

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

1.1. Product identifier

Product form	: Substance
Trade name	: Barium chloride.2aq v.p.
EC Index-No.	: 056-004-00-8
CAS-No.	: 10326-27-9
Product code	: CL00.0203
Type of product	: Pure substance
Formula	: BaCl ₂ .2H ₂ O
Synonyms	: barium chloride, dihydrate / barium dichloride, dihydrate / bariummuriate, dihydrate / chloride of barium, dihydrate / muriate of barium, dihydrate
BIG No	: 15336

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

1.2.1. Relevant identified uses

Use of the substance/mixture : Laboratory chemical

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

Chem-Lab nv
Industriezone 'De arend 2'
Zedelgem – Belgium
Belgium
T +32 50 288320
info@chem-lab.be - <https://www.chem-lab.be>

1.4. Emergency telephone number

Emergency number : +32 50 28 83 20

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Acute toxicity (oral), Category 3	H301
Acute toxicity (inhal.), Category 4	H332
Full text of H- and EUH-statements: see section 16	

Adverse physicochemical, human health and environmental effects

No additional information available

2.2. Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP) :



GHS06

Signal word (CLP)	: Danger
Hazard statements (CLP)	: H301 - Toxic if swallowed. H332 - Harmful if inhaled.

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Precautionary statements (CLP) : P330 - Rinse mouth.
P270 - Do not eat, drink or smoke when using this product.
P301+P312 - IF SWALLOWED: Call a POISON CENTRE or doctor if you feel unwell.

2.3. Other hazards

No additional information available

SECTION 3: Composition/information on ingredients

3.1. Substances

Substance type : Mono-constituent

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Barium chloride.2aq v.p.	CAS-No.: 10326-27-9 EC Index-No.: 056-004-00-8	100	Acute Tox. 3 (Oral), H301 (ATE=118 mg/kg bodyweight) Acute Tox. 4 (Inhalation), H332

Full text of H- and EUH-statements: see section 16

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.

First-aid measures after inhalation : 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 without medical advice. Take victim to a doctor if irritation persists.

First-aid measures after eye contact : Rinse with water. Remove contact lenses, if present and easy to do. Continue rinsing. Do not apply (chemical) neutralizing agents without medical advice.

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 (www.big.be/antigif.html). Take the container/vomit to the doctor/hospital. Ingestion of large quantities: immediately to hospital. Doctor: administration of chemical antidote. Doctor: gastric lavage.

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.

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

No additional information available

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SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Adapt extinguishing media to the environment for surrounding fires.

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: self-contained breathing apparatus (EN 136 + EN 137).

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Protective equipment : Gloves (EN 374). Protective clothing (EN 14605 or EN 13034). Dust cloud production: self-contained breathing apparatus (EN 136 + EN 137). Reactivity hazard: self-contained breathing apparatus (EN 136 + EN 137). Reactivity hazard: gas-tight suit (EN 943).
Emergency procedures : 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.
Measures in case of dust release : In case of dust production: keep upwind. In case of dust production: consider evacuation. Dust production: have neighbourhood close doors and windows.

6.1.2. For emergency responders

No additional information available

6.2. Environmental precautions

Prevent soil and water pollution. Prevent spreading in sewers.

6.3. Methods and material for containment and cleaning up

For containment : Contain released product, collect/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.
Methods for cleaning up : 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.

6.4. Reference to other sections

No additional information available

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Additional hazards when processed : Pulverization rapidly increases toxic concentration.

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Precautions for safe handling	: 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.

7.2. Conditions for safe storage, including any incompatibilities

Heat and ignition sources	: KEEP SUBSTANCE AWAY FROM: heat sources.
Information on mixed storage	: KEEP SUBSTANCE AWAY FROM: oxidizing agents. (strong) acids.
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.
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.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

8.1.1 National occupational exposure and biological limit values

Barium chloride.2aq v.p. (10326-27-9)	
EU - Indicative Occupational Exposure Limit (IOEL)	
IOEL TWA	0.5 mg/m ³ ((Ba))
Belgium - Occupational Exposure Limits	
OEL TWA	0.5 mg/m ³
France - Occupational Exposure Limits	
VME (OEL TWA)	0.5 mg/m ³
Netherlands - Occupational Exposure Limits	
TGG-8u (OEL TWA)	0.5 mg/m ³ (als Ba)
United Kingdom - Occupational Exposure Limits	
WEL TWA (OEL TWA) [1]	0.5 mg/m ³
USA - ACGIH - Occupational Exposure Limits	
ACGIH OEL TWA	0.5 mg/m ³

8.1.2. Recommended monitoring procedures

No additional information available

8.1.3. Air contaminants formed

No additional information available

8.1.4. DNEL and PNEC

No additional information available

8.1.5. Control banding

No additional information available

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8.2. Exposure controls

8.2.1. Appropriate engineering controls

No additional information available

8.2.2. Personal protection equipment

Personal protective equipment symbol(s):



8.2.2.1. Eye and face protection

Eye protection:

Safety glasses (EN 166). In case of dust production: protective goggles (EN 166)

8.2.2.2. Skin protection

Skin and body protection:

Protective clothing (EN 14605 or EN 13034)

Hand protection:

Gloves

Other skin protection

Materials for protective clothing:

Good resistance: Butyl rubber. neoprene (chloroprene rubber). Chlorinated polyethylene. Polyvinylchloride (PVC). Viton

8.2.2.3. Respiratory protection

Respiratory protection:

Dust production: dust mask with filter type P3. High dust production: self-contained breathing apparatus (EN 136 + EN 137)

8.2.2.4. Thermal hazards

No additional information available

8.2.3. Environmental exposure controls

No additional information available

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Solid
Colour	: Colourless to white.
Appearance	: Crystalline solid. Powder. Crystalline powder. Grains.
Molecular mass	: 244.28 g/mol
Odour	: Odourless.
Odour threshold	: Not available
Melting point	: 963 °C
Freezing point	: Not available
Boiling point	: 1560 °C
Flammability	: Not available
Explosive limits	: Not applicable
Lower explosion limit	: Not applicable
Upper explosion limit	: Not applicable
Flash point	: Not applicable
Auto-ignition temperature	: Not applicable
Decomposition temperature	: Not available
pH	: 5 – 8 (5 %)
pH solution	: Not available
Viscosity, kinematic	: Not applicable

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Solubility	: Soluble in water. Water: 36 g/100ml
Partition coefficient n-octanol/water (Log Kow)	: Not available
Vapour pressure	: < 0.1 hPa (20 °C)
Vapour pressure at 50°C	: Not available
Density	: 3100 kg/m ³
Relative density	: 3.1
Relative vapour density at 20°C	: Not applicable
Particle size	: Not available

9.2. Other information

9.2.1. Information with regard to physical hazard classes

No additional information available

9.2.2. Other safety characteristics

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 additional information available

10.4. Conditions to avoid

No additional information available

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 hazard classes as defined in Regulation (EC) No 1272/2008

Acute toxicity (oral)	: Toxic if swallowed.
Acute toxicity (dermal)	: Not classified
Acute toxicity (inhalation)	: Harmful if inhaled.

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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

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STOT-repeated exposure : Not classified
Aspiration hazard : Not classified

11.2. Information on other hazards

11.2.1. Endocrine disrupting properties

No additional information available

11.2.2. Other information

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

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LC50 - Fish [1]	870 mg/l (Leuciscus idus)
EC50 - Crustacea [1]	21.9 mg/l (48 h, Daphnia magna, Anhydrous form)

12.2. Persistence and degradability

Barium chloride.2aq v.p. (10326-27-9)	
Persistence and degradability	Biodegradability: not applicable.
Chemical oxygen demand (COD)	Not applicable
ThOD	Not applicable
BOD (% of ThOD)	Not applicable

12.3. Bioaccumulative potential

Barium chloride.2aq v.p. (10326-27-9)	
Bioaccumulative potential	No bioaccumulation data available.

12.4. Mobility in soil

No additional information available

12.5. Results of PBT and vPvB assessment

No additional information available

12.6. Endocrine disrupting properties

No additional information available

12.7. Other adverse effects

No additional information available

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SECTION 13: Disposal considerations

13.1. Waste treatment methods

- 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.
- European List of Waste (LoW) code : 15 01 10* - packaging containing residues of or contaminated by dangerous substances
16 03 03* - inorganic wastes containing dangerous substances

SECTION 14: Transport information

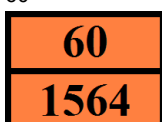
In accordance with ADR / IMDG / IATA / ADN / RID

ADR	IMDG	IATA	ADN	RID
14.1. UN number or ID number				
UN 1564	UN 1564	UN 1564	UN 1564	UN 1564
14.2. UN proper shipping name				
barium compound, n.o.s.	barium compound, n.o.s.	barium compound, n.o.s.	barium compound, n.o.s.	barium compound, n.o.s.
Transport document description				
UN 1564 barium compound, n.o.s., 6.1, III, (E)	UN 1564 barium compound, n.o.s., 6.1, III	UN 1564 barium compound, n.o.s., 6.1, III	UN 1564 barium compound, n.o.s., 6.1, III	UN 1564 barium compound, n.o.s., 6.1, III
14.3. Transport hazard class(es)				
6.1	6.1	6.1	6.1	6.1
				
14.4. Packing group				
III	III	III	III	III
14.5. Environmental hazards				
Dangerous for the environment: No	Dangerous for the environment: No Marine pollutant: No	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

Overland transport

- Transport regulations (ADR) : Subject to the provisions
- Classification code (ADR) : T5
- Hazard identification number (Kemler No.) : 60
- Orange plates :



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Tunnel restriction code (ADR) : E
EAC code : 2Z

Transport by sea

Transport regulations (IMDG) : Subject to the provisions
EmS-No. (Fire) : F-A
EmS-No. (Spillage) : S-A

Air transport

Transport regulations (IATA) : Subject to the provisions

Inland waterway transport

Classification code (ADN) : T5

Rail transport

Transport regulations (RID) : Subject to the provisions
Classification code (RID) : T5

14.7. Maritime transport in bulk according to IMO instruments

Not applicable

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

15.1.1. EU-Regulations

REACH Annex XVII (Restriction List)

Not listed on REACH Annex XVII

REACH Annex XIV (Authorisation List)

Not listed on REACH Annex XIV (Authorisation List)

REACH Candidate List (SVHC)

Not listed on the REACH Candidate List

PIC Regulation (Prior Informed Consent)

Not listed on the PIC list (Regulation EU 649/2012)

POP Regulation (Persistent Organic Pollutants)

Not listed on the POP list (Regulation EU 2019/1021)

Ozone Regulation (1005/2009)

Not listed on the Ozone Depletion list (Regulation EU 1005/2009)

VOC Directive (2004/42)

VOC content : 0 %

Explosives Precursors Regulation (2019/1148)

Contains no substance(s) listed on the Explosives Precursors list (Regulation EU 2019/1148 on the marketing and use of explosives precursors)

Drug Precursors Regulation (273/2004)

Contains no substance(s) listed on the Drug Precursors list (Regulation EC 273/2004 on the manufacture and the placing on market of certain substances used in the illicit manufacture of narcotic drugs and psychotropic substances)

15.1.2. National regulations

Austria

Poison Ordinance 2000 : Subject to the Poisons Ordinance 2000

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Germany

- Employment restrictions : Observe restrictions according Act on the Protection of Working Mothers (MuSchG).
Observe restrictions according Act on the Protection of Young People in Employment (JArbSchG).
- Water hazard class (WGK) : Not classified according to Regulation Governing Systems for Handling Substances Hazardous to Waters (AwSV).
- Storage class (LGK, TRGS 510) : LGK 6.1D - Non-combustible substances of acute toxicity, category 3 / hazardous substances that are toxic or produce chronic effects.
- Joint storage table :
- | | | | | |
|----------|---------|----------|----------|-----------|
| LGK 1 | LGK 2A | LGK 2B | LGK 3 | LGK 4.1A |
| LGK 4.1B | LGK 4.2 | LGK 4.3 | LGK 5.1A | LGK 5.1B |
| LGK 5.1C | LGK 5.2 | LGK 6.1A | LGK 6.1B | LGK 6.1C |
| LGK 6.1D | LGK 6.2 | LGK 7 | LGK 8A | LGK 8B |
| LGK 10 | LGK 11 | LGK 12 | LGK 13 | LGK 10-13 |
- Joint storage not permitted for : LGK 1, LGK 2A, LGK 4.1A, LGK 5.1A, LGK 5.1C, LGK 5.2, LGK 6.2, LGK 7.
- Joint storage with restrictions permitted for : LGK 3, LGK 4.1B, LGK 4.2, LGK 4.3, LGK 5.1B.
- Joint storage permitted for : LGK 2B, LGK 6.1A, LGK 6.1B, LGK 6.1C, LGK 6.1D, LGK 8A, LGK 8B, LGK 10, LGK 11, LGK 12, LGK 13, LGK 10-13.
- Chemicals Prohibition Ordinance (ChemVerbotsV) : This product is subject to ChemVerbotsV Annex 2 Entry 1. The following requirements must be observed: authorization requirement (according to § 6 paragraph 1 sentence 1), basic requirements for carrying out the delivery (according to § 8 paragraph 1, 3 and 4), identification and documentation (according to § 9 paragraph 1 to 3) and exclusion of the shipping route (according to § 10).
- Hazardous Incident Ordinance (12. BImSchV) : Is not subject of the Hazardous Incident Ordinance (12. BImSchV)

Netherlands

- ABM category : B(3) - hazardous for aquatic organisms
- SZW-lijst van kankerverwekkende stoffen : The substance is not listed
- SZW-lijst van mutagene stoffen : The substance is not listed
- SZW-lijst van reprotoxische stoffen – Borstvoeding : The substance is not listed
- SZW-lijst van reprotoxische stoffen – Vruchtbaarheid : The substance is not listed
- SZW-lijst van reprotoxische stoffen – Ontwikkeling : The substance is not listed

Denmark

- Danish National Regulations : Young people below the age of 18 years are not allowed to use the product

Switzerland

- Storage class (LK) : LK 6.1 - Toxic materials
- Chemicals Ordinance (SR 813.11) : Group 2

15.2. Chemical safety assessment

No additional information available

SECTION 16: Other information

Full text of H- and EUH-statements:

Acute Tox. 3 (Oral)	Acute toxicity (oral), Category 3
Acute Tox. 4 (Inhalation)	Acute toxicity (inhal.), Category 4
H301	Toxic if swallowed.
H332	Harmful if inhaled.

Safety Data Sheet (SDS), EU

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.