Barium chloride dihydrate Analytical Grade ACS

Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878
Issue date: 01/04/2011 Revision date: 09/02/2026 Supersedes version of: 17/11/2022 Version: 2.6

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

1.1. Product identifier

Product form	:	Substance
Trade name	:	Barium chloride dihydrate Analytical Grade ACS
Chemical name	:	barium chloride
EC Index-No.	:	056-004-00-8
EC-No.	:	233-788-1
CAS-No.	:	10326-27-9
Product code	:	BACL-02A
Formula	:	BaCl2.2H2O

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

Relevant identified uses

Main use category	:	Laboratory use

1.3. Details of the supplier of the safety data sheet

Labbox Labware S.L.
Migjorn, 1
08338 Premia de Dalt, Barcelona
España
T +34 937 07 79 70, F +34 937 909 532
info@labbox.com, www.labbox.com

1.4. Emergency telephone number

Emergency number	:	+34 937 077 970 (For technical information_Office Hours) In case of medical emergency phone 112 or to your local emergency number. 24 hours a day, 7 days a week

Country/Area	Organisation	Emergency number
United Kingdom	National Poisons Information Service (Belfast Centre). Royal Victoria Hospital. Grosvenor Road BT12 6BA Belfast.	0344 892 0111 Only for healthcare professionals

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 (inhalation:dust,mist) 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.

Precautionary statements (CLP) : P261 - Avoid breathing dust/fume/gas/mist/vapours/spray.
P264 - Wash hands, forearms and face thoroughly after handling.
P271 - Use only outdoors or in a well-ventilated area.
P270 - Do not eat, drink or smoke when using this product.

2.3. Other hazards

Other hazards which do not result in classification : Does not contain PBT and/or vPvB substances ≥ 0.1% evaluated according to Annex XIII of REACH.

SECTION 3: Composition/information on ingredients

3.1. Substances

Name	Product identifier	%
Barium chloride dihydrate	CAS-No.: 10326-27-9 EC-No.: 233-788-1 EC Index-No.: 056-004-00-8	100

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general : Call a physician immediately.

First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing. Call a poison center or a doctor if you feel unwell.

First-aid measures after skin contact : Gently wash with plenty of soap and water. If skin irritation occurs: Get medical advice/attention.

First-aid measures after eye contact : Immediately rinse with water for a prolonged period while holding the eyelids wide open. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

First-aid measures after ingestion : Rinse mouth. Obtain emergency medical attention.

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

Symptoms/effects after inhalation : Harmful if inhaled.

Symptoms/effects after skin contact : None under normal conditions. Dust may cause irritation in skin folds or by contact in combination with tight clothing.

Symptoms/effects after eye contact : None under normal conditions. Dust from this product may cause eye irritation.

Symptoms/effects after ingestion : Toxic if swallowed.

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 : Carbon dioxide. Dry powder. Foam. Water spray.

Unsuitable extinguishing media : Do not use a heavy water stream.

5.2. Special hazards arising from the substance or mixture

Fire hazard : No fire hazard.

Explosion hazard : No direct explosion hazard.

Hazardous decomposition products in case of fire : Toxic fumes may be released.

5.3. Advice for firefighters

Firefighting instructions	:	Exercise caution when fighting any chemical fire. Fight fire from safe distance and protected location.
Protection during firefighting	:	Do not attempt to take action without suitable protective equipment. Do not enter fire area without proper protective equipment, including respiratory protection.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures	:	Notify authorities if product enters sewers or public waters. Absorb spillage to prevent material damage.

For non-emergency personnel

Protective equipment	:	Wear recommended personal protective equipment.
Emergency procedures	:	Ventilate spillage area. Evacuate unnecessary personnel. Do not breathe dust.
Measures in case of dust release	:	Do not breathe dust.

For emergency responders

Protective equipment	:	Do not attempt to take action without suitable protective equipment. Use personal protective equipment as required. For further information refer to section 8: "Exposure controls/personal protection".
Emergency procedures	:	Ventilate area. Evacuate unnecessary personnel.

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

For containment	:	Using a clean shovel, put the material in a dry container and cover without compressing it.
Methods for cleaning up	:	Mechanically recover the product. Take up liquid spill into absorbent material. On land, sweep or shovel into suitable containers.
Other information	:	Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Additional hazards when processed	:	Not expected to present a significant hazard under anticipated conditions of normal use.
Precautions for safe handling	:	Ensure good ventilation of the work station. Avoid contact with skin, eyes and clothing. Do not breathe vapours. Wear personal protective equipment. Use only outdoors or in a well-ventilated area.
Hygiene measures	:	Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures	:	Keep in a cool, well-ventilated place away from heat.
Storage conditions	:	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Store in a well-ventilated place. Keep container tightly closed.
Maximum storage period	:	6 months
Storage temperature	:	≤ 0 °C
Storage area	:	Store in a well-ventilated place.
Special rules on packaging	:	Store in a closed container. Keep only in original container.

7.3. Specific end use(s)

Laboratory chemicals.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

DNEL and PNEC

Barium chloride dihydrate Analytical Grade ACS (10326-27-9)	
DNEL/DMEL (Workers)	
Long-term - systemic effects, dermal	43,2 mg/kg bodyweight/day
Long-term - systemic effects, inhalation	8,8 mg/kg bw/day
DNEL/DMEL (General population)	
Long-term - systemic effects,oral	3,7 mg/kg bodyweight/day
Long-term - systemic effects, inhalation	2,6 mg/kg bw/day
PNEC (Water)	
PNEC aqua (freshwater)	0,3454 mg/l
PNEC (Sediment)	
PNEC sediment (freshwater)	1202 mg/l
PNEC (Soil)	
PNEC soil	314,9 mg/l
PNEC (STP)	
PNEC sewage treatment plant	76 mg/l

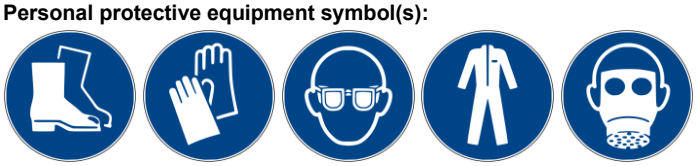
8.2. Exposure controls

Appropriate engineering controls

Appropriate engineering controls:
Ensure good ventilation of the work station. Do not inhale vapour.

Personal protection equipment

Personal protective equipment:
Avoid all unnecessary exposure. ISO 374-1.
Personal protective equipment symbol(s):



Eye and face protection

Eye protection:
Chemical goggles or safety glasses

Skin protection

Skin and body protection:
Wear suitable protective clothing

Hand protection:
Wear protective gloves

Other skin protection
Materials for protective clothing:
Wear foot protection

Respiratory protection

Respiratory protection:
Wear respiratory protection

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	:	Solid
Colour	:	white.
Appearance	:	Crystals.
Molecular mass	:	244,28 g/mol
Odour	:	odourless.
Odour threshold	:	Not available
Melting point	:	960 °C
Freezing point	:	Not available
Boiling point	:	1560 °C
Flammability	:	Non flammable
Lower explosion limit	:	Not applicable
Upper explosion limit	:	Not applicable
Flash point	:	Not applicable
Auto-ignition temperature	:	Not applicable
Decomposition temperature	:	Not available
pH	:	5,2 – 8,2 25º C
pH solution concentration	:	5 %
Viscosity, kinematic	:	Not applicable
Solubility	:	Soluble in water. Water: 35,8 g/100ml 20º C
Partition coefficient n-octanol/water (Log Kow)	:	Not available
Vapour pressure	:	Not available
Vapour pressure at 50°C	:	Not available
Density	:	30979 g/cm³
Relative density	:	Not available
Relative vapour density at 20°C	:	Not applicable
Particle size	:	Not available

9.2. Other information

Other safety characteristics

VOC content	:	0 %

SECTION 10: Stability and reactivity

10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability

Stable under normal conditions of use.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

Air contact. Direct sunlight. Moisture.

10.5. Incompatible materials

No additional information available

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

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)	:	Inhalation:dust,mist: Harmful if inhaled.
Skin corrosion/irritation	:	Not classified pH: 5,2 – 8,2 25º C
Serious eye damage/irritation	:	Not classified pH: 5,2 – 8,2 25º C
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

11.2. Information on other hazards

No additional information available

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general	:	The product is not considered harmful to aquatic organisms nor to cause long-term adverse effects in the environment.
Hazardous to the aquatic environment, short–term (acute)	:	Not classified
Hazardous to the aquatic environment, long–term (chronic)	:	Not classified

12.2. Persistence and degradability

Barium chloride dihydrate Analytical Grade ACS (10326-27-9)	
Persistence and degradability	Product is biodegradable.

12.3. Bioaccumulative potential

No additional information 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

Adverse effects on the environment caused by endocrine disrupting properties	:	Substance(s) not included in the list established in accordance with Article 59(1) of REACH for having endocrine disrupting properties, or is not identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605.

12.7. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Regional waste regulation	:	Disposal must be done according to official regulations.
Waste treatment methods	:	Must follow special treatment according to local regulation.
Sewage disposal recommendations	:	Disposal must be done according to official regulations.
Product/Packaging disposal recommendations	:	Dispose in a safe manner in accordance with local/national regulations.
Additional information	:	Do not re-use empty containers.
Ecological waste information	:	Hazardous waste due to toxicity.

SECTION 14: Transport information

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

14.1. UN number or ID number

UN-No. (ADR)	:	UN 1564
UN-No. (IMDG)	:	UN 1564
UN-No. (IATA)	:	UN 1564
UN-No. (ADN)	:	UN 1564
UN-No. (RID)	:	UN 1564

14.2. UN proper shipping name

Proper Shipping Name (ADR)	:	BARIUM COMPOUND, N.O.S.
Proper Shipping Name (IMDG)	:	BARIUM COMPOUND, N.O.S.
Proper Shipping Name (IATA)	:	Barium compound, n.o.s.
Proper Shipping Name (ADN)	:	BARIUM COMPOUND, N.O.S.
Proper Shipping Name (RID)	:	BARIUM COMPOUND, N.O.S.
Transport document description (ADR) (ADR)	:	UN 1564 BARIUM COMPOUND, N.O.S. (Barium chloride dihydrate), 6.1, III, (E)
Transport document description (IMDG)	:	UN 1564 BARIUM COMPOUND, N.O.S. (Barium chloride dihydrate), 6.1, III
Transport document description (IATA)	:	UN 1564 Barium compound, n.o.s. (Barium chloride dihydrate), 6.1, III
Transport document description (ADN)	:	UN 1564 BARIUM COMPOUND, N.O.S., 6.1, III
Transport document description (RID)	:	UN 1564 BARIUM COMPOUND, N.O.S., 6.1, III

14.3. Transport hazard class(es)

ADR

Transport hazard class(es) (ADR)	:	6.1
Danger labels (ADR)	:	6.1

:

IMDG

Transport hazard class(es) (IMDG)	:	6.1
Danger labels (IMDG)	:	6.1

:

IATA

Transport hazard class(es) (IATA)	:	6.1
Danger labels (IATA)	:	6.1

:

ADN

Transport hazard class(es) (ADN) : 6.1

Danger labels (ADN) : 6.1

:

RID

Transport hazard class(es) (RID) : 6.1

Danger labels (RID) : 6.1

:

14.4. Packing group

Packing group (ADR) : III

Packing group (IMDG) : III

Packing group (IATA) : III

Packing group (ADN) : III

Packing group (RID) : III

14.5. Environmental hazards

Dangerous for the environment : No

Marine pollutant : No

EmS-No. (Fire) : F-A

EmS-No. (Spillage) : S-A

Other information : No supplementary information available

14.6. Special precautions for user

Overland transport

Classification code (ADR) : T5

Special provisions (ADR) : 177, 274, 513, 587

Limited quantities (ADR) : 5kg

Excepted quantities (ADR) : E1

Packing instructions (ADR) : P002, IBC08, LP02, R001

Special packing provisions (ADR) : B3

Mixed packing provisions (ADR) : MP10

Portable tank and bulk container instructions (ADR) : T1

Portable tank and bulk container special provisions (ADR) : TP33

Tank code (ADR) : SGAH, L4BH

Tank special provisions (ADR) : TU15, TE19

Vehicle for tank carriage : AT

Transport category (ADR) : 2

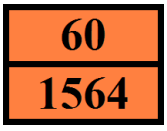
Special provisions for carriage - Bulk (ADR) : VC1, VC2, AP7

Special provisions for carriage - Loading, unloading and handling (ADR) : CV13, CV28

Special provisions for carriage - Operation (ADR) : S9

Hazard identification number (Kemler No.) : 60

Orange plates :



Tunnel restriction code (ADR) : E

EAC code : 2Z

Transport by sea

Special provisions (IMDG) : 177, 223, 274

Limited quantities (IMDG)	:	5 kg
Excepted quantities (IMDG)	:	E1
Packing instructions (IMDG)	:	P002, LP02
IBC packing instructions (IMDG)	:	IBC08
IBC special provisions (IMDG)	:	B3
Tank instructions (IMDG)	:	T1
Tank special provisions (IMDG)	:	TP33
Stowage category (IMDG)	:	A
Properties and observations (IMDG)	:	White powder, lumps or crystals. Toxic if swallowed, by skin contact or by inhalation.

Air transport

PCA Excepted quantities (IATA)	:	E1
PCA Limited quantities (IATA)	:	Y645
PCA limited quantity max net quantity (IATA)	:	10kg
PCA packing instructions (IATA)	:	670
PCA max net quantity (IATA)	:	100kg
CAO packing instructions (IATA)	:	677
CAO max net quantity (IATA)	:	200kg
Special provisions (IATA)	:	A3, A82
ERG code (IATA)	:	6L

Inland waterway transport

Classification code (ADN)	:	T5
Special provisions (ADN)	:	177, 274, 513, 587, 802
Limited quantities (ADN)	:	5 kg
Excepted quantities (ADN)	:	E1
Equipment required (ADN)	:	PP, EP
Number of blue cones/lights (ADN)	:	0

Rail transport

Classification code (RID)	:	T5
Special provisions (RID)	:	177, 274, 513, 587
Limited quantities (RID)	:	5kg
Excepted quantities (RID)	:	E1
Packing instructions (RID)	:	P002, IBC08, LP02, R001
Special packing provisions (RID)	:	B3
Mixed packing provisions (RID)	:	MP10
Portable tank and bulk container instructions (RID)	:	T1
Portable tank and bulk container special provisions (RID)	:	TP33
Tank codes for RID tanks (RID)	:	SGAH, L4BH
Special provisions for RID tanks (RID)	:	TU15
Transport category (RID)	:	2
Special provisions for carriage – Bulk (RID)	:	VC1, VC2, AP7
Special provisions for carriage - Loading, unloading and handling (RID)	:	CW13, CW28, CW31
Colis express (express parcels) (RID)	:	CE11
Hazard identification number (RID)	:	60

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

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 (2024/590)

Not listed on the Ozone Depletion list (Regulation EU 2024/590)

Council Regulation (EC) for the control of dual-use items

Not listed on the COUNCIL REGULATION (EC) of dual-use items.

VOC Directive (2004/42)

VOC content : 0 %

Explosives Precursors Regulation (EU 2019/1148)

Not listed on the Explosives Precursors list (EU)

Drug Precursors Regulation (EC 273/2004)

Not listed on the Drug Precursors list (EU)

National regulations

Denmark

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

Germany

Water hazard class (WGK) : WGK 1, Slightly hazardous to water (Classification according to AwSV; ID No. 25).

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).

VOC content : 0 %

Netherlands

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

Poland

Polish National Regulations	:	Act of 25 February 2011 on chemical substances and their mixtures (J. o L. No. 63, item 322 as amended; consolidated text J. o L. 2019, item 1225). Act of 14 December 2012 on waste (J. o L. 2013, item 322 as amended; consolidated text J. o L. 2020, item 797). The announcement of Marshal of the Sejm of the Republic of Poland dated 19 October 2016 concerning the consolidated text announcement of the decree on the management of packaging and packaging waste (J. o L. 2016, item 1863 as amended). Decree of the Minister of Environment of 14 December 2014 on the catalogue of waste (J. o L. 2014, item 1923). Act of 19 August 2011 on the Carriage of Dangerous Goods (J. o L. 2011 No. 227, item 1367 as amended; consolidated text J. o L. 2020, item 154). Regulation of the Minister of Family, Labour and Social Policy of 12 June 2018 on the highest permissible concentration and intensity of noxious agents for health at work environment (J. o L. item 1286 as amended). The announcement of Minister of Health dated 9 September 2016 concerning the consolidated text announcement of the decree of the Minister of Health of 30 December 2004 on health and safety at work related to exposure to chemical agents at work (J. o L. of 16 September 2016, item 1488) Regulation of the Minister of Health of 2 February 2011 on tests and measurements of the noxious agents for health at work environment (J. o L. No. 33, item 166 as amended). Regulation of the Minister of Environment of 9 December 2003 on particularly hazardous substances to the environment (J. o L. No. 217, item 2141). ADR Agreement: Government Statement of 13 March 2023 on the entry into force of amendments to Annexes A and B to the Agreement concerning the International Carriage of Dangerous Goods by Road (ADR), signed in Geneva on 30 September 1957 (J. o. L. 2023, item 891) Regulation of the Minister of Health of 25 August 2015 on the method of marking places, pipelines, and containers and tanks used for storing or containing hazardous substances or hazardous mixtures (J.o.L. 2015, item 1368 as amended)

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:dust,mist)	Acute toxicity (inhalation:dust,mist) 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.