

**SAFETY DATA SHEET**  
**BARIUM CHLORIDE 0.5M**

According to Regulation (EC) No 1907/2006, Annex II, as amended. Commission Regulation (EU) No 2015/830 of 28 May 2015.

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

**Product name** BARIUM CHLORIDE 0.5M  
**Product number** 1655

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

**Identified uses** Laboratory reagent.  
**Uses advised against** No specific uses advised against are identified.

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

Reagent Chemical Services  
18 Aston Fields Road  
Whitehouse Industrial Estate  
Runcorn  
Cheshire WA7 3DL

T: 01928 716903 (08.30 - 17.00)  
F: 01928 716425  
E: [info@reagent.co.uk](mailto:info@reagent.co.uk)

**1.4. Emergency telephone number**

**Emergency telephone** OHES Environmental Ltd 24-7  
Tel. 0333 333 9939 (24 hour)

**SECTION 2: Hazards identification****2.1. Classification of the substance or mixture****Classification (EC 1272/2008)**

**Physical hazards** Not Classified  
**Health hazards** Not Classified  
**Environmental hazards** Not Classified

**2.2. Label elements**

**Hazard statements** NC Not Classified

**2.3. Other hazards**

This product does not contain any substances classified as PBT or vPvB.

**SECTION 3: Composition/information on ingredients****3.2. Mixtures**

## BARIUM CHLORIDE 0.5M

<b>BARIUM CHLORIDE</b>	<b>10-30%</b>
CAS number: 10361-37-2	EC number: 233-788-1
<b>Classification</b>	
Acute Tox. 3 - H301	
Acute Tox. 4 - H332	

The Full Text for all R-Phrases and Hazard Statements are Displayed in Section 16.

### SECTION 4: First aid measures

#### 4.1. Description of first aid measures

<b>General information</b>	The product is considered to be a low hazard under normal conditions of use. Get medical attention if any discomfort continues. Show this Safety Data Sheet to the medical personnel.
<b>Inhalation</b>	Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing. Maintain an open airway. Loosen tight clothing such as collar, tie or belt.
<b>Ingestion</b>	Rinse mouth thoroughly with water. Remove any dentures. Give a few small glasses of water or milk to drink. Stop if the affected person feels sick as vomiting may be dangerous. Do not induce vomiting unless under the direction of medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Never give anything by mouth to an unconscious person. Maintain an open airway. Loosen tight clothing such as collar, tie or belt.
<b>Skin contact</b>	Remove affected person from source of contamination. Rinse immediately with plenty of water.
<b>Eye contact</b>	Rinse immediately with plenty of water. Remove any contact lenses and open eyelids wide apart. Continue to rinse for at least 10 minutes.
<b>Protection of first aiders</b>	First aid personnel should wear appropriate protective equipment during any rescue.

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

<b>General information</b>	The severity of the symptoms described will vary dependent on the concentration and the length of exposure.
<b>Inhalation</b>	Prolonged inhalation of high concentrations may damage respiratory system.
<b>Ingestion</b>	Gastrointestinal symptoms, including upset stomach. Fumes from the stomach contents may be inhaled, resulting in the same symptoms as inhalation.
<b>Skin contact</b>	Prolonged contact may cause dryness of the skin.
<b>Eye contact</b>	May cause temporary eye irritation.

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

<b>Notes for the doctor</b>	Treat symptomatically.
<b>Specific treatments</b>	No special treatment required.

### SECTION 5: Firefighting measures

#### 5.1. Extinguishing media

<b>Suitable extinguishing media</b>	The product is not flammable. Extinguish with alcohol-resistant foam, carbon dioxide, dry powder or water fog. Use fire-extinguishing media suitable for the surrounding fire.
<b>Unsuitable extinguishing media</b>	Do not use water jet as an extinguisher, as this will spread the fire.

#### 5.2. Special hazards arising from the substance or mixture

## BARIUM CHLORIDE 0.5M

<b>Specific hazards</b>	The product is not flammable. When handled correctly, undamaged units represent no danger.
<b>Hazardous combustion products</b>	Thermal decomposition or combustion products may include the following substances: Chlorides. Oxides of the following substances: Barium.
<b>5.3. Advice for firefighters</b>	
<b>Protective actions during firefighting</b>	Avoid breathing fire gases or vapours. Evacuate area. Cool containers exposed to heat with water spray and remove them from the fire area if it can be done without risk. Contain and collect extinguishing water.
<b>Special protective equipment for firefighters</b>	Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective clothing. Firefighter's clothing conforming to European standard EN469 (including helmets, protective boots and gloves) will provide a basic level of protection for chemical incidents.

### SECTION 6: Accidental release measures

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

<b>Personal precautions</b>	Follow precautions for safe handling described in this safety data sheet. Wear protective clothing as described in Section 8 of this safety data sheet. Wash thoroughly after dealing with a spillage.
<b>For emergency responders</b>	Wear suitable protective equipment, including gloves, goggles/face shield, respirator, boots, clothing or apron, as appropriate.

#### 6.2. Environmental precautions

<b>Environmental precautions</b>	Avoid discharge to the aquatic environment.
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#### 6.3. Methods and material for containment and cleaning up

<b>Methods for cleaning up</b>	Wear protective clothing as described in Section 8 of this safety data sheet. Small Spillages: Wipe up with an absorbent cloth and dispose of waste safely. Large Spillages: Contain and absorb spillage with sand, earth or other non-combustible material. Place waste in labelled, sealed containers. Wash thoroughly after dealing with a spillage. Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority.
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#### 6.4. Reference to other sections

<b>Reference to other sections</b>	For personal protection, see Section 8. For waste disposal, see Section 13.
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### SECTION 7: Handling and storage

#### 7.1. Precautions for safe handling

<b>Usage precautions</b>	Read and follow manufacturer's recommendations. Wear protective clothing as described in Section 8 of this safety data sheet. Avoid contact with skin and eyes. Keep away from food, drink and animal feeding stuffs.
<b>Advice on general occupational hygiene</b>	Good personal hygiene procedures should be implemented. Do not eat, drink or smoke when using this product. Wash at the end of each work shift and before eating, smoking and using the toilet. Take off contaminated clothing. Wash contaminated clothing before reuse.

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

<b>Storage precautions</b>	Store in tightly-closed, original container in a dry, cool and well-ventilated place. Protect from freezing and direct sunlight. Store away from the following materials: Store in accordance with local regulations. Acids. Alkalis.
<b>Storage class</b>	Chemical storage.

#### 7.3. Specific end use(s)

## BARIUM CHLORIDE 0.5M

**Specific end use(s)** The identified uses for this product are detailed in Section 1.2.

### SECTION 8: Exposure Controls/personal protection

#### 8.1. Control parameters

##### Occupational exposure limits

#### BARIUM CHLORIDE

Long-term exposure limit (8-hour TWA): WEL 0.05 mg/m<sup>3</sup>

WEL = Workplace Exposure Limit

#### BARIUM CHLORIDE (CAS: 10361-37-2)

#### DNEL

Industry - Dermal; Long term systemic effects: 22 mg/kg/day

#### 8.2. Exposure controls

##### Protective equipment



**Appropriate engineering controls**

Provide adequate general and local exhaust ventilation.

##### Eye/face protection

Wear eye protection. Personal protective equipment for eye and face protection should comply with European Standard EN166.

##### Hand protection

Wear protective gloves. The most suitable glove should be chosen in consultation with the glove supplier/manufacturer, who can provide information about the breakthrough time of the glove material. Considering the data specified by the glove manufacturer, check during use that the gloves are retaining their protective properties and change them as soon as any deterioration is detected. To protect hands from chemicals, gloves should comply with European Standard EN374. For exposure up to 8 hours, wear gloves made of the following material: Polyvinyl chloride (PVC). Neoprene. Thickness: ~ 0.2 mm

##### Other skin and body protection

Appropriate footwear and additional protective clothing complying with an approved standard should be worn if a risk assessment indicates skin contamination is possible.

##### Hygiene measures

Good personal hygiene procedures should be implemented. When using do not eat, drink or smoke. Wash at the end of each work shift and before eating, smoking and using the toilet. Wash contaminated clothing before reuse. Clean equipment and the work area every day.

##### Respiratory protection

Provide adequate ventilation. Respiratory protection complying with an approved standard should be worn if a risk assessment indicates inhalation of contaminants is possible. Wear a respirator fitted with the following cartridge: Organic vapour filter. Gas and combination filter cartridges should comply with European Standard EN14387. Check that the respirator fits tightly and the filter is changed regularly.

##### Environmental exposure controls

Not regarded as dangerous for the environment.

### SECTION 9: Physical and Chemical Properties

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

##### Appearance

Liquid.

##### Colour

Colourless.

##### Odour

Odourless.

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<b>pH</b>	Not determined.
<b>Melting point</b>	No specific test data are available.
<b>Initial boiling point and range</b>	Not determined.
<b>Flash point</b>	Not determined. Scientifically unjustified.
<b>Evaporation rate</b>	Not determined.
<b>Flammability (solid, gas)</b>	Technical impossibility to obtain the data.
<b>Upper/lower flammability or explosive limits</b>	Not determined. Technically not feasible.
<b>Other flammability</b>	Not determined.
<b>Vapour density</b>	Not determined.
<b>Relative density</b>	Not determined.
<b>Solubility(ies)</b>	Miscible with water.
<b>Partition coefficient</b>	Not determined.
<b>Auto-ignition temperature</b>	Not determined. Technical impossibility to obtain the data.
<b>Decomposition Temperature</b>	No specific test data are available.
<b>Viscosity</b>	Not determined.
<b>Explosive properties</b>	Not considered to be explosive.
<b>Explosive under the influence of a flame</b>	Not considered to be explosive.
<b>Oxidising properties</b>	The mixture itself has not been tested but none of the ingredient substances meet the criteria for classification as oxidising.

### 9.2. Other information

**Other information**                      None.

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

**Reactivity**                                      The following materials may react violently with the product: Strong acids. Strong alkalis.

### 10.2. Chemical stability

**Stability**                                        Stable at normal ambient temperatures and when used as recommended. Stable under the prescribed storage conditions.

### 10.3. Possibility of hazardous reactions

**Possibility of hazardous reactions**                      Reactions with the following materials may generate heat: Strong acids. Strong alkalis.

### 10.4. Conditions to avoid

**Conditions to avoid**                                      Avoid excessive heat for prolonged periods of time. Avoid freezing. Avoid contact with the following materials: Strong acids. Strong alkalis.

### 10.5. Incompatible materials

**Materials to avoid**                                      Avoid contact with the following materials: Strong acids. Strong alkalis.

### 10.6. Hazardous decomposition products

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**Hazardous decomposition products** Does not decompose when used and stored as recommended. Thermal decomposition or combustion products may include the following substances: Chlorides. Oxides of the following substances: Barium.

### SECTION 11: Toxicological information

#### 11.1. Information on toxicological effects

**Toxicological effects** Not regarded as a health hazard under current legislation.

#### Acute toxicity - oral

**Notes (oral LD<sub>50</sub>)** Based on available data the classification criteria are not met.

**ATE oral (mg/kg)** 44,247.79

#### Acute toxicity - dermal

**Notes (dermal LD<sub>50</sub>)** Based on available data the classification criteria are not met.

#### Acute toxicity - inhalation

**Notes (inhalation LC<sub>50</sub>)** Based on available data the classification criteria are not met.

**ATE inhalation (gases ppm)** 39,823.01

**ATE inhalation (vapours mg/l)** 97.35

**ATE inhalation (dusts/mists mg/l)** 13.27

#### Skin corrosion/irritation

**Animal data** Based on available data the classification criteria are not met.

#### Serious eye damage/irritation

**Serious eye damage/irritation** Based on available data the classification criteria are not met.

#### Respiratory sensitisation

**Respiratory sensitisation** Based on available data the classification criteria are not met.

#### Skin sensitisation

**Skin sensitisation** Based on available data the classification criteria are not met.

#### Germ cell mutagenicity

**Genotoxicity - in vitro** Based on available data the classification criteria are not met.

#### Carcinogenicity

**Carcinogenicity** Based on available data the classification criteria are not met.

#### **IARC carcinogenicity**

None of the ingredients are listed or exempt.

#### Reproductive toxicity

**Reproductive toxicity - fertility** Based on available data the classification criteria are not met.

**Reproductive toxicity - development**

Based on available data the classification criteria are not met.

#### Specific target organ toxicity - single exposure

**STOT - single exposure** Not classified as a specific target organ toxicant after a single exposure.

#### Specific target organ toxicity - repeated exposure

**STOT - repeated exposure** Not classified as a specific target organ toxicant after repeated exposure.

#### Aspiration hazard

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<b>Aspiration hazard</b>	Based on available data the classification criteria are not met.
<b>General information</b>	No specific health hazards known. The severity of the symptoms described will vary dependent on the concentration and the length of exposure.
<b>Inhalation</b>	Prolonged inhalation of high concentrations may damage respiratory system.
<b>Ingestion</b>	Gastrointestinal symptoms, including upset stomach. Fumes from the stomach contents may be inhaled, resulting in the same symptoms as inhalation.
<b>Skin contact</b>	Prolonged contact may cause dryness of the skin.
<b>Eye contact</b>	May cause temporary eye irritation.
<b>Route of entry</b>	Ingestion Inhalation Skin and/or eye contact
<b>Target organs</b>	No specific target organs known.

### SECTION 12: Ecological Information

**Ecotoxicity** Not regarded as dangerous for the environment. However, large or frequent spills may have hazardous effects on the environment.

#### 12.1. Toxicity

**Toxicity** Based on available data the classification criteria are not met.

**Acute toxicity - fish** No specific test data are available.

**Acute toxicity - aquatic invertebrates** No specific test data are available.

#### 12.2. Persistence and degradability

**Persistence and degradability** The degradability of the product is not known.

#### 12.3. Bioaccumulative potential

**Bioaccumulative potential** No data available on bioaccumulation.

**Partition coefficient** Not determined.

#### 12.4. Mobility in soil

**Mobility** The product is water-soluble and may spread in water systems. The product is non-volatile.

#### 12.5. Results of PBT and vPvB assessment

**Results of PBT and vPvB assessment** This substance is not classified as PBT or vPvB according to current EU criteria.

#### 12.6. Other adverse effects

**Other adverse effects** None known.

### SECTION 13: Disposal considerations

#### 13.1. Waste treatment methods

**General information** The generation of waste should be minimised or avoided wherever possible. Reuse or recycle products wherever possible. This material and its container must be disposed of in a safe way. Disposal of this product, process solutions, residues and by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any local authority requirements.

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**Disposal methods** Waste packaging should be collected for reuse or recycling. Dispose of surplus products and those that cannot be recycled via a licensed waste disposal contractor.

### SECTION 14: Transport information

**General** The product is not covered by international regulations on the transport of dangerous goods (IMDG, IATA, ADR/RID).

#### 14.1. UN number

Not applicable.

#### 14.2. UN proper shipping name

Not applicable.

#### 14.3. Transport hazard class(es)

No transport warning sign required.

#### 14.4. Packing group

Not applicable.

#### 14.5. Environmental hazards

**Environmentally hazardous substance/marine pollutant**

No.

#### 14.6. Special precautions for user

Not applicable.

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

**Transport in bulk according to** Not applicable.

**Annex II of MARPOL 73/78  
and the IBC Code**

### SECTION 15: Regulatory information

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

**National regulations** Health and Safety at Work etc. Act 1974 (as amended).  
EH40/2005 Workplace exposure limits.

**EU legislation** Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) (as amended).  
Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures (as amended).  
Commission Regulation (EU) No 2015/830 of 28 May 2015.

**Guidance** Workplace Exposure Limits EH40.

**Authorisations (Title VII  
Regulation 1907/2006)** No specific authorisations are known for this product.

**Restrictions (Title VIII  
Regulation 1907/2006)** No specific restrictions on use are known for this product.

#### 15.2. Chemical safety assessment

No chemical safety assessment has been carried out.



## BARIUM CHLORIDE 0.5M

### Inventories

#### EU - EINECS/ELINCS

All the ingredients are listed or exempt.

<b>SECTION 16: Other information</b>
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<b>Abbreviations and acronyms used in the safety data sheet</b>	<p>ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road.</p> <p>ADN: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways.</p> <p>RID: European Agreement concerning the International Carriage of Dangerous Goods by Rail.</p> <p>IATA: International Air Transport Association.</p> <p>ICAO-TI: Technical Instructions for the Safe Transport of Dangerous Goods by Air.</p> <p>IMDG: International Maritime Dangerous Goods.</p> <p>CAS: Chemical Abstracts Service.</p> <p>ATE: Acute Toxicity Estimate.</p> <p>LC<sub>50</sub>: Lethal Concentration to 50 % of a test population.</p> <p>LD<sub>50</sub>: Lethal Dose to 50% of a test population (Median Lethal Dose).</p> <p>EC<sub>50</sub>: 50% of maximal Effective Concentration.</p> <p>PBT: Persistent, Bioaccumulative and Toxic substance.</p> <p>vPvB: Very Persistent and Very Bioaccumulative.</p> <p>DNEL: Derived No Effect Level.</p> <p>DMEL: Derived Minimal Effect Level.</p> <p>PNEC: Predicted No Effect Concentration.</p>
<b>General information</b>	Only trained personnel should use this material.
<b>Classification procedures according to Regulation (EC) 1272/2008</b>	Not Classified for Health, Not Classified for Environmental: Calculation method.
<b>Training advice</b>	Read and follow manufacturer's recommendations.
<b>Revision date</b>	22/01/2018
<b>Revision</b>	4
<b>Supersedes date</b>	22/09/2017
<b>SDS number</b>	10118
<b>SDS status</b>	Approved.
<b>Hazard statements in full</b>	H301 Toxic if swallowed. H332 Harmful if inhaled.

This information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process. Such information is, to the best of the company's knowledge and belief, accurate and reliable as of the date indicated. However, no warranty, guarantee or representation is made to its accuracy, reliability or completeness. It is the user's responsibility to satisfy himself as to the suitability of such information for his own particular use.