

### SECTION 1: Identification

#### 1.1. Product identifier

Trade name : BARIUM CHLORIDE 2hydr  
 EC Index-No. : 056-004-00-8  
 CAS-No. : 10326-27-9  
 UN-No. (ADR) : 1564  
 Product code : 102010xxx  
 Formula : BaCl<sub>2</sub>.2H<sub>2</sub>O

#### 1.2. Relevant identified uses of the substance or mixture and uses advised against

Recommended uses and restrictions : For laboratory use only

#### 1.3. Supplier's details

Labchem (Pty)Ltd  
 6 Wakefield Road  
 Founders Hill  
 1609 Johannesburg - South Africa  
 T +27 11 452 1116 - F +27 86 588 0293  
[techlab@labchem.co.za](mailto:techlab@labchem.co.za) - [www.labchem.co.za](http://www.labchem.co.za)

#### 1.4. Emergency telephone number

Emergency number : +27 11 452 1116

### SECTION 2: Hazards identification

#### 2.1. Classification of the substance or mixture

##### Classification according to the United Nations GHS

Acute toxicity (oral), Category 3 H301  
 Hazardous to the aquatic environment — H402  
 Acute Hazard, Category 3  
 Full text of H statements : see section 16

#### 2.2. Label elements

##### Labelling according to the United Nations GHS

Hazard pictograms (GHS-ZA) :



GHS06

Signal word (GHS-ZA) : Danger  
 Hazard statements (GHS-ZA) : H301 - Toxic if swallowed.  
 H402 - Harmful to aquatic life  
 Precautionary statements (GHS-ZA) : P264 - Wash hands, forearms and face thoroughly after handling.  
 P270 - Do not eat, drink or smoke when using this product.  
 P273 - Avoid release to the environment.  
 P301+P310 - IF SWALLOWED: Immediately call a POISON CENTER or doctor.  
 P321 - Specific treatment (see supplemental first aid instruction on this label).  
 P330 - Rinse mouth.  
 P405 - Store locked up.  
 P501 - Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

#### 2.3. Other hazards

Adverse physicochemical, human health and environmental effects : Toxic if swallowed, Harmful to aquatic life

### SECTION 3: Composition/information on ingredients

#### 3.1. Substances

Substance identification codes: See section 1.1

Name	Product identifier	%	Classification according to the United Nations GHS
barium chloride, dihydrate (Main constituent)	(CAS-No.) 10326-27-9	≥ 99	Acute Tox. 3 (Oral), H301 Aquatic Acute 3, H402

Full text of H-statements: see section 16

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According to SANS 10234:2019 and SANS 11014:2010

### 3.2. Mixtures

Not applicable

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

First-aid measures general	: Check the vital functions. Unconscious: maintain adequate airway and respiration. Respiratory arrest: artificial respiration or oxygen. Cardiac arrest: perform resuscitation. Victim conscious with laboured breathing: half-seated. Victim in shock: on his back with legs slightly raised. Vomiting: prevent asphyxia/aspiration pneumonia. Prevent cooling by covering the victim (no warming up). Keep watching the victim. Give psychological aid. Keep the victim calm, avoid physical strain. Depending on the victim's condition: doctor/hospital. Call a physician immediately.
First-aid measures after inhalation	: Remove person to fresh air and keep comfortable for breathing. Remove the victim into fresh air. Respiratory problems: consult a doctor/medical service.
First-aid measures after skin contact	: Rinse with water. Soap may be used. Do not apply (chemical) neutralizing agents. Take victim to a doctor if irritation persists. Wash skin with plenty of water.
First-aid measures after eye contact	: Rinse with water. Remove contact lenses, if present and easy to do. Continue rinsing. Do not apply neutralizing agents. Take victim to an ophthalmologist if irritation persists. Rinse eyes with water as a precaution.
First-aid measures after ingestion	: Rinse mouth with water. Give nothing to drink. Victim is fully conscious: immediately induce vomiting. Induce vomiting by giving a 0.9 % saline solution. Immediately consult a doctor/medical service. Call Poison Information Centre ( <a href="http://www.big.be/antigif.html">www.big.be/antigif.html</a> ). Take the container/vomit to the doctor/hospital. Ingestion of large quantities: immediately to hospital. Doctor: administration of chemical antidote. Doctor: gastric lavage. Rinse mouth. Call a physician immediately.

### 4.2. Most important symptoms and effects, both acute and delayed

Symptoms/effects after inhalation	: EXPOSURE TO HIGH CONCENTRATIONS: Dry/sore throat. Coughing.
Symptoms/effects after eye contact	: Redness of the eye tissue.
Symptoms/effects after ingestion	: Vomiting. Nausea. Abdominal pain. Blood in stool. Bleeding of the gastrointestinal tract. Increased salivation. Myasthenia. Cramps/uncontrolled muscular contractions. Paralysis. Disturbances of heart rate. High arterial pressure.
Potential adverse human health effects and symptoms	: Toxic if swallowed. Harmful if inhaled.

### 4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

Suitable extinguishing media	: Adapt extinguishing media to the environment for surrounding fires. Water spray. Dry powder. Foam.
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### 5.2. Special hazards arising from the substance or mixture

Fire hazard	: DIRECT FIRE HAZARD: Non combustible.
Hazardous decomposition products in case of fire	: On burning: release of toxic and corrosive gases/vapours (hydrogen chloride).

### 5.3. Advice for firefighters

Precautionary measures fire	: Exposure to fire/heat: keep upwind. Exposure to fire/heat: consider evacuation. Exposure to fire/heat: have neighbourhood close doors and windows.
Firefighting instructions	: Cool tanks/drums with water spray/remove them into safety. Dilute toxic gases with water spray. Take account of toxic fire-fighting water. Use water moderately and if possible collect or contain it.
Protection during firefighting	: Heat/fire exposure: compressed air/oxygen apparatus. Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

## SECTION 6: Accidental release measures

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

No additional information available

#### 6.1.1. For non-emergency personnel

Protective equipment	: Gloves. Protective clothing. Dust cloud production: compressed air/oxygen apparatus. Reactivity hazard: compressed air/oxygen apparatus. Reactivity hazard: gas-tight suit.
Emergency procedures	: Ventilate spillage area. Mark the danger area. Prevent dust cloud formation. No naked flames. Wash contaminated clothes. In case of hazardous reactions: keep upwind. In case of reactivity hazard: consider evacuation.

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According to SANS 10234:2019 and SANS 11014:2010

### 6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

### 6.2. Environmental precautions

Avoid release to the environment. Prevent soil and water pollution. Prevent spreading in sewers.

### 6.3. Methods and material for containment and cleaning up

For containment : Contain released product, pump into suitable containers. Plug the leak, cut off the supply. Dam up the solid spill. Knock down/dilute dust cloud with water spray. If reacting: dilute toxic gas/vapour with water spray. Take account of toxic/corrosive precipitation water. Collect spillage.

Methods for cleaning up : Mechanically recover the product. Stop dust cloud by covering with sand/earth. Scoop solid spill into closing containers. Carefully collect the spill/leftovers. Clean contaminated surfaces with an excess of water and soap solution. Take collected spill to manufacturer/competent authority. Wash clothing and equipment after handling.

Other information : Dispose of materials or solid residues at an authorized site.

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

Precautions for safe handling : Ensure good ventilation of the work station. Wear personal protective equipment. Avoid raising dust. Keep away from naked flames/heat. Measure the concentration in the air regularly. Carry operations in the open/under local exhaust/ventilation or with respiratory protection. Comply with the legal requirements. Clean contaminated clothing. Thoroughly clean/dry the installation before use. Do not discharge the waste into the drain. Keep container tightly closed.

Hygiene measures : Observe strict hygiene. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

Additional hazards when processed : Pulverization rapidly increases toxic concentration.

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

Storage conditions : Store locked up. Store in a well-ventilated place. Keep cool.

Storage area : Store in a dry area. Keep container in a well-ventilated place. Keep locked up. Unauthorized persons are not admitted. Meet the legal requirements.

Heat and ignition sources : KEEP SUBSTANCE AWAY FROM: heat sources.

Information on mixed storage : KEEP SUBSTANCE AWAY FROM: oxidizing agents. (strong) acids.

Special rules on packaging : SPECIAL REQUIREMENTS: closing. clean. correctly labelled. meet the legal requirements. Secure fragile packagings in solid containers.

Packaging materials : SUITABLE MATERIAL: steel. stainless steel. paper with plastic inner lining. cardboard. synthetic material. MATERIAL TO AVOID: aluminium.

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

BARIUM CHLORIDE 2hydr (10326-27-9)	
South Africa - Occupational Exposure Limits (Recommended Limits)	
Local name	Barium soluble compounds - as Ba
OEL TWA (mg/m <sup>3</sup> )	1 mg/m <sup>3</sup>
Regulatory reference	Government Notice. R: 1179

### 8.2. Appropriate engineering controls

Appropriate engineering controls : Ensure good ventilation of the work station.

Environmental exposure controls : Avoid release to the environment.

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

Materials for protective clothing : GIVE GOOD RESISTANCE: butyl rubber. chloroprene rubber. chlorinated polyethylene. neoprene. PVC. viton

Hand protection : Gloves

Eye protection : Safety glasses. In case of dust production: protective goggles. Safety glasses

Skin and body protection : Protective clothing

Respiratory protection : Dust production: dust mask with filter type P3. High dust production: self-contained breathing apparatus

**Personal protective equipment symbol(s):**

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According to SANS 10234:2019 and SANS 11014:2010



### 8.4. Exposure limit values for the other components

No additional information available

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

Physical state	: Solid
Appearance	: Crystalline solid. Powder. Crystalline powder. Grains.
Molecular mass	: 244.28 g/mol
Colour	: Colourless to white.
Odour	: Odourless.
Odour threshold	: No data available
pH	: 5 – 8 (5 %)
pH solution	: No data available
Relative evaporation rate (butylacetate=1)	: No data available
Relative evaporation rate (ether=1)	: No data available
Melting point	: 963 °C
Freezing point	: Not applicable
Boiling point	: 1560 °C
Flash point	: Not applicable
Auto-ignition temperature	: Not applicable
Decomposition temperature	: No data available
Flammability (solid, gas)	: Non flammable.
Vapour pressure	: < 0.1 hPa (20 °C)
Vapour pressure at 50 °C	: No data available
Relative vapour density at 20 °C	: Not applicable
Relative density	: 3.1
Relative density of saturated gas/air mixture	: No data available
Density	: 3100 kg/m <sup>3</sup>
Relative gas density	: No data available
Solubility	: Soluble in water. Water: 36 g/100ml
Partition coefficient n-octanol/water (Log Pow)	: No data available
Partition coefficient n-octanol/water (Log Kow)	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive properties	: No data available
Oxidising properties	: No data available
Explosive limits	: Not applicable
Lower explosive limit (LEL)	: No data available
Upper explosive limit (UEL)	: No data available

### 9.2. Other information

VOC content : 0 %

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

Reacts with (strong) oxidizers.

### 10.2. Chemical stability

Stable under normal conditions.

### 10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

### 10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).

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According to SANS 10234:2019 and SANS 11014:2010

### 10.5. Incompatible materials

No additional information available

### 10.6. Hazardous decomposition products

Reacts with (some) acids: release of toxic and corrosive gases/vapours (hydrogen chloride).

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

Acute toxicity (oral) : Toxic if swallowed.

Acute toxicity (dermal) : Not classified

Acute toxicity (inhalation) : Not classified

#### BARIUM CHLORIDE 2hydr (10326-27-9)

LD50 oral rat	118 mg/kg (Rat, Oral)
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Skin corrosion/irritation : Not classified  
pH: 5 – 8 (5 %)

Serious eye damage/irritation : Not classified  
pH: 5 – 8 (5 %)

Respiratory or skin sensitisation : Not classified

Germ cell mutagenicity : Not classified

Carcinogenicity : Not classified

Reproductive toxicity : Not classified

STOT-single exposure : Not classified

STOT-repeated exposure : Not classified

Aspiration hazard : Not classified

Potential adverse human health effects and symptoms : Toxic if swallowed. Harmful if inhaled.

## SECTION 12: Ecological information

### 12.1. Toxicity

Ecology - general : Not classified as dangerous for the environment according to the criteria of Regulation (EC) No 1272/2008. Harmful to aquatic life.

Ecology - air : Not included in the list of substances which may contribute to the greenhouse effect (IPCC). Not included in the list of fluorinated greenhouse gases (Regulation (EU) No 517/2014). Not classified as dangerous for the ozone layer (Regulation (EC) No 1005/2009).

Ecology - water : Harmful to crustacea. Slightly harmful to fishes. Harmful to aquatic plants. Groundwater pollutant. Mild water pollutant (surface water). Not harmful to bacteria.

Hazardous to the aquatic environment, short-term (acute) : Harmful to aquatic life.

Hazardous to the aquatic environment, long-term (chronic) : Not classified

#### BARIUM CHLORIDE 2hydr (10326-27-9)

LC50 fish 1	870 mg/l (Leuciscus idus)
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EC50 Daphnia 1	21.9 mg/l (48 h, Daphnia magna, Anhydrous form)
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### 12.2. Persistence and degradability

#### BARIUM CHLORIDE 2hydr (10326-27-9)

Persistence and degradability	Biodegradability: not applicable.
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Chemical oxygen demand (COD)	Not applicable
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ThOD	Not applicable
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BOD (% of ThOD)	Not applicable
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### 12.3. Bioaccumulative potential

#### BARIUM CHLORIDE 2hydr (10326-27-9)

Bioaccumulative potential	No bioaccumulation data available.
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### 12.4. Mobility in soil

#### BARIUM CHLORIDE 2hydr (10326-27-9)

Mobility in soil	No additional information available
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### 12.5. Other adverse effects

Ozone : Not classified

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According to SANS 10234:2019 and SANS 11014:2010

Other adverse effects : No additional information available

### SECTION 13: Disposal considerations

#### 13.1. Disposal methods




Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.

Product/Packaging disposal recommendations : Remove waste in accordance with local and/or national regulations. Hazardous waste shall not be mixed together with other waste. Different types of hazardous waste shall not be mixed together if this may entail a risk of pollution or create problems for the further management of the waste. Hazardous waste shall be managed responsibly. All entities that store, transport or handle hazardous waste shall take the necessary measures to prevent risks of pollution or damage to people or animals. Remove to an authorized dump (Class I). Detoxicate.

Additional information : Hazardous waste according to Directive 2008/98/EC, as amended by Regulation (EU) No 1357/2014 and Regulation (EU) No 2017/997.

### SECTION 14: Transport information

In accordance with SANS / IMDG / IATA

SANS	IMDG	IATA
<b>14.1. UN number</b>		
1564	1564	1564
<b>14.2. Proper Shipping Name</b>		
BARIUM COMPOUND, N.O.S.	BARIUM COMPOUND, N.O.S.	Barium compound, n.o.s.
<b>14.3. Transport hazard class(es)</b>		
6.1	6.1	6.1
		 Not applicable
<b>14.4. Packing group</b>		
II	II	II
<b>14.5. Environmental hazards</b>		
Dangerous for the environment : No	Dangerous for the environment : No :	Dangerous for the environment : No
No supplementary information available		

#### 14.6. Special precautions for user

##### - SANS

Transport regulations (UN) : Subject to the provisions

Special provisions (SANS) : 177

Limited quantities (SANS) : 500 g

Limited quantities (SANS) : 500 g

Packagings, large packagings and IBCs : P002, IBC08

Packing instructions (SANS)

Packagings, large packagings and IBCs Special : B2, B4

packing instructions (SANS)

Portable tank and bulk containers instructions : T3

(SANS)

Portable tank and bulk container special : TP33

provisions (SANS)

##### - IMDG

Transport regulations (IMDG) : Subject to the provisions

Special provisions (IMDG) : 177, 274

Limited quantities (IMDG) : 500 g

Excepted quantities (IMDG) : E4

Packing instructions (IMDG) : P002

IBC packing instructions (IMDG) : IBC08

IBC special provisions (IMDG) : B21, B4

Tank instructions (IMDG) : T3

Tank special provisions (IMDG) : TP33

EmS-No. (Fire) : F-A - FIRE SCHEDULE Alfa - GENERAL FIRE SCHEDULE

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According to SANS 10234:2019 and SANS 11014:2010

EmS-No. (Spillage) : S-A - SPILLAGE SCHEDULE Alfa - TOXIC SUBSTANCES  
Stowage category (IMDG) : A  
Properties and observations (IMDG) : White powder, lumps or crystals. Toxic if swallowed, by skin contact or by inhalation.

### - IATA

Transport regulations (IATA) : Subject to the provisions  
PCA Excepted quantities (IATA) : E4  
PCA Limited quantities (IATA) : Y644  
PCA limited quantity max net quantity (IATA) : 1kg  
PCA packing instructions (IATA) : 669  
PCA max net quantity (IATA) : 25kg  
CAO packing instructions (IATA) : 676  
CAO max net quantity (IATA) : 100kg  
Special provisions (IATA) : A3, A82  
ERG code (IATA) : 6L

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

Not applicable

## SECTION 15: Regulatory information

### 15.1. Safety, health, and environmental national regulations specific for the product

Regulatory reference : SANS 10234:2008; SANS 11014:2010; SANS 10228:2012; SANS 10229:2010; SANS 10232(1,2,4), SANS 10231:2018; Occupational Health and Safety Act 85 of 1993; National Road Traffic Act 93 of 1996.

## SECTION 16: Other information

Issue date : 01/07/2020  
Revision date : 01/07/2025

Full text of H-statements:

H301	Toxic if swallowed.
H402	Harmful to aquatic life

SDS South Africa

*The data provided in this Safety Data Sheet (SDS) is correct to the best of our knowledge. The data relates to the specific product as named and is intended as a guide to the safe handling of the product in all its facets. The data may no longer be valid if the product is used in any process or in combination with other products. This SDS is not a quality specification nor any form of guarantee.*