

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

Product form	: Substance
Trade name	: UN1446 Barium nitrate Analytical Grade ACS
IUPAC name	: barium nitrate
EC-No.	: 233-020-5
CAS-No.	: 10022-31-8
Product code	: BANA-00A
Formula	: Ba(NO ₃) ₂

1.2. Relevant identified uses of the substance or mixture and uses advised against**1.2.1. Relevant identified uses**

Main use category : Laboratory use

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

labbox labware s.l.
Migjorn, 1
P.O. Box Barcelona (SPAIN)
08338 Premia de Dalt – SPAIN
ES
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.

Country	Organisation/Company	Address	Emergency number	Comment
United Kingdom	National Poisons Information Service (Belfast Centre) Royal Victoria Hospital	Grosvenor Road BT12 6BA	0344 892 0111	

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

Oxidising Solids, Category 2	H272
Acute toxicity (oral), Category 3	H301
Acute toxicity (inhal.), Category 4	H332
Serious eye damage/eye irritation, Category 2	H319

Full text of H and EUH statements: see section 16

Adverse physicochemical, human health and environmental effects

No additional information available

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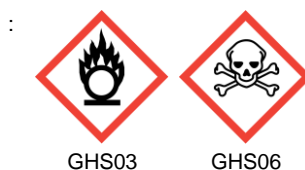
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2.2. Label elements

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

Hazard pictograms (CLP)



Signal word (CLP)

: Danger

Hazard statements (CLP)

: H271 - May cause fire or explosion; strong oxidiser.
H272 - May intensify fire; oxidiser.
H302+H332 - Harmful if swallowed or if inhaled.

Precautionary statements (CLP)

: P210 - Keep away from heat/sparks/open flames/hot surfaces. — No smoking.
P220 - Keep/Store away from clothing and combustible materials.
P301+P310 - IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
P304+P340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P370+P378 - In case of fire: Use media other than water for extinction.

2.3. Other hazards

No additional information available

SECTION 3: Composition/information on ingredients

3.1. Substances

Substance type

: Mono-constituent

Name	Product identifier	%
Barium nitrate	CAS-No.: 10022-31-8 EC-No.: 233-020-5	≥ 100

3.2. Mixtures

Not applicable

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general

: Seek medical attention immediately.

First-aid measures after inhalation

: Remove person to fresh air and keep comfortable for breathing. Give oxygen or artificial respiration if necessary. If you feel unwell, seek medical advice.

First-aid measures after skin contact

: Gently wash with plenty of soap and water. If skin irritation or rash occurs: Get medical advice/attention.

First-aid measures after eye contact

: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Consult an eye specialist.

First-aid measures after ingestion

: Rinse mouth. Induce vomiting (ONLY IN CONSCIOUS PERSONS!). Drink plenty of water. Call a physician immediately.

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

Symptoms/effects after ingestion

: Swallowing a small quantity of this material will result in serious health hazard.

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

Never give anything by mouth to an unconscious person.

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SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Water spray.
Unsuitable extinguishing media : Foam.

5.2. Special hazards arising from the substance or mixture

Hazardous decomposition products in case of fire : fume.

5.3. Advice for firefighters

Firefighting instructions : Exercise caution when fighting any chemical fire.
Protection during firefighting : 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

6.1.1. For non-emergency personnel

Emergency procedures : Avoid contact with eyes.

6.1.2. For emergency responders

Protective equipment : Breathing apparatus.

6.2. Environmental precautions

Prevent entry to sewers and public waters.

6.3. Methods and material for containment and cleaning up

For containment : Collect spillage.
Methods for cleaning up : Large spills: scoop solid spill into closing containers. Minimise generation of dust.
Mechanically recover the product.

6.4. Reference to other sections

See Heading 8. For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Additional hazards when processed : Protect from moisture. Keep containers closed.
Precautions for safe handling : Avoid contact with skin and eyes. Provide good ventilation in process area to prevent formation of vapour.
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

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.
Incompatible products : Strong acids. Oxidizing agent.
Incompatible materials : Heat sources. Sources of ignition. Direct sunlight.
Storage temperature : 5 – 30 °C
Storage area : Store in a well-ventilated place. Store away from heat.
Special rules on packaging : Keep only in original container. Store in a closed container.

7.3. Specific end use(s)

Laboratory chemicals.

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SECTION 8: Exposure controls/personal protection

8.1. Control parameters

8.1.1 National occupational exposure and biological limit values

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EU - Indicative Occupational Exposure Limit (IOEL)	
IOEL 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

UN1446 Barium nitrate Analytical Grade ACS (10022-31-8)	
DNEL/DMEL (Workers)	
Long-term - systemic effects, dermal	12,22 mg/kg bodyweight/day
Long-term - systemic effects, inhalation	1,34 mg/m ³
PNEC (Water)	
PNEC aqua (freshwater)	227,8 µg/l
PNEC aqua (marine water)	0,00616 mg/l
PNEC aqua (intermittent, freshwater)	0,0054 mg/l
PNEC (Sediment)	
PNEC sediment (freshwater)	792,7 mg/kg dwt
PNEC sediment (marine water)	0,0223 mg/kg dwt
PNEC (Soil)	
PNEC soil	207,7 mg/kg dwt
PNEC (STP)	
PNEC sewage treatment plant	50,1 mg/l

8.1.5. Control banding

No additional information available

8.2. Exposure controls

8.2.1. Appropriate engineering controls

Appropriate engineering controls:

Ensure good ventilation of the work station.

8.2.2. Personal protection equipment

Personal protective equipment:

Avoid all unnecessary exposure. EN 374.

Personal protective equipment symbol(s):



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8.2.2.1. Eye and face protection

Eye protection:

Safety glasses

Eye protection			
Type	Field of application	Characteristics	Standard
Category II		With side shields	EN 166

8.2.2.2. Skin protection

Skin and body protection:

Wear impervious rubber safety shoes

Skin and body protection	
Type	Standard
	EN ISO 13287, EN ISO 20345

Hand protection:

protective gloves

Hand protection					
Type	Material	Permeation	Thickness (mm)	Penetration	Standard
Category I		6 (> 480 minutes)	cloruro de polivinilo (PVC) - 0.7 mm de espesor del recubrimiento / caucho nitrilo (NBR) - 0.4 mm espesor del recubrimiento / caucho cloropreno (CR) - 0.5 mm de espesor del recubrimiento / caucho butílico (butilo) - 0.7 mm espesor del recubrimiento / elastómero de fluor (FKM) - 0.7 mm de espesor del recubrimiento		EN ISO 374

Other skin protection

Materials for protective clothing

Condition	Material	Standard
		EN 1149-1, EN 1149-2, EN 1149-3, EN 1149-5, EN 168, EN ISO 14116

8.2.2.3. Respiratory protection

Respiratory protection:

Wear appropriate mask

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Respiratory protection			
Device	Filter type	Condition	Standard
Dust mask	Type P3		EN 405

8.2.2.4. Thermal hazards

No additional information available

8.2.3. Environmental exposure controls

Other information:

The present safety data sheet is consistent with the specific conditions relied on to justify the registration of the substance in accordance with Article 17 or 18 of the REACH regulation. Do not eat, drink or smoke when using this product. Wash hands with water as a precaution.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Solid
Colour	: white.
Odour	: odourless.
Odour threshold	: Not available
Melting point	: > 600 °C Atm. press.: 1003 hPa Decomposition: 'no'
Freezing point	: Not available
Boiling point	: Not available
Flammability	: Not available
Oxidising properties	: May cause fire or explosion; strong oxidiser. May intensify fire; oxidiser.
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	: Not available
pH solution	: Not available
Viscosity, kinematic	: Not applicable
Solubility	: Not available
Partition coefficient n-octanol/water (Log Kow)	: Not available
Vapour pressure	: Not available
Vapour pressure at 50 °C	: Not available
Density	: 3,24 g/cm ³ Type: 'density'
Relative density	: 3,24 Type: 'relative density' Temp.: 23 °C
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

Stable in use and storage conditions as recommended in item 7.

10.2. Chemical stability

Stable under normal conditions of use.

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10.3. Possibility of hazardous reactions

No additional information available

10.4. Conditions to avoid

No additional information available

10.5. Incompatible materials

Strong acids. Strong bases.

10.6. Hazardous decomposition products

No additional information available

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	50 – 300 mg/kg bodyweight Animal: rat, Animal sex: female, Guideline: OECD Guideline 423 (Acute Oral toxicity - Acute Toxic Class Method), Guideline: EU Method B.1 tris (Acute Oral Toxicity - Acute Toxic Class Method), Guideline: EPA OPPTS 870.1100 (Acute Oral Toxicity)
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Skin corrosion/irritation : Not classified
Serious eye damage/irritation : Causes serious eye irritation.
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

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.

SECTION 12: Ecological information

12.1. Toxicity

Hazardous to the aquatic environment, short-term (acute) : Not classified
Hazardous to the aquatic environment, long-term (chronic) : Not classified

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EC50 72h - Algae [1]	> 1,92 mg/l Test organisms (species): Pseudokirchneriella subcapitata (previous names: Raphidocelis subcapitata, Selenastrum capricornutum)
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EC50 72h - Algae [2]	> 34,31 mg/l Test organisms (species): Pseudokirchneriella subcapitata (previous names: Raphidocelis subcapitata, Selenastrum capricornutum)
NOEC (chronic)	2,9 mg/l Test organisms (species): Daphnia magna Duration: '21 d'

12.2. Persistence and degradability

No additional information available

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

No additional information available

12.7. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste treatment methods	: Must follow special treatment according to local regulation.
HP Code	: HP2 - "Oxidising:" waste which may, generally by providing oxygen, cause or contribute to the combustion of other materials. HP6 - "Acute Toxicity:" waste which can cause acute toxic effects following oral or dermal administration, or inhalation exposure. HP4 - "Irritant — skin irritation and eye damage:" waste which on application can cause skin irritation or damage to the eye.

SECTION 14: Transport information

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

14.1. UN number or ID number

UN-No. (ADR)	: UN 1446
UN-No. (IMDG)	: UN 1446
UN-No. (IATA)	: UN 1446
UN-No. (ADN)	: UN 1446
UN-No. (RID)	: UN 1446

14.2. UN proper shipping name

Proper Shipping Name (ADR)	: BARIUM NITRATE
Proper Shipping Name (IMDG)	: BARIUM NITRATE
Proper Shipping Name (IATA)	: Barium nitrate
Proper Shipping Name (ADN)	: BARIUM NITRATE
Proper Shipping Name (RID)	: BARIUM NITRATE
Transport document description (ADR)	: UN 1446 BARIUM NITRATE, 5.1 (6.1), II, (E)
Transport document description (IMDG)	: UN 1446 BARIUM NITRATE, 5.1 (6.1), II
Transport document description (IATA)	: UN 1446 Barium nitrate, 5.1 (6.1), II
Transport document description (ADN)	: UN 1446 BARIUM NITRATE, 5.1 (6.1), II

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Transport document description (RID) : UN 1446 BARIUM NITRATE, 5.1 (6.1), II

14.3. Transport hazard class(es)

ADR

Transport hazard class(es) (ADR) : 5.1 (6.1)

Danger labels (ADR) : 5.1, 6.1



IMDG

Transport hazard class(es) (IMDG) : 5.1 (6.1)

Danger labels (IMDG) : 5.1, 6.1



IATA

Transport hazard class(es) (IATA) : 5.1 (6.1)

Danger labels (IATA) : 5.1, 6.1



ADN

Transport hazard class(es) (ADN) : 5.1 (6.1)

Danger labels (ADN) : 5.1, 6.1



RID

Transport hazard class(es) (RID) : 5.1 (6.1)

Danger labels (RID) : 5.1, 6.1



14.4. Packing group

Packing group (ADR) : II

Packing group (IMDG) : II

Packing group (IATA) : II

Packing group (ADN) : II

Packing group (RID) : II

14.5. Environmental hazards

Dangerous for the environment : No

Marine pollutant : No

Other information : No supplementary information available


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14.6. Special precautions for user

Overland transport

Classification code (ADR)	: OT2
Limited quantities (ADR)	: 1kg
Excepted quantities (ADR)	: E2
Packing instructions (ADR)	: P002, IBC08
Special packing provisions (ADR)	: B4
Mixed packing provisions (ADR)	: MP2
Portable tank and bulk container instructions (ADR)	: T3
Portable tank and bulk container special provisions (ADR)	: TP33
Tank code (ADR)	: SGAN
Tank special provisions (ADR)	: TU3
Vehicle for tank carriage	: AT
Transport category (ADR)	: 2
Special provisions for carriage - Packages (ADR)	: V11
Special provisions for carriage - Loading, unloading and handling (ADR)	: CV24, CV28
Hazard identification number (Kemler No.)	: 56
Orange plates	: 
Tunnel restriction code (ADR)	: E
EAC code	: 1Y

Transport by sea

Limited quantities (IMDG)	: 1 kg
Excepted quantities (IMDG)	: E2
Packing instructions (IMDG)	: P002
IBC packing instructions (IMDG)	: IBC08
IBC special provisions (IMDG)	: B2, B4
Tank instructions (IMDG)	: T3, BK2
Tank special provisions (IMDG)	: TP33
EmS-No. (Fire)	: F-A
EmS-No. (Spillage)	: S-Q
Stowage category (IMDG)	: A
Properties and observations (IMDG)	: White crystals. Mixtures with combustible material are readily ignited and may burn fiercely. Toxic if swallowed, by skin contact or by dust inhalation.

Air transport

PCA Excepted quantities (IATA)	: E2
PCA Limited quantities (IATA)	: Y543
PCA limited quantity max net quantity (IATA)	: 1kg
PCA packing instructions (IATA)	: 558
PCA max net quantity (IATA)	: 5kg
CAO packing instructions (IATA)	: 562
CAO max net quantity (IATA)	: 25kg
ERG code (IATA)	: 5P

Inland waterway transport

Classification code (ADN)	: OT2
Special provisions (ADN)	: 802
Limited quantities (ADN)	: 1 kg
Excepted quantities (ADN)	: E2
Equipment required (ADN)	: PP, EP
Number of blue cones/lights (ADN)	: 2

Rail transport

Classification code (RID)	: OT2
Limited quantities (RID)	: 1kg

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Excepted quantities (RID)	: E2
Packing instructions (RID)	: P002, IBC08
Special packing provisions (RID)	: B4
Mixed packing provisions (RID)	: MP2
Portable tank and bulk container instructions (RID)	: T3
Portable tank and bulk container special provisions (RID)	: TP33
Tank codes for RID tanks (RID)	: SGAN
Special provisions for RID tanks (RID)	: TU3
Transport category (RID)	: 2
Special provisions for carriage – Packages (RID)	: W11
Special provisions for carriage - Loading, unloading and handling (RID)	: CW24, CW28
Colis express (express parcels) (RID)	: CE10
Hazard identification number (RID)	: 56

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)

No REACH Annex XVII restrictions

REACH Annex XIV (Authorisation List)

UN1446 Barium nitrate Analytical Grade ACS is not on the REACH Annex XIV List

REACH Candidate List (SVHC)

UN1446 Barium nitrate Analytical Grade ACS is not on the REACH Candidate List

PIC Regulation (Prior Informed Consent)

UN1446 Barium nitrate Analytical Grade ACS is not subject to Regulation (EU) No 649/2012 of the European Parliament and of the Council of 4 July 2012 concerning the export and import of hazardous chemicals.

POP Regulation (Persistent Organic Pollutants)

UN1446 Barium nitrate Analytical Grade ACS is not subject to Regulation (EU) No 2019/1021 of the European Parliament and of the Council of 20 June 2019 on persistent organic pollutants

Ozone Regulation (1005/2009)

Barium nitrate is not subject to REGULATION (EU) No 1005/2009 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 September 2009 on substances that deplete the ozone layer.

VOC Directive (2004/42)

VOC content : 0 %

Explosives Precursors Regulation (2019/1148)

Contains no substance subject to Regulation (EU) 2019/1148 of the European Parliament and of the Council of 20 June 2019 on the marketing and use of explosives precursors.

Drug Precursors Regulation (273/2004)

Contains no substance subject to Regulation (EC) 273/2004 of the European Parliament and of the Council of 11 February 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

Germany

Water hazard class (WGK) : WGK 1, Slightly hazardous to water (Classification according to VwVwS, Annex 1 or 2; ID No. 304).

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- 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

- SZW-lijst van kankerverwekkende stoffen : The substance is not listed
- SZW-lijst van mutagene stoffen : The substance is not listed
- NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Borstvoeding : The substance is not listed
- NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Vruchtbaarheid : The substance is not listed
- NIET-limitatieve lijst van voor de voortplanting giftige 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

15.2. Chemical safety assessment

A chemical safety assessment has been carried out

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
Eye Irrit. 2	Serious eye damage/eye irritation, Category 2
H272	May intensify fire; oxidiser.
H301	Toxic if swallowed.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
Ox. Sol. 2	Oxidising Solids, Category 2

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.