

Barium chloride.2aq v.p.

Revision: 03.11.2025

Product code: AC14.00423

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SECTION 1: Identification of the substance/mixture and of the company/undertaking**1.1. Product identifier**

Barium chloride.2aq v.p.

CAS No: 10326-27-9
Index No: 056-002-00-8
EC No: 233-788-1

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

Reagents and laboratory chemicals
Only for laboratory and analysis purposes.

Uses advised against

Do not use for private purposes (household).

1.3. Details of the supplier of the safety data sheet**Details of the supplier of the safety data sheet**

Company name: AnalytiChem Services, Unipessoal, Lda
Street: Rua de Júlio Dinis 676 7º
Place: N-4050-320 Porto
Telephone: +351 226002917
E-mail: info@analytichem.com
Contact person: SDS service department
E-mail: SDS@analytichem.com
Internet: www.analytichem.com
Responsible Department: SDS service department

Supplier or manufacturer details

Company name: AnalytiChem Belgium NV
Street: Industriezone "De Arend" 2
Place: B-8210 Zedelgem
Telephone: +32 50 28 83 20
E-mail: info.be@analytichem.com
Contact person: SDS service department
E-mail: SDS@analytichem.com
Responsible Department: AnalytiChem
EU-Belgium: AnalytiChem Belgium, Industriezone "De Arend" 2, 8210 Zedelgem, Belgium, +32 50 28 83 20
EU-Germany: AnalytiChem Germany, Stempelstrasse 6, 47167 Duisburg, Germany, +49 203 51 94 – 200
EU-Netherlands: AnalytiChem Netherlands, Communicatieweg 7, 3641 SG Mijdrecht, The Netherlands, +31 297 286848
UK: AnalytiChem UK, Unit 7 Launton Business Center, Murdock Road, Bicester, OX26 4XB, England, +44 1869 355 500
USA: AnalytiChem USA, 227 China Road, Winslow, Maine, 04901, United States, +1 800-244-8378
Canada: AnalytiChem Canada, 21800 Clark Graham Avenue, Baie d'Urfe, H9X 4B6, Canada, +1 514-457-0701
Australia: ORE Research & Exploration Pty Ltd, 37A Hosie Street, Bayswater North, 3153, Australia, +61 3 9729 0333

1.4. Emergency telephone**number:**

+44 20 3807 3798 (CHEMTREC)

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Further Information

A registration number is not available for this substance as the substance or its use are exempted from registration according to Article 2 REACH Regulation (EC) No 1907/2006, the annual tonnage does not require a registration or the registration is envisaged for a later registration deadline.

SECTION 2: Hazards identification**2.1. Classification of the substance or mixture****Regulation (EC) No 1272/2008**

Acute Tox. 3; H301

Acute Tox. 4; H332

Eye Irrit. 2; H319

Full text of hazard statements: see SECTION 16.

2.2. Label elements**Regulation (EC) No 1272/2008**

Signal word: Danger

Pictograms:

**Hazard statements**

H301 Toxic if swallowed.

H319 Causes serious eye irritation.

H332 Harmful if inhaled.

Precautionary statements

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

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

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

P337+P313 If eye irritation persists: Get medical advice/attention.

P501 Dispose of contents/container to an appropriate recycling or disposal facility.

2.3. Other hazards

No data available

SECTION 3: Composition/information on ingredients**3.1. Substances**Sum formula: BaCl₂ * 2 H₂O

Molecular weight: 244,28 g/mol

Relevant ingredients

| CAS No | Chemical name | | | Quantity |
|------------|--|--------------|-----------------------|----------|
| | EC No | Index No | REACH No | |
| | Classification (Regulation (EC) No 1272/2008) | | | |
| 10326-27-9 | Barium chloride dihydrate | | | 100 % |
| | 233-788-1 | 056-002-00-7 | 01-2119502547-42-XXXX | |
| | Acute Tox. 3, Acute Tox. 4, Eye Irrit. 2; H301 H332 H319 | | | |

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

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Specific Conc. Limits, M-factors and ATE

| CAS No | EC No | Chemical name | Quantity |
|------------|--|---------------------------|----------|
| | Specific Conc. Limits, M-factors and ATE | | |
| 10326-27-9 | 233-788-1 | Barium chloride dihydrate | 100 % |
| | inhalation: ATE = 11 mg/l (vapours); inhalation: ATE = 1,5 mg/l (dusts or mists); oral: LD50 = 619 mg/kg | | |

Further Information

This product does not contain substances of very high concern according to Regulation (EC) No 1907/2006 (REACH), Article 57 above the respective regulatory concentration limit of = 0.1 % (w/w).

SECTION 4: First aid measures**4.1. Description of first aid measures****General information**

Self-protection of the first aider

After inhalation

Provide fresh air.
If breathing is irregular or stopped, administer artificial respiration.
Call a physician immediately.

After contact with skin

Wash immediately with: Water
Take off immediately all contaminated clothing and wash it before reuse.

After contact with eyes

Rinse immediately carefully and thoroughly with eye-bath or water.
In case of eye irritation consult an ophthalmologist.

After ingestion

Never give anything by mouth to an unconscious person or a person with cramps.
Rinse mouth immediately and drink plenty of water.
Call a physician immediately.

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

Irritant
Gastrointestinal complaints
Circulatory collapse
Spasms
Cardiac arrhythmias
Respiratory complaints
Dyspnoea
Vomiting
Abdominal pain
Conjunctival oedema (chemosis).
Cough
Dermatitis

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

Give sodium sulfate as laxative (1 tablespoon in 1 glass of water).

SECTION 5: Firefighting measures**5.1. Extinguishing media****Suitable extinguishing media**

Co-ordinate fire-fighting measures to the fire surroundings.

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Unsuitable extinguishing media

no restriction

5.2. Special hazards arising from the substance or mixture

Non-combustible solids

Hazardous combustion products

In case of fire may be liberated:

Hydrogen chloride (HCl)

5.3. Advice for firefighters

Do not inhale explosion and combustion gases.

Avoid contact with skin, eyes and clothes.

In case of fire: Wear self-contained breathing apparatus.

Additional information

Suppress gases/vapours/mists with water spray jet.

Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water.

SECTION 6: Accidental release measures**6.1. Personal precautions, protective equipment and emergency procedures****For non-emergency personnel**

Provide adequate ventilation.

Use personal protection equipment.

Avoid contact with skin, eyes and clothes.

Remove persons to safety.

Emergency procedures

Consult an expert

Do not breathe dust/fume/gas/mist/vapours/spray.

For emergency responders

Precautionary statements For emergency responders : Personal protection equipment: see section 8

6.2. Environmental precautions

Do not allow to enter into surface water or drains.

6.3. Methods and material for containment and cleaning up**For containment**

Cover drains.

Prevent spread over a wide area (e.g. by containment or oil barriers).

Collect in closed and suitable containers for disposal.

Take up carefully when dry. Take up dust-free and set down dust-free.

For cleaning up

Clean contaminated articles and floor according to the environmental legislation.

Other information

Provide adequate ventilation.

Do not breathe dust/fume/gas/mist/vapours/spray.

Wear breathing apparatus if exposed to vapours/dusts/aerosols.

6.4. Reference to other sections

Safe handling: see section 7

Personal protection equipment: see section 8

Disposal: see section 13

SECTION 7: Handling and storage**7.1. Precautions for safe handling**

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Advice on safe handling

Read label before use. Handle and open container with care.
Avoid dust formation. Do not breathe dust.
When using do not eat, drink, smoke, sniff. Keep container tightly closed.
Use personal protection equipment. Use extractor hood (laboratory).
Provide adequate ventilation. Avoid contact with skin, eyes and clothes.

Advice on protection against fire and explosion

Usual measures for fire prevention.

Advice on general occupational hygiene

Keep away from food, drink and animal feedingstuffs. Make available sufficient washing facilities
Remove contaminated, saturated clothing immediately. Draw up and observe skin protection programme. Wash hands and face before breaks and after work and take a shower if necessary. When using do not eat or drink.

Further information on handling

Draw up and observe skin protection programme.
Wash hands and face before breaks and after work and take a shower if necessary.
Take off immediately all contaminated clothing and wash it before reuse.
If handled uncovered, arrangements with local exhaust ventilation have to be used.

7.2. Conditions for safe storage, including any incompatibilities**Requirements for storage rooms and vessels**

Store in a well-ventilated place. Keep container tightly closed.
Store in a place accessible by authorized persons only.

Hints on joint storage

Take national regulations into account.

Further information on storage conditions

Store in a dry place.
storage temperature +5°C - +30°C.

7.3. Specific end use(s)

Laboratory chemicals

SECTION 8: Exposure controls/personal protection**8.1. Control parameters****DNEL/DMEL values**

| CAS No | Substance | | | |
|------------|---------------------------|----------------|----------|-----------------------|
| DNEL type | | Exposure route | Effect | Value |
| 10326-27-9 | Barium chloride dihydrate | | | |
| | Worker DNEL, long-term | inhalation | systemic | 8,8 mg/m ³ |
| | Worker DNEL, long-term | dermal | systemic | 43,2 mg/kg bw/day |
| | Consumer DNEL, long-term | inhalation | systemic | 2,6 mg/m ³ |
| | Consumer DNEL, long-term | dermal | systemic | 25,9 mg/kg bw/day |
| | Consumer DNEL, long-term | oral | systemic | 3,7 mg/kg bw/day |

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PNEC values

| CAS No | Substance | |
|--|---------------------------|-------------|
| Environmental compartment | | Value |
| 10326-27-9 | Barium chloride dihydrate | |
| Freshwater | | 0,174 mg/l |
| Freshwater sediment | | 908 mg/kg |
| Micro-organisms in sewage treatment plants (STP) | | 94,3 mg/l |
| Soil | | 314,9 mg/kg |

Additional advice on limit values

based on anhydrous form

8.2. Exposure controls**Appropriate engineering controls**

Technical measures and the application of suitable work processes have priority over personal protection equipment.

If handled uncovered, arrangements with local exhaust ventilation have to be used.

Avoid dust formation. Do not breathe dust.

Individual protection measures, such as personal protective equipment**Eye/face protection**

goggles

Wear eye protection/face protection.

Hand protection

Suitable examples are gloves of KCL GmbH, D-36124 Eichenzell, e-mail: vertrieb@kcl.de with the following specification (test according to EN 374):

By long-term hand contact

Trade name/designation KCL 741 Dermatril® L

Suitable material: NBR (Nitrile rubber) 0,11 mm

Wearing time with permanent contact: > 480 min

By short-term hand contact

Trade name/designation KCL 741 Dermatril® L

Suitable material: NBR (Nitrile rubber) 0,11 mm

Wearing time with occasional contact (splashes): > 480 min

The breakthrough times stated above were determined by KCL in laboratory tests acc. to EN374 with samples of the recommended glove types. This recommendation applies only to the product stated in the safety data sheet supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de).

Skin protection

Wear suitable protective clothing.

Take off immediately all contaminated clothing.

Wash hands before breaks and after work.

The choice of body protection depends on the concentration and quantity of hazardous substances. The chemical resistance of protective agents must be clarified with their suppliers.

Respiratory protection

Wear breathing apparatus if exposed to vapours/dusts/aerosols.

Filtering device with filter or ventilator filtering device of type: P3

The entrepreneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are

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carried out according to the instructions of the producer. These measures have to be properly documented.

Environmental exposure controls

Do not allow to enter into surface water or drains.

SECTION 9: Physical and chemical properties**9.1. Information on basic physical and chemical properties**

| | |
|--|-----------------------------|
| Physical state: | solid |
| Colour: | white |
| Odour: | odourless |
| Melting point/freezing point: | No data available |
| Boiling point or initial boiling point and boiling range: | No data available |
| Flammability: | No data available |
| Lower explosion limits: | No data available |
| Upper explosion limits: | No data available |
| Flash point: | No data available |
| Auto-ignition temperature: | No data available |
| Decomposition temperature: | >100 °C |
| pH-Value (at 25 °C): | 5,2-8 (50 g/l) |
| Viscosity / kinematic: | No data available |
| Water solubility: (at 20 °C) | No data available |
| Solubility in other solvents | No data available |
| Partition coefficient n-octanol/water: | No data available |
| Vapour pressure: | No data available |
| Vapour pressure: | No data available |
| Density: | 3,86 g/cm ³ |
| Bulk density: | 1200-1400 kg/m ³ |
| Relative vapour density: | No data available |

9.2. Other information**Information with regard to physical hazard classes****Explosive properties**

No data available

Sustained combustibility:

No data available

Self-ignition temperature

Solid:

No data available

Gas:

No data available

Oxidizing properties

No data available

Other safety characteristics**Evaporation rate:**

No data available

Solvent separation test:

No data available

Sublimation point:

No data available

Softening point:

No data available

Pour point:

No data available

No data available:

No data available

Viscosity / dynamic:

No data available

Flow time:

No data available

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No data available

SECTION 10: Stability and reactivity**10.1. Reactivity**

No data available

10.2. Chemical stability

No data available

10.3. Possibility of hazardous reactions

Keep away from: Furan-2-percarboxylic acid (Danger of explosion)

Violent reaction with:

Oxidising agent, strong

Reducing agent, strong

Acids

10.4. Conditions to avoid

Humidity

Heat

10.5. Incompatible materials

No data available

10.6. Hazardous decomposition products

In case of fire may be liberated:

SECTION 5: Firefighting measures

Further information

No data available

SECTION 11: Toxicological information**11.1. Information on hazard classes****Toxicokinetics, metabolism and distribution**

No data available

Acute toxicity

Toxic if swallowed.

Harmful if inhaled.

| CAS No | Chemical name | | | | |
|------------|---------------------------|---------------|------------|---------------------|--------------------|
| | Exposure route | Dose | Species | Source | Method |
| 10326-27-9 | Barium chloride dihydrate | | | | |
| | oral | LD50 mg/kg | 619 Rat | Study report (1983) | OECD Guideline 401 |
| | inhalation vapour | ATE | 11 mg/l | | |
| | inhalation dust/mist | ATE | 1,5 mg/l | | |

Irritation and corrosivity

Serious eye damage/eye irritation: Causes serious eye irritation.

Skin corrosion/irritation: Based on available data, the classification criteria are not met.

Sensitising effects

Based on available data, the classification criteria are not met.

Carcinogenic/mutagenic/toxic effects for reproduction

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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.

Information on likely routes of exposure

No data available

Specific effects in experiment on an animal

No data available

Additional information on tests

No data available

Practical experience

No data available

11.2. Information on other hazards**Endocrine disrupting properties**

No data available

Other information

No data available

Further information

Irritant

Gastrointestinal complaints

Circulatory collapse

Spasms

Cardiac arrhythmias

Respiratory complaints

Dyspnoea

Vomiting

Abdominal pain

Conjunctival oedema (chemosis).

Cough

Dermatitis

SECTION 12: Ecological information**12.1. Toxicity**

Based on available data, the classification criteria are not met.

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| CAS No | Chemical name | | | | | |
|------------|---------------------------|------------------|-----------|---|------------------------|--|
| | Aquatic toxicity | Dose | [h] [d] | Species | Source | Method |
| 10326-27-9 | Barium chloride dihydrate | | | | | |
| | Acute fish toxicity | LC50 mg/l | > 3,5 | 96 h Danio rerio | Study report (2010) | OECD Guideline 203 |
| | Acute algae toxicity | ErC50 mg/l | > 1,15 | 72 h Pseudokirchneriella subcapitata | Study report (2010) | OECD Guideline 201 |
| | Acute crustacea toxicity | EC50 mg/l | 14,5 | 48 h Daphnia magna | Publication (1972) | Not a guideline study but meets generall |
| | Fish toxicity | NOEC mg/l | >= 100 | 33 d Danio rerio | Study report (2014) | OECD Guideline 210 |
| | Crustacea toxicity | NOEC | 10 mg/l | 7 d other aquatic arthropod: Cancer anthonyi | Publication (1988) | |
| | Acute bacteria toxicity | EC50 mg/l () | > 1000 | 3 h activated sludge of a predominantly domestic sewag | Study report (2010) | OECD Guideline 209 |

12.2. Persistence and degradability

No data available

12.3. Bioaccumulative potential

No data available

BCF

| CAS No | Chemical name | BCF | Species | Source |
|------------|---------------------------|------|---------------------|------------------------|
| 10326-27-9 | Barium chloride dihydrate | 68,4 | Lepomis macrochirus | Arch. Environ. Contam. |

12.4. Mobility in soil

No data available

12.5. Results of PBT and vPvB assessment

This substance does not meet the PBT/vPvB criteria of UK REACH.

12.6. Endocrine disrupting properties

This substance does not have endocrine disrupting properties with respect to non-target organisms.

12.7. Other adverse effects

No data available

Further information

Do not allow to enter into surface water or drains.

Discharge into the environment must be avoided.

SECTION 13: Disposal considerations**13.1. Waste treatment methods****Disposal recommendations**

Waste disposal according to directive 2008/98/EC, covering waste and dangerous waste.

Send to a physico-chemical treatment facility under observation of official regulations.

Do not allow to enter into surface water or drains.

Contaminated packaging

The allocation of waste identity numbers/waste descriptions must be carried out according to the EEC, specific to the industry and process.

Handle contaminated packages in the same way as the substance itself.

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SECTION 14: Transport information**Land transport (ADR/RID)**

| | |
|--|---|
| 14.1. UN number or ID number: | UN 1564 |
| 14.2. UN proper shipping name: | BARIUM COMPOUND, N.O.S. (Barium chloride dihydrate) |
| 14.3. Transport hazard class(es): | 6.1 |
| 14.4. Packing group: | III |
| Hazard label: | 6.1 |
| Classification code: | T5 |
| Special Provisions: | 177 274 513 587 |
| Limited quantity: | 5 kg |
| Excepted quantity: | E1 |
| Transport category: | 2 |
| Hazard No: | 60 |
| Tunnel restriction code: | E |

Inland waterways transport (ADN)

| | |
|--|---|
| 14.1. UN number or ID number: | UN 1564 |
| 14.2. UN proper shipping name: | BARIUM COMPOUND, N.O.S. (Barium chloride dihydrate) |
| 14.3. Transport hazard class(es): | 6.1 |
| 14.4. Packing group: | III |
| Hazard label: | 6.1 |
| Classification code: | T5 |
| Special Provisions: | 177 274 513 587 802 |
| Limited quantity: | 5 kg |
| Excepted quantity: | E1 |

Marine transport (IMDG)

| | |
|--|---|
| 14.1. UN number or ID number: | UN 1564 |
| 14.2. UN proper shipping name: | BARIUM COMPOUND, N.O.S. (Barium chloride dihydrate) |
| 14.3. Transport hazard class(es): | 6.1 |
| 14.4. Packing group: | III |
| Hazard label: | 6.1 |
| Marine pollutant: | • |
| Special Provisions: | 177, 223, 274 |
| Limited quantity: | 5 kg |
| Excepted quantity: | E1 |
| EmS: | F-A, S-A |

Air transport (ICAO-TI/ATA-DGR)

| | |
|--|---|
| 14.1. UN number or ID number: | UN 1564 |
| 14.2. UN proper shipping name: | BARIUM COMPOUND, N.O.S. (Barium chloride dihydrate) |
| 14.3. Transport hazard class(es): | 6.1 |
| 14.4. Packing group: | III |
| Hazard label: | 6.1 |
| Special Provisions: | A3 A82 |
| Limited quantity Passenger: | 10 kg |
| Passenger LQ: | Y645 |
| Excepted quantity: | E1 |
| IATA-packing instructions - Passenger: | 670 |
| IATA-max. quantity - Passenger: | 100 kg |
| IATA-packing instructions - Cargo: | 677 |
| IATA-max. quantity - Cargo: | 200 kg |

14.5. Environmental hazards

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ENVIRONMENTALLY HAZARDOUS: No

SECTION 15: Regulatory information**15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture****EU regulatory information**

Information according to Directive 2012/18/EU (SEVESO III): Not subject to 2012/18/EU (SEVESO III)

National regulatory information

Employment restrictions: Observe restrictions to employment for juveniles according to the 'juvenile work protection guideline' (94/33/EC).

Water hazard class (D): 1 - slightly hazardous to water

SECTION 16: Other information**Changes**

This data sheet contains changes from the previous version in section(s): 1.

Abbreviations and acronyms

Acute Tox. 3: Acute toxicity, hazard category 3

Acute Tox. 4: Acute toxicity, hazard category 4

Eye Irrit. 2: Eye irritation, hazard category 2

Relevant H and EUH statements (number and full text)

H301 Toxic if swallowed.

H319 Causes serious eye irritation.

H332 Harmful if inhaled.

Further Information

Provide appropriate information, instructions and training to users

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.

The information is based on the present level of our knowledge. It does not, however, give assurance of product properties and establishes no contract legal rights.

The receiver of our product is singularly responsible for adhering to existing laws and regulations.