unconsciousness place patient stably in side position for transportation.

If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel.

· **After skin contact:**

Immediately rinse with water.

Immediately remove any clothing soiled by the product.

· **After eye contact:** Rinse opened eye for several minutes under running water. Then consult a doctor.

(Contd. on page 3)

**Trade name: Barium chloride**

(Contd. of page 2)

- **After swallowing:**  
Rinse out mouth.  
make victim drink water (maximum of 2 drinking glasses)  
Subsequently administer:  
activated charcoal (20 - 40 g in 10 % slurry)  
Do not induce vomiting; call for medical help immediately.
- **4.2 Most important symptoms and effects, both acute and delayed**  
No further relevant information available.
- **4.3 Indication of any immediate medical attention and special treatment needed**  
No further relevant information available.

## SECTION 5: Firefighting measures

- **5.1 Extinguishing media**
- **Suitable extinguishing agents:** Use fire extinguishing methods suitable to surrounding conditions.
- **5.2 Special hazards arising from the substance or mixture**  
In case of fire, the following can be released:  
Hydrogen chloride (HCl)  
Phosgene gas  
Non-combustible.
- **5.3 Advice for firefighters**
- **Protective equipment:** Wear self-contained respiratory protective device.
- **Additional information**  
Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.

## SECTION 6: Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures**  
Avoid formation of dust.  
Avoid substance contact.  
Ensure adequate ventilation
- **6.2 Environmental precautions:** Do not allow to enter sewers/ surface or ground water.
- **6.3 Methods and material for containment and cleaning up:**  
Pick up mechanically.  
Avoid formation of dust.  
Dispose contaminated material as waste according to section 13.  
Ensure adequate ventilation.  
Clean up affected area.
- **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**  
Ensure good ventilation/exhaustion at the workplace.  
Any unavoidable deposit of dust must be regularly removed.
- **Information about fire - and explosion protection:** The product is not flammable.
- **7.2 Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** No special requirements.

(Contd. on page 4)

**Trade name: Barium chloride**

(Contd. of page 3)

- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:**  
 Keep container tightly sealed.  
 Open receptacle only under localised extractor facilities.  
 Store receptacle in a well ventilated area.  
 Store under lock and key and with access restricted to technical experts or their assistants only.
- **Recommended storage temperature:** Room Temperature
- **Storage class:** 6.1 D
- **7.3 Specific end use(s)** No further relevant information available.

## SECTION 8: Exposure controls/personal protection

### · 8.1 Control parameters

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

**10326-27-9 Barium chloride**

WEL	Long-term value: 0.5 mg/m <sup>3</sup> as Ba
-----	---

### · DNELs

Oral	Long-term - systemic effects, general population	3.7 mg/kg
Dermal	Long-term - systemic effects, worker	43.2 mg/kg
	Long term - systemic effects, general population	25.9 mg/kg
Inhalative	Long-term - systemic effects, worker	8.8 mg/m <sup>3</sup>
	Long-term - systemic effects, general population	2.6 mg/m <sup>3</sup>

### · PNECs

Aquatic compartment - freshwater	0.115 mg/L
Aquatic compartment - sediment in freshwater	600.4 mg/kg
Terrestrial compartment - soil	207.7 mg/kg
Sewage treatment plant	62.2 mg/L

- **Additional information:** The lists valid during the making were used as basis.

### · 8.2 Exposure controls

- **Appropriate engineering controls** No further data; see section 7.
- **Individual protection measures, such as 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.  
 Vacuum clean contaminated clothing. Do not blow or brush off contamination.  
 Immediately remove all soiled and contaminated clothing

#### · **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.

Short term filter device:

Filter P3

#### · **Hand protection**



Protective gloves

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

(Contd. on page 5)

**Trade name: Barium chloride**

(Contd. of page 4)

· **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.

· **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.

· **For the permanent contact gloves made of the following materials are suitable:**

Nitrile rubber, NBR

Recommended thickness of the material:  $\geq 0.11$  mm

Value for the permeation: Level  $\geq 480$  min

· **As protection from splashes gloves made of the following materials are suitable:**

Nitrile rubber, NBR

Recommended thickness of the material:  $\geq 0.11$  mm

Value for the permeation: Level  $\geq 480$  min

· **Eye/face protection** Safety glasses

· **Body protection:**

Protective clothing should be selected specifically for the working place, depending on concentration and quantity of the hazardous substances handled.

## SECTION 9: Physical and chemical properties

· **9.1 Information on basic physical and chemical properties**

· **General Information**

· <b>Colour:</b>	White
· <b>Odour:</b>	Odourless
· <b>Odour threshold:</b>	Not determined.
· <b>Melting point/freezing point:</b>	962 °C
· <b>Boiling point or initial boiling point and boiling range</b>	1560 °C
· <b>Flammability</b>	Not determined. Not applicable.
· <b>Lower and upper explosion limit</b>	
· <b>Lower:</b>	Not determined.
· <b>Upper:</b>	Not determined.
· <b>Flash point:</b>	Not applicable.
· <b>Decomposition temperature:</b>	1560 °C
· <b>pH</b>	5.2-8
· <b>Viscosity:</b>	
· <b>Kinematic viscosity</b>	Not applicable.
· <b>Dynamic:</b>	Not applicable.
· <b>Solubility</b>	
· <b>water at 20 °C:</b>	357 g/l Insoluble.
· <b>Partition coefficient n-octanol/water (log value)</b>	Not determined.
· <b>Vapour pressure:</b>	Not applicable.
· <b>Density and/or relative density</b>	
· <b>Density at 20 °C:</b>	3.097 g/cm <sup>3</sup>
· <b>Relative density</b>	3.9
· <b>Bulk density:</b>	1,300 kg/m <sup>3</sup>
· <b>Vapour density</b>	Not applicable.

(Contd. on page 6)

Trade name: Barium chloride

(Contd. of page 5)

- **9.2 Other information**
- **Appearance:**
- **Form:** Powder
- **Important information on protection of health and environment, and on safety.**
- **Ignition temperature:** Not determined.
- **Explosive properties:** Product does not present an explosion hazard.
- **Change in condition**
- **Evaporation rate** Not applicable.

- **Information with regard to physical hazard classes**
- **Explosives** Void
- **Flammable gases** Void
- **Aerosols** Void
- **Oxidising gases** Void
- **Gases under pressure** Void
- **Flammable liquids** Void
- **Flammable solids** Void
- **Self-reactive substances and mixtures** Void
- **Pyrophoric liquids** Void
- **Pyrophoric solids** Void
- **Self-heating substances and mixtures** Void
- **Substances and mixtures, which emit flammable gases in contact with water** Void
- **Oxidising liquids** Void
- **Oxidising solids** Void
- **Organic peroxides** Void
- **Corrosive to metals** Void
- **Desensitised explosives** Void

## SECTION 10: Stability and reactivity

- **10.1 Reactivity** No further relevant information available.
- **10.2 Chemical stability**
- **Thermal decomposition / conditions to be avoided:**  
No decomposition if used according to specifications.
- **10.3 Possibility of hazardous reactions**  
Reacts with strong oxidising agents.  
Reacts with reducing agents.
- **10.4 Conditions to avoid** No further relevant information available.
- **10.5 Incompatible materials:** halogen-halogen compounds
- **10.6 Hazardous decomposition products:** In the event of fire: See chapter 5

## SECTION 11: Toxicological information

- **11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008**
- **Acute toxicity**  
Toxic if swallowed.  
Harmful if inhaled.

(Contd. on page 7)

**Trade name: Barium chloride**

(Contd. of page 6)

· **LD/LC50 values relevant for classification:**

Components	Type	Value	Species
Oral	LD50	<300 mg/kg (rat) (anhydrous subst.)	
Dermal	LD50	>2,000 mg/kg (rat)	
Inhalative	LC50/4 h	>1 mg/l (rat)	

- **Skin corrosion/irritation** Based on available data, the classification criteria are not met.
- **Serious eye damage/irritation**  
Causes serious eye irritation.
- **After inhalation:** No irritant effect.
- **Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.
- **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.
- **Aspiration hazard** Based on available data, the classification criteria are not met.
- **Additional toxicological information:**

· **Repeated dose toxicity**

Oral	NOAEL	91 mg/kg bw/day (rat)
------	-------	-----------------------

- **11.2 Information on other hazards**
- **Endocrine disrupting properties** Substance is not listed.

**SECTION 12: Ecological information**

- **12.1 Toxicity**
- **Aquatic toxicity:**

Type of test	Effective concentration	Method	Assessment
EC50/72 h	>1.15 mg/l (Algae)		
EC50/48 h	14.5 mg/l (daphnia magna)		
LC50/96 h	>3.5 mg/l (fish)		
NOEC/72 h	>1.15 mg/l (Algae)		

- **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.
- **12.5 Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **12.6 Endocrine disrupting properties**  
The product does not contain substances with endocrine disrupting properties.
- **12.7 Other adverse effects**
- **Additional ecological information:**
- **General notes:**  
Water hazard class 1 (German Regulation) (Assessment by list): slightly hazardous for water  
Do not allow product to reach ground water, water course or sewage system.



Trade name: Barium chloride

(Contd. of page 7)

### SECTION 13: Disposal considerations

- **13.1 Waste treatment methods**
- **Recommendation**  
 Chemicals must be disposed of in compliance with the respective national regulations.  
 Must not be disposed together with household garbage. Do not allow product to reach sewage system.
- **Uncleaned packaging:**
- **Recommendation:**  
 Disposal must be made according to official regulations.  
 Packagings that may not be cleansed are to be disposed of in the same manner as the product.

### SECTION 14: Transport information

· <b>14.1 UN number or ID number</b>	
· <b>ADR, IMDG, IATA</b>	UN1564
· <b>14.2 UN proper shipping name</b>	
· <b>ADR, IMDG, IATA</b>	BARIUM COMPOUND, N.O.S. (Barium chloride)
· <b>14.3 Transport hazard class(es)</b>	
· <b>ADR</b>	
	
· <b>Class</b>	6.1 (T5) Toxic substances.
· <b>Label</b>	6.1
· <b>IMDG, IATA</b>	
	
· <b>Class</b>	6.1 Toxic substances.
· <b>Label</b>	6.1
· <b>14.4 Packing group</b>	
· <b>ADR, IMDG, IATA</b>	III
· <b>14.5 Environmental hazards:</b>	Not applicable.
· <b>14.6 Special precautions for user</b>	Warning: Toxic substances.
· <b>Hazard identification number (Kemler code):</b>	60
· <b>EMS Number:</b>	F-A,S-A
· <b>Stowage Category</b>	A
· <b>14.7 Maritime transport in bulk according to IMO instruments</b>	Not applicable.
· <b>Transport/Additional information:</b>	
· <b>ADR</b>	
· <b>Limited quantities (LQ)</b>	5 kg

(Contd. on page 9)



Trade name: Barium chloride

(Contd. of page 8)

· <b>Excepted quantities (EQ)</b>	Code: E1 Maximum net quantity per inner packaging: 30 g Maximum net quantity per outer packaging: 1000 g
· <b>Transport category</b>	2
· <b>Tunnel restriction code</b>	E
<hr/>	
· <b>IMDG</b>	
· <b>Limited quantities (LQ)</b>	5 kg
· <b>Excepted quantities (EQ)</b>	Code: E1 Maximum net quantity per inner packaging: 30 g Maximum net quantity per outer packaging: 1000 g
· <b>UN "Model Regulation":</b>	UN 1564 BARIUM COMPOUND, N.O.S. (BARIUM CHLORIDE), 6.1, III

## SECTION 15: Regulatory information

- **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **Directive 2012/18/EU**
- **Named dangerous substances - ANNEX I** Substance is not listed.
- **15.2 Chemical safety assessment:** A Chemical Safety Assessment has 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.

- **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)  
DNEL: Derived No-Effect Level (UK REACH)  
PNEC: Predicted No-Effect Concentration (UK REACH)  
LC50: Lethal concentration, 50 percent  
LD50: Lethal dose, 50 percent  
PBT: Persistent, Bioaccumulative and Toxic  
vPvB: very Persistent and very Bioaccumulative  
Acute Tox. 3: Acute toxicity – Category 3  
Acute Tox. 4: Acute toxicity – Category 4  
Eye Irrit. 2: Serious eye damage/eye irritation – Category 2
- **\* Data compared to the previous version altered.**

## Annex: Exposure scenario

- **Short title of the exposure scenario**
- **Sector of Use**  
SU3 Industrial uses: Uses of substances as such or in preparations at industrial sites  
SU8 Manufacture of bulk, large scale chemicals (including petroleum products)  
SU9 Manufacture of fine chemicals  
SU10 Formulation [mixing] of preparations and/or re-packaging (excluding alloys)
- **Description of the activities / processes covered in the Exposure Scenario**  
See section 1 of the annex to the Safety Data Sheet.

(Contd. on page 10)

**Trade name: Barium chloride**

(Contd. of page 9)

- **Conditions of use**
- **Duration and frequency** 5 workdays/week.
- **Physical parameters**
- **Physical state** Solid
- **Concentration of the substance in the mixture** Raw material.
- **Used amount per time or activity** ≤ 1 tons per day
- **Other operational conditions**
- **Other operational conditions affecting environmental exposure** No special measures required.
- **Other operational conditions affecting worker exposure**  
Avoid breathing particles.  
Avoid contact with eyes.
- **Other operational conditions affecting consumer exposure** Keep out of the reach of children.
- **Other operational conditions affecting consumer exposure during the use of the product**  
Not applicable.
- **Risk management measures**
- **Worker protection**
- **Organisational protective measures** No special measures required.
- **Technical protective measures** Ensure that suitable extractors are available on processing machines
- **Personal protective measures**  
Do not inhale dust / smoke / mist.  
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.  
Short term filter device:  
Filter P3  
Avoid contact with the eyes.  
Tightly sealed goggles
- **Measures for consumer protection**  
Ensure adequate labelling.  
Keep locked up and out of the reach of children.
- **Environmental protection measures**
- **Water** No special measures required.
- **Disposal measures** Ensure that waste is collected and contained.
- **Disposal procedures**  
Must not be disposed together with household garbage. Do not allow product to reach sewage system.
- **Waste type** Partially emptied and uncleaned packaging
- **Exposure estimation**
- **Consumer** Not relevant for this Exposure Scenario.