

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Revision Date 23.06.2017

Version 12.3

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

Catalogue No.	101719
Product name	Barium chloride dihydrate for analysis EMSURE® ACS,ISO,Reag. Ph Eur
REACH Registration Number	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.
CAS-No.	10326-27-9

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

Identified uses	Reagent for analysis, Chemical production For additional information on uses please refer to the Merck Chemicals portal (www.merckgroup.com).
-----------------	--

1.3 Details of the supplier of the safety data sheet

Company	Merck KGaA * 64271 Darmstadt * Germany * Phone:+49 6151 72-0
Responsible Department	LS-QHC * e-mail: prodsafe@merckgroup.com

1.4 Emergency telephone number	Please contact the regional company representation in your country.
---------------------------------------	--

SECTION 2. Hazards identification**2.1 Classification of the substance or mixture**

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Catalogue No. 101719

Product name Barium chloride dihydrate for analysis EMSURE® ACS,ISO,Reag. Ph Eur

Classification (REGULATION (EC) No 1272/2008)

Acute toxicity, Category 3, Oral, H301

Acute toxicity, Category 4, Inhalation, H332

For the full text of the H-Statements mentioned in this Section, see Section 16.

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

Hazard pictograms



Signal word

Danger

Hazard statements

H301 Toxic if swallowed.

H332 Harmful if inhaled.

Precautionary statements

Response

P308 + P310 IF exposed or concerned: immediately call a POISON CENTER or doctor/ physician.

Reduced labelling (≤125 ml)

Hazard pictograms



Signal word

Danger

Hazard statements

H301 Toxic if swallowed.

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Catalogue No. 101719
Product name Barium chloride dihydrate for analysis EMSURE® ACS,ISO,Reag. Ph Eur

Precautionary statements

P308 + P310 IF exposed or concerned: immediately call a POISON CENTER or doctor/ physician.

Index-No. 056-004-00-8

2.3 Other hazards

None known.

SECTION 3. Composition/information on ingredients

3.1 Substance

Formula BaCl₂ * 2 H₂O (Hill)
Index-No. 056-004-00-8
EC-No. 233-788-1
Molar mass 244,28 g/mol

Hazardous components (REGULATION (EC) No 1272/2008)

Chemical name (Concentration)

CAS-No.	Registration number	Classification
barium chloride dihydrate (<= 100 %)		
10326-27-9 *)		Acute toxicity, Category 3, H301 Acute toxicity, Category 4, H332

*) 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.

For the full text of the H-Statements mentioned in this Section, see Section 16.

3.2 Mixture

Not applicable

SECTION 4. First aid measures

4.1 Description of first aid measures

The Safety Data Sheets for catalogue items are available at www.merckgroup.com

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Catalogue No. 101719

Product name Barium chloride dihydrate for analysis EMSURE® ACS,ISO,Reag. Ph Eur

General advice

First aider needs to protect himself.

After inhalation: fresh air. If breathing stops: mouth-to-mouth breathing or artificial respiration.
Oxygen if necessary. Immediately call in physician.

In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/
shower.

After eye contact: rinse out with plenty of water. Remove contact lenses.

If swallowed: give water to drink (two glasses at most). Seek medical advice immediately. In exceptional cases only, if medical care is not available within one hour, induce vomiting (only in persons who are wide awake and fully conscious), administer activated charcoal (20 - 40 g in a 10% slurry) and consult a doctor as quickly as possible.

4.2 Most important symptoms and effects, both acute and delayed

The following applies to soluble barium compounds in general: after swallowing: mucosal irritation, nausea, salivation, vomiting, dizziness, pain, colics, and diarrhoea. Systemic effects include: cardiac dysrhythmias, bradycardia (subdued cardiac activity), rise in blood pressure, shock and circulatory collapse as well as muscular rigidity.

irritant effects, conjunctivitis, Cough, respiratory paralysis, Shortness of breath, Dermatitis, cardiac arrest, death

4.3 Indication of any immediate medical attention and special treatment needed

Subsequently administer: Sodium sulfate (1 tablespoon/1/4 l water).

SECTION 5. Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media

For this substance/mixture no limitations of extinguishing agents are given.

5.2 Special hazards arising from the substance or mixture

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Catalogue No. 101719

Product name Barium chloride dihydrate for analysis EMSURE® ACS,ISO,Reag. Ph Eur

Not combustible.

Ambient fire may liberate hazardous vapours.

Fire may cause evolution of:

Hydrogen chloride gas

5.3 Advice for firefighters

Special protective equipment for firefighters

Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

Further information

Suppress (knock down) gases/vapours/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.

SECTION 6. Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Advice for non-emergency personnel: Avoid inhalation of dusts. Avoid substance contact. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert.

Advice for emergency responders:

Protective equipment see section 8.

6.2 Environmental precautions

Do not let product enter drains.

6.3 Methods and materials for containment and cleaning up

Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up carefully. Dispose of properly. Clean up affected area. Avoid generation of dusts.

6.4 Reference to other sections

Indications about waste treatment see section 13.

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Catalogue No. 101719

Product name Barium chloride dihydrate for analysis EMSURE® ACS,ISO,Reag. Ph Eur

SECTION 7. Handling and storage

7.1 Precautions for safe handling

Advice on safe handling

Observe label precautions.

Work under hood. Do not inhale substance/mixture.

Hygiene measures

Change contaminated clothing. Preventive skin protection recommended. Wash hands after working with substance.

7.2 Conditions for safe storage, including any incompatibilities

Storage conditions

Tightly closed. Dry. Keep in a well-ventilated place. Keep locked up or in an area accessible only to qualified or authorised persons.

Recommended storage temperature see product label.

7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated.

SECTION 8. Exposure controls/personal protection

8.1 Control parameters

8.2 Exposure controls

Engineering measures

Technical measures and appropriate working operations should be given priority over the use of personal protective equipment.

See section 7.1.

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Catalogue No. 101719

Product name Barium chloride dihydrate for analysis EMSURE® ACS,ISO,Reag. Ph Eur

Individual protection measures

Protective clothing needs to be selected specifically for the workplace, depending on concentrations and quantities of the hazardous substances handled. The chemical resistance of the protective equipment should be enquired at the respective supplier.

Eye/face protection

Safety glasses

Hand protection

full contact:

Glove material:	Nitrile rubber
Glove thickness:	0,11 mm
Break through time:	> 480 min

splash contact:

Glove material:	Nitrile rubber
Glove thickness:	0,11 mm
Break through time:	> 480 min

The protective gloves to be used must comply with the specifications of EC Directive 89/686/EEC and the related standard EN374, for example KCL 741 Dermatril® L (full contact), KCL 741 Dermatril® L (splash contact).

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).

Other protective equipment

protective clothing

Respiratory protection

required when dusts are generated.

Recommended Filter type: Filter P 3 (acc. to DIN 3181) for solid and liquid particles of toxic and very toxic substances

The entrepreneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer. These measures have to be

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Catalogue No. 101719
Product name Barium chloride dihydrate for analysis EMSURE® ACS,ISO,Reag. Ph Eur

properly documented.

Environmental exposure controls

Do not let product enter drains.

SECTION 9. Physical and chemical properties

9.1 Information on basic physical and chemical properties

Form	solid
Colour	white
Odour	odourless
Odour Threshold	Not applicable
pH	5,2 - 8,0 at 50 g/l 25 °C
Melting point	No information available.
Boiling point	No information available.
Flash point	does not flash
Evaporation rate	No information available.
Flammability (solid, gas)	The product is not flammable.
Lower explosion limit	Not applicable
Upper explosion limit	Not applicable

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Catalogue No. 101719
Product name Barium chloride dihydrate for analysis EMSURE® ACS,ISO,Reag. Ph Eur

Vapour pressure	No information available.
Relative vapour density	No information available.
Density	3,86 g/cm ³ at 20 °C
Relative density	No information available.
Water solubility	No information available.
Partition coefficient: n-octanol/water	No information available.
Auto-ignition temperature	No information available.
Decomposition temperature	> 100 °C Elimination of water of crystallisation
Viscosity, dynamic	No information available.
Explosive properties	Not classified as explosive.
Oxidizing properties	none
9.2 Other data	
Ignition temperature	not combustible
Bulk density	ca. 1.200 - 1.400 kg/m ³

SECTION 10. Stability and reactivity

10.1 Reactivity

See section 10.3

10.2 Chemical stability

The Safety Data Sheets for catalogue items are available at www.merckgroup.com

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Catalogue No. 101719

Product name Barium chloride dihydrate for analysis EMSURE® ACS,ISO,Reag. Ph Eur

releases water of crystallisation when heated.

10.3 Possibility of hazardous reactions

Risk of explosion with:

furan-2-percarbonic acid

Violent reactions possible with:

halogen-halogen compounds, Strong oxidizing agents, strong reducing agents, acids

10.4 Conditions to avoid

Strong heating (decomposition).

10.5 Incompatible materials

no information available

10.6 Hazardous decomposition products

in the event of fire: See section 5.

SECTION 11. Toxicological information

11.1 Information on toxicological effects

Acute oral toxicity

LD50 Rat: 118 mg/kg

(anhydrous substance) (IUCLID)

Acute inhalation toxicity

Acute toxicity estimate: 1,6 mg/l; dust/mist

Expert judgement

Symptoms: mucosal irritations, Cough, Shortness of breath

Acute dermal toxicity

This information is not available.

Skin irritation

This information is not available.

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Catalogue No. 101719

Product name Barium chloride dihydrate for analysis EMSURE® ACS,ISO,Reag. Ph Eur

Eye irritation

This information is not available.

Sensitisation

This information is not available.

Germ cell mutagenicity

This information is not available.

Carcinogenicity

This information is not available.

Reproductive toxicity

This information is not available.

Teratogenicity

This information is not available.

Specific target organ toxicity - single exposure

This information is not available.

Specific target organ toxicity - repeated exposure

This information is not available.

Aspiration hazard

This information is not available.

11.2 Further information

After uptake:

Possible damages:

respiratory paralysis, cardiac arrest, death

Chronic intoxication:

damage of respiratory tract, conjunctivitis, Dermatitis, Cardio-vascular system

The following applies to soluble barium compounds in general: after swallowing: mucosal irritation, nausea, salivation, vomiting, dizziness, pain, colics, and diarrhoea. Systemic effects include: cardiac dysrhythmias, bradycardia (subdued cardiac activity), rise in blood pressure, shock and circulatory collapse as well as muscular rigidity.

Other dangerous properties can not be excluded.

This substance should be handled with particular care.

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Catalogue No. 101719

Product name Barium chloride dihydrate for analysis EMSURE® ACS,ISO,Reag. Ph Eur

SECTION 12. Ecological information

12.1 Toxicity

No information available.

12.2 Persistence and degradability

Biodegradability

The methods for determining the biological degradability are not applicable to inorganic substances.

12.3 Bioaccumulative potential

No information available.

12.4 Mobility in soil

No information available.

12.5 Results of PBT and vPvB assessment

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted.

12.6 Other adverse effects

Additional ecological information

Formation of health-hazardous mixtures possible with water. Endangers drinking-water supplies if allowed to enter soil or water.

Discharge into the environment must be avoided.

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Catalogue No. 101719
Product name Barium chloride dihydrate for analysis EMSURE® ACS,ISO,Reag. Ph Eur

SECTION 13. Disposal considerations

Waste treatment methods

See www.retrologistik.com for processes regarding the return of chemicals and containers, or contact us there if you have further questions.

SECTION 14. Transport information

Land transport (ADR/RID)

14.1 UN number	UN 1564
14.2 Proper shipping name	BARIUM COMPOUND, N.O.S. (BARIUM CHLORIDE)
14.3 Class	6.1
14.4 Packing group	III
14.5 Environmentally hazardous	--
14.6 Special precautions for user	yes
Tunnel restriction code	E

Inland waterway transport (ADN)

Not relevant

Air transport (IATA)

14.1 UN number	UN 1564
14.2 Proper shipping name	BARIUM COMPOUND, N.O.S. (BARIUM CHLORIDE)
14.3 Class	6.1
14.4 Packing group	III
14.5 Environmentally hazardous	--
14.6 Special precautions for user	no

Sea transport (IMDG)

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Catalogue No. 101719
Product name Barium chloride dihydrate for analysis EMSURE® ACS,ISO,Reag. Ph Eur

14.1 UN number UN 1564
14.2 Proper shipping name BARIUM COMPOUND, N.O.S. (BARIUM CHLORIDE)
14.3 Class 6.1
14.4 Packing group III
14.5 Environmentally hazardous --
14.6 Special precautions for user yes
EmS F-A S-A

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
Not relevant

SECTION 15. Regulatory information

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

EU regulations

Major Accident Hazard SEVESO III
Legislation Not applicable

Occupational restrictions Take note of Dir 94/33/EC on the protection of young people at work. Observe work restrictions regarding maternity protection in accordance to Dir 92/85/EEC or stricter national regulations where applicable.

Regulation (EC) No 1005/2009 on substances that deplete the ozone layer not regulated

Regulation (EC) No 850/2004 of the European Parliament and of the Council of 29 April 2004 on persistent organic pollutants and amending Directive 79/117/EEC not regulated

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Catalogue No. 101719

Product name Barium chloride dihydrate for analysis EMSURE® ACS,ISO,Reag. Ph Eur

Substances of very high concern (SVHC)

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 $\geq 0.1\%$ (w/w).

National legislation

Storage class 6.1 D

15.2 Chemical safety assessment

For this product a chemical safety assessment was not carried out.

SECTION 16. Other information

Full text of H-Statements referred to under sections 2 and 3.

H301 Toxic if swallowed.

H332 Harmful if inhaled.

Training advice

Provide adequate information, instruction and training for operators.

Labelling

Hazard pictograms



Signal word

Danger

Hazard statements

H301 Toxic if swallowed.

H332 Harmful if inhaled.

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Catalogue No. 101719

Product name Barium chloride dihydrate for analysis EMSURE® ACS,ISO,Reag. Ph Eur

Precautionary statements

Response

P308 + P310 IF exposed or concerned: immediately call a POISON CENTER or doctor/ physician.

Key or legend to abbreviations and acronyms used in the safety data sheet

Used abbreviations and acronyms can be looked up at www.wikipedia.org.

Regional representation

This information is given on the authorised Safety Data Sheet for your country.

The information contained herein is based on the present state of our knowledge. It characterises the product with regard to the appropriate safety precautions. It does not represent a guarantee of any properties of the product.