

SAFETY DATA SHEET

(in accordance with Regulation (EU) 2015/830)



BORAX

Version: 4
Revision date: 19/01/2018

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SECTION 1: IDENTIFICATION OF THE SUBSTANCE AND OF THE COMPANY/UNDERTAKING.

1.1 Product identifier.

Product Name: BORAX
Chemical Name: BORAX
Index No: 005-011-01-1
CAS No: 1303-96-4
EC No: 215-540-4

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

Pyrotechnical compositions

Uses advised against:

Uses other than those recommended.

1.3 Details of the supplier of the safety data sheet.

Company: **ALDEBARÁN SISTEMAS SL**
Address: C/Jerónimo Zurita, 10, entlo izda, 50001
City: Zaragoza
Province: Zaragoza
Telephone: 0034976796134
E-mail: aldebaran@aldebaransistemas.com

1.4 Emergency telephone number: 0034915620420 (Available 24 hours)

SECTION 2: HAZARDS IDENTIFICATION.

2.1 Classification of the substance.

In accordance with Regulation (EU) No 1272/2008:

Eye Irrit. 2 : Causes serious eye irritation.

Repr. 1B : May damage fertility. May damage the unborn child.

2.2 Label elements.

Labelling in accordance with Regulation (EU) No 1272/2008:

Pictograms:



Signal Word:

Danger

H statements:

H319 Causes serious eye irritation.
H360FD May damage fertility. May damage the unborn child.

P statements:

P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.

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| | |
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| P264 | Wash with water thoroughly after handling. |
| P280 | Wear protective gloves/protective clothing/eye protection/face protection. |
| P305+P351+P338 | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. |
| P308+P313 | IF exposed or concerned: Get medical advice/attention. |
| P337+P313 | If eye irritation persists: Get medical advice/attention. |
| P405 | Store locked up. |
| P501 | Dispose of contents/container to local/national normative |

EUH statements:

Restricted to professional users.

Contains:

borax decahydrate, disodium tetraborate decahydrate

2.3 Other hazards.

In normal use conditions and in its original form, the product itself does not involve any other risk for health and the environment.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS.

3.1 Substances.

Mono-constituent.

| | |
|----------------|--------------|
| Chemical Name: | [4] BORAX |
| Index No: | 005-011-01-1 |
| CAS No: | 1303-96-4 |
| EC No: | 215-540-4 |

[4] Substance included in the list established under Article 59, paragraph 1, REACH (Candidate or subject to authorization).

3.2 Mixtures.

Not Applicable.

SECTION 4: FIRST AID MEASURES.

4.1 Description of first aid measures.

In case of doubt or when symptoms of feeling unwell persist, get medical attention. Never administer anything orally to persons who are unconscious.

Inhalation.

Take the victim into open air; keep them warm and calm. If breathing is irregular or stops, perform artificial respiration. Do not administer anything orally. If unconscious, place them in a suitable position and seek medical assistance.

Eye contact.

If wearing contact lenses, remove them. Wash eyes with plenty of clean and cool water for at least 10 minutes while pulling eyelids up, and seek medical assistance.

Skin contact.

Remove contaminated clothing. Wash skin vigorously with water and soap or a suitable skin cleaner. **NEVER** use solvents or thinners.

Ingestion.

If accidentally ingested, seek immediate medical attention. Keep calm. **NEVER** induce vomiting.

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

Irritant Product, repeated or prolonged contact with skin or mucous membranes can cause redness, blisters or dermatitis, inhalation of spray mist or particles in suspension may cause irritation of the respiratory tract, some symptoms may not be immediate. Can cause allergic reactions.

Toxic Product, accidental contact may result in serious respiratory difficulties, alteration of the central nervous system and in extreme cases, unconsciousness. Immediate medical assistance is required.

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

In case of doubt or when symptoms of feeling unwell persist, get medical attention. Never administer anything orally to persons who are unconscious.

SECTION 5: FIREFIGHTING MEASURES.

The product does not present any particular risk in case of fire.

5.1 Extinguishing media.

Recommended extinguishing methods.

Extinguisher powder or CO₂. In case of more serious fires, also alcohol-resistant foam and water spray. Do not use a direct stream of water to extinguish.

5.2 Special hazards arising from the substance.

Special risks.

Thermal decomposition can lead to the release of irritating gases and vapors.

Hazardous combustion products: Boron oxides..

5.3 Advice for firefighters.

Use water to cool tanks, cisterns, or containers close to the heat source or fire. Take wind direction into account. Prevent the products used to fight the fire from going into drains, sewers, or waterways.

Fire protection equipment.

According to the size of the fire, it may be necessary to use protective suits against the heat, individual breathing equipment, gloves, protective goggles or facemasks, and gloves.

SECTION 6: ACCIDENTAL RELEASE MEASURES.

6.1 Personal precautions, protective equipment and emergency procedures.

For exposure control and individual protection measures, see section 8.

6.2 Environmental precautions.

Prevent the contamination of drains, surface or subterranean waters, and the ground.

6.3 Methods and material for containment and cleaning up.

The contaminated area should be immediately cleaned with an appropriate de-contaminator. Pour the decontaminator on the remains in an opened container and let it act various days until no further reaction is produced.

6.4 Reference to other sections.

For exposure control and individual protection measures, see section 8.

For later elimination of waste, follow the recommendations under section 13.

SECTION 7: HANDLING AND STORAGE.

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7.1 Precautions for safe handling.

Avoid contact with skin and eyes. Do not breathe the dust. Avoid contact with clothes. Wash your hands before breaks and immediately after handling the substance. Ensure proper ventilation.

7.2 Conditions for safe storage, including any incompatibilities.

Close the containers tightly and keep them in a dry, cool and well-ventilated place. The product is not affected by Directive 2012/18/EU (SEVESO III).

7.3 Specific end use(s).

Pyrotechnical mixtures

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION.

8.1 Control parameters.

Exposure limit during work for:

| Product | N. CAS | Country | Limit | ppm | mg/m ³ |
|---------|-----------|------------|------------|-----|-------------------|
| BORAX | 1303-96-4 | España [1] | Eight hour | | 5 |
| | | | Short term | | |

[1] According to the list of Environmental Limits of Professional Exposition adopted by the National Institute of Safety and Hygiene at Work (INSHT) for the year 2016.

The product does NOT contain substances with biological limit values.

8.2 Exposure controls.

Measures of a technical nature:

Provide adequate ventilation, which can be achieved by using good local exhaust-ventilation and a good general exhaust system.

| | | | | | |
|------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|-------|--------------------------|------|
| Concentration: | 100 % | | | | |
| Uses: | Pyrotechnical compositions | | | | |
| Breathing protection: | | | | | |
| PPE: | Particle filter mask | | | | |
| Characteristics: | «CE» marking, category III. Made of filtering material, it covers nose, mouth and chin. | | | | |
| CEN standards: | EN 149 | | | | |
| Maintenance: | Check for any tears, defects, etc. before use. Since it is disposable individual protection equipment, it should be replaced after use. | | | | |
| Observations: | Does not protect worker unless properly adjusted. Follow the manufacturer's instructions regarding suitable use of the equipment. | | | | |
| Filter Type needed: | P2 | | | | |
| Hand protection: | | | | | |
| PPE: | Non-disposable protective gloves against chemicals. | | | | |
| Characteristics: | «CE» marking, category III. Check the list of chemicals for which the glove has been tested. | | | | |
| CEN standards: | EN 374-1, En 374-2, EN 374-3, EN 420 | | | | |
| Maintenance: | A schedule for the periodical replacement of gloves should be established in order to guarantee their replacement before pollutants permeate them. The use of contaminated gloves could be more dangerous than not using gloves, since the pollutant can gradually accumulate in the glove's material. | | | | |
| Observations: | They are to be replaced whenever tears, cracks or deformations are observed or when exterior dirt could reduce their strength. | | | | |
| Material: | PVC (polyvinyl chloride) | Breakthrough time (min.): | > 480 | Material thickness (mm): | 0,35 |
| Eye protection: | | | | | |
| PPE: | Protective goggles against particle impacts. | | | | |
| Characteristics: | «CE» marking, category II. Eye protector against dust and smoke. | | | | |

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| CEN standards: | EN 165, EN 166, EN 167, EN 168 | |
| Maintenance: | Visibility through lenses should be ideal. Therefore, these parts should be cleaned daily. Protectors should be disinfected periodically following the manufacturer's instructions. | |
| Observations: | Some signs of wear and tear include: yellow colouring of the lenses, superficial scratching of the lenses, scraping etc. | |
| Skin protection: | | |
| PPE: | Chemical protective clothing | |
| Characteristics: | «CE» marking, category III. Clothing should fit properly. The level of protection must be set according to a test parameter called BT (Breakthrough Time), which indicates how long it takes for the chemical to pass through the material. | |
| CEN standards: | EN 464, EN 340, EN 943-1, EN 943-2, EN ISO 6529, EN ISO 6530, EN 13034 | |
| Maintenance: | In order to guarantee uniform protection, follow the washing and maintenance instructions provided by the manufacturer. | |
| Observations: | The protective clothing's design should facilitate correct positioning, staying in place without moving for the period of use expected, bearing in mind environmental factors as well as any movement or position the user might adopt while carrying out the activity. | |
| PPE: | Anti-static safety footwear against chemicals. | |
| Characteristics: | «CE» marking, category III. Check the list of chemicals against which the footwear is resistant. | |
| CEN standards: | EN ISO 13287, EN 13832-1, EN 13832-2, EN 13832-3, EN ISO 20344, EN ISO 20345 | |
| Maintenance: | For correct maintenance of this kind of safety footwear, it is necessary to observe the instructions specified by the manufacturer. The footwear should be replaced as soon as any sign of damage is observed. | |
| Observations: | The footwear should be cleaned regularly and dried when damp, although it should not be placed too close to a source of heat in order to avoid any sharp changes in temperature. | |

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES.

9.1 Information on basic physical and chemical properties.

Appearance: Powder
Colour: N.A./N.A.
Odour: N.A./N.A.
Odour threshold: N.A./N.A.
pH: N.A./N.A.
Melting point: N.A./N.A.
Boiling Point: 1575 °C
Flash point: N.A./N.A.
Evaporation rate: N.A./N.A.
Inflammability (solid, gas): N.A./N.A.
Lower Explosive Limit: N.A./N.A.
Upper Explosive Limit: N.A./N.A.
Vapour pressure: N.A./N.A.
Vapour density: N.A./N.A.
Relative density: 1,72 g/cm³
Solubility: N.A./N.A.
Liposolubility: N.A./N.A.
Hydrosolubility: N.A./N.A.
Partition coefficient (n-octanol/water): N.A./N.A.
Auto-ignition temperature: N.A./N.A.
Decomposition temperature: N.A./N.A.
Viscosity: N.A./N.A.
Explosive properties: N.A./N.A.
Oxidizing properties: N.A./N.A.
N.A./N.A.= Not Available/Not Applicable due to the nature of the product

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9.2 Other information.

Pour point: N.A./N.A.

Blink: N.A./N.A.

Kinematic viscosity: N.A./N.A.

N.A./N.A.= Not Available/Not Applicable due to the nature of the product

SECTION 10: STABILITY AND REACTIVITY.

10.1 Reactivity.

None known

10.2 Chemical stability.

Stable under the recommended handling and storage conditions.

10.3 Possibility of hazardous reactions.

No dangerous polymerization reactions are known.

No dangerous reaction information available.

10.4 Conditions to avoid.

Exposure to air, incompatible products. Avoid the formation of dust

10.5 Incompatible materials.

Acidos fuertes. Sales metálicas en polvo

10.6 Hazardous decomposition products.

Óxidos de boro

SECTION 11: TOXICOLOGICAL INFORMATION.

IRRITANT PREPARATION. Splatters in the eyes can cause irritation.

11.1 Information on toxicological effects.

There are no tested data available on the product.

Repeated or prolonged contact with the product can cause the elimination of oil from the skin, giving rise to non-allergic contact dermatitis and absorption of the product through the skin.

Splatters in the eyes can cause irritation and reversible damage.

a) acute toxicity;

Not conclusive data for classification.

b) skin corrosion/irritation;

Not conclusive data for classification.

c) serious eye damage/irritation;

Product classified:

Eye irritation, Category 2: Causes serious eye irritation.

d) respiratory or skin sensitisation;

Not conclusive data for classification.

e) germ cell mutagenicity;

Not conclusive data for classification.

f) carcinogenicity;

Not conclusive data for classification.

g) reproductive toxicity;

Product classified:

Reproductive toxicant, Category 1B: May damage fertility or the unborn child.

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h) STOT-single exposure;
Not conclusive data for classification.

i) STOT-repeated exposure;
Not conclusive data for classification.

j) aspiration hazard;
Not conclusive data for classification.

SECTION 12: ECOLOGICAL INFORMATION.

12.1 Toxicity.

No information is available regarding the ecotoxicity.

12.2 Persistence and degradability.

No information is available about persistence and degradability of the product.

12.3 Bioaccumulative potencial.

No information is available regarding the bioaccumulation.

12.4 Mobility in soil.

No information is available about the mobility in soil.
The product must not be allowed to go into sewers or waterways.
Prevent penetration into the ground.

12.5 Results of PBT and vPvB assessment.

No information is available about the results of PBT and vPvB assessment of the product.

12.6 Other adverse effects.

No information is available about other adverse effects for the environment.

SECTION 13 DISPOSAL CONSIDERATIONS.

13.1 Waste treatment methods.

Do not dump into sewers or waterways. Waste and empty containers must be handled and eliminated according to current, local/national legislation.

Follow the provisions of Directive 2008/98/EC regarding waste management.

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SECTION 14: TRANSPORT INFORMATION.

Transportation is not dangerous. In case of road accident causing the product's spillage, proceed in accordance with point 6.

14.1 UN number.

Transportation is not dangerous.

14.2 UN proper shipping name.

Description:

ADR: Transportation is not dangerous.

IMDG: Transportation is not dangerous.

ICAO: Transportation is not dangerous.

14.3 Transport hazard class(es).

Transportation is not dangerous.

14.4 Packing group.

Transportation is not dangerous.

14.5 Environmental hazards.

Transportation is not dangerous.

14.6 Special precautions for user.

Transportation is not dangerous.

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

Transportation is not dangerous.

SECTION 15: REGULATORY INFORMATION.

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

The product is not affected by the Regulation (EC) No 1005/2009 of the European Parliament and of the Council of 16 September 2009 on substances that deplete the ozone layer.

The product is not affected by Directive 2012/18/EU (SEVESO III).

The product is not affected by Regulation (EU) No 528/2012 concerning the making available on the market and use of biocidal products.

The product is not affected by the procedure established Regulation (EU) No 649/2012, concerning the export and import of dangerous chemicals.

Restrictions on the manufacturing, placing on the market and use of certain dangerous substances, mixtures and articles:

| Designation of the substance, of the group of substances or of the mixture | Conditions of restriction |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 30. Substances which appear in Part 3 of Annex VI to Regulation (EC) No 1272/2008 classified as toxic to reproduction category 1A or 1B (Table 3.1) or toxic to reproduction category 1 or 2 (Table 3.2) and listed as follows: - Reproductive toxicant category 1A adverse effects on sexual function and fertility or on development (Table 3.1) or reproductive toxicant category 1 with R60 (May impair fertility) or R61 (May cause harm to the unborn child) (Table 3.2) listed in Appendix 5 - Reproductive toxicant category 1B adverse | 1. Shall not be placed on the market, or used, - as substances, - as constituents of other substances, or, - in mixtures, for supply to the general public when the individual concentration in the substance or mixture is equal to or greater than: - either the relevant specific concentration limit specified in Part 3 of Annex VI to Regulation (EC) No 1272/2008, or, - the relevant concentration specified in Directive 1999/45/EC where no specific concentration limit is set out in Part 3 of Annex VI to Regulation (EC) No 1272/2008. Without prejudice to the implementation of other Community provisions relating to the classification, packaging and labelling of substances and |

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| effects on sexual function and fertility or on development (Table 3.1) or reproductive toxicant category 2 with R60 (May impair fertility) or R61 (May cause harm to the unborn child) (Table 3.2) listed in Appendix 6 | mixtures, suppliers shall ensure before the placing on the market that the packaging of such substances and mixtures is marked visibly, legibly and indelibly as follows: 'Restricted to professional users'. 2. By way of derogation, paragraph 1 shall not apply to: (a) medicinal or veterinary products as defined by Directive 2001/82/EC and Directive 2001/83/EC; (b) cosmetic products as defined by Directive 76/768/EEC; (c) the following fuels and oil products: - motor fuels which are covered by Directive 98/70/EC, - mineral oil products intended for use as fuel in mobile or fixed combustion plants, - fuels sold in closed systems (e.g. liquid gas bottles); (d) artists' paints covered by Directive 1999/45/EC; (e) the substances listed in Appendix 11, column 1, for the applications or uses listed in Appendix 11, column 2. Where a date is specified in column 2 of Appendix 11, the derogation shall apply until the said date. |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

15.2 Chemical safety assessment.

No Chemical Safety Assessment has been carried out for this substance/mixture by the supplier.

SECTION 16: OTHER INFORMATION.

Classification codes:

Eye Irrit. 2 : Eye irritation, Category 2
Repr. 1B : Reproductive toxicant, Category 1B

Sections changed compared with the previous version:

10.

It is advisable to carry out basic training with regard to health and safety at work in order to handle this product correctly.

Abbreviations and acronyms used:

CEN: European Committee for Standardization.
PPE: Personal protection equipment.

Key literature references and sources for data:

<http://eur-lex.europa.eu/homepage.html>

<http://echa.europa.eu/>

Regulation (EU) 2015/830.

Regulation (EC) No 1907/2006.

Regulation (EU) No 1272/2008.

The information given in this Safety Data Sheet has been drafted in accordance with COMMISSION REGULATION (EU) 2015/830 of 28 May 2015 amending Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC.

The information in this Safety Data Sheet on the Preparation is based on current knowledge and on current EC and national laws, as far as the working conditions of the users is beyond our knowledge and control. The product must not be used for purposes other than those that are specified without first having written instructions on how to handle. It is always the responsibility of the user to take the appropriate measures in order to comply with the requirements established by current legislation. The information contained in this Safety Sheet only states a description of the safety requirements for the preparation, and it must not be considered as a guarantee of its properties.