SAFETY DATA SHEET

According to 29 CFR 1910.1200

BORAX ANHYDROUS

Date of issue: September 01, 2023 **Revision date:** - **Version.** 1

SECTION 1.- IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1 Product identifier

Product form Substance.

Substance name Borax anhydrous

CAS No. 12179-04-3

Formula $Na_2B_4O_7$

Synonyms Borax

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

Use of the substance/mixture Flow agents, water softeners and buffering agents, soaps and detergent formulations, agriculture, pesticide formulations, corrosion inhibitor, glass and ceramics, glass fiber insulators, lubricants, antifreeze, adhesives, flame retardants.

1.3 Details of the supplier of the safety data sheet

Pima Chemicals & Fertilizers, LLC
1370 Nogales, Az.
Tel. 011 52 (662) 182-0559
rgutierrez@qpima.com

Química Pima, S.A. de C.V.
Del Cobre 20, Parque Industrial Hermosillo.
Hermosillo, Sonora, México. C.P. 83297
Tel. 011 (662) 251-0010 ventas@qpima.com

1.4 Emergency telephone number

Emergency number CHEMTREC (24HR Emergency Telephone), call: 1-800-424-9300

SECTION 2.- HAZARD IDENTIFICATION

2.1. GHS-US classification

Eye irrit. Cat. 2A; H319
Repr. Cat. 1B; H360

2.2. Label elements

GHS-US labelling

Hazard pictograms (GHS-US)

Signal word (GHS-US): Danger

Hazard statement (GHS-US):
H319: Causes serious eye irritation.
H360: May damage fertility or the unborn child.

Precautionary statements (GHS-US):
P201: Obtain special instruction before use
P202: Do not handle until all safety precautions have been read and understood
P264 Wash hands 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, consult a doctor.

P405: Store locked up.

P501 Dispose of contents/container in accordance with local/regional/national/ international regulations.

Emergency overview: Borax is a white odorless, powdered substance that is not flammable, combustible, or explosive, and has low acute oral and dermal toxicity.

Potential health effects: Inhalation is the most significant route of exposure in occupational and other settings. Dermal exposure is not usually a concern because borax is poorly absorbed through intact skin.

Inhalation: Occasional mild irritation effects to nose and throat may occur from inhalation of borax dusts at levels higher than 10 mg/m^3.

Eye contact: Borax is a serious eye irritant.

Skin contact: Borax does not cause irritation to intact skin.

Ingestion: Products containing borax are not intended for ingestion. Borax has low acute toxicity. Small amounts (e.g. a teaspoonful) swallowed accidentally are not likely to cause effects; swallowing amounts larger than that may cause gastrointestinal symptoms.

2.3. Other hazards

Reproductive/Developmental: Animal ingestion studies in several species, at high doses, indicate that borates cause reproductive and developmental effects. A human study of occupational exposure to borate dust showed no adverse effect on reproduction. A recent epidemiological study and a peer reviewing report of the past epidemiological studies conducted in China didn´t show any negative effect of boron on human fertility (10, 11).

Potential ecological effects: Large amounts of borax can be harmful toplants and other species. Therefore, releases to the environment should be minimized. Signs and symptoms of exposure: Symptoms of accidental over-exposure to borax have been associated with ingestion or absorption through large areas of damaged skin. These may include nausea, vomiting, and diarrhea, with delayed effects of skin redness and peeling (see section 11).

2.4 Unknown acute toxicity (GHS-US) Not applicable.

SECTION 3.- COMPOSICION / INFORMATION OF INGREDIENTS

3.1 Substance

Substance type The product contains greater than 99.9 percent (%) borax $Na_2B_4O_7$

Name	*Product identifier*	*%*	*GHS-US classification*
Anhydrous borax	(CAS No.) *141303-96-4*	> 99.9	H360; H319

3.2 Mixture Not applicable.

SECTION 4.- FIRST AID MEASURE

4.1. Description of first air measure

First-aid measures general Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice.

First-aid measures after eye contact Use eye wash fountain or fresh water to cleanse eye. If irritation persists for more than 30 minutes, seek medical attention.

First-aid measures after skin contact No treatment necessary because non-irritating.

First-aid measures after inhalation	If symptoms such as nose or throat irritation are observed, remove to fresh air.
First-aid measures after ingestion	If large amounts are swallowed (i.e. more than one teaspoon), give two glasses of water or milk to drink and seek medical attention.

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

Symptoms/injuries after inhalation	N.A. (Not Applicable)
Symptoms/injuries after skin contact	N.A.
Symptoms/injuries after eye contact	N.A.
Symptoms/injuries after ingestion	N.A.
Chronic symptoms	N.A.

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

Observation only is required for adult ingestion of less than 7 grams of borax. For ingestion in excess of 7 grams, maintain adequate kidney function and force fluids. Gastric lavage is recommended for symptomatic patients only. Hemodialysis should be reserved for massive acute ingestion or patients with renal failure. Boron analyses of urine or blood are only useful for documenting exposure and should not be used to evaluate severity of poisoning or to guide treatment[1] (see section 11).

SECTION 5.- FIREFIGHTING MEASURES

5.1. Extinguishing media

Any fire extinguishing media may be used on nearby fires.

5.2. Special hazard arising from the substance or mixture

None. Borax is not flammable, combustible or explosive. The product is itself a flame retardant.

5.3. Advice for firefighters

N.A.

SECTION 6.- ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Avoid dust formation. In case of exposure to high level of airborne dust, wear a personal respirator in compliance with national legislation.

6.2. Environmental precautions

Borax is a water-soluble white powder that may, at high concentrations cause damage to trees or vegetation by root absorption (see section 12).

6.3. Methods and material for containment and cleaning up.

Land spill	Vacuum, shovel or sweep up borax and place in containers for disposal in accordance with applicable local regulations. Avoid contamination of water bodies during clean up and disposal. No personal protective equipment is needed to clean up land spills.
Water spill	affected water should be used for irrigation or for the abstraction of potable water until natural dilution returns the boron value to its normal environmental background level (see sections 12, 13 and 15).

6.4 Reference to other sections

See Sections 8 and 13 for further information.

SECTION 7.- HANDLING AND STORAGE

7.1. Precautions for safe handling

To maintain package integrity and to minimize caking of the product, bags should be handled on a first-in first out basis. Good housekeeping procedures should be followed to minimize dust generation and accumulation. Your supplier can advise you on safe handling, please contact the supplier.

7.2. Conditions for safe storage, including any incompatibilities

No special handling precautions are required, but dry, indoor storage is recommended. No specific requirements. Provide appropriate ventilation and store bags such as to prevent any accidental damage.

7.3 Specific end use(s) The product should be kept away from strong reducing agents. See exposure scenario in Annex to the MSDS.

SECTION 8.- EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

Name	*ACGIH TLV*	*OSHA PEL*	*NIOSH IDLH*
Borax 141303-96-4	10 mg/m^3	10 mg/m^3	Not available

8.2. Exposure controls

Hygiene measures Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eyes and hand protection Goggles and gloves are not required for normal industrial exposures, but may be warranted if environment is excessively dusty.

Respiratory protection Where airborne concentrations are expected to exceed exposure limits, respirators should be used.

Other information Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

SECTION 9.- PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Physical state:	Solid.	**Appearance:**	crystalline solid, white
Odor:	Odorless.	**Color:**	White.

Molecular mass	201.21 g/mol
Odor threshold	N.A.
pH	No data available.
pH solution	No data available.
Relative evaporation rate (butyl acetate=1)	No data available.
Melting/Freezing point	741°C
Boiling point	1575 °C

Flash point	Non flammable
Self ignition temperature	No data available.
Decomposition temperature	No data available
Flammability (solid, gas)	No data available.
Vapor pressure	Negligible @ 20°C
Relative vapor density at 20°C	No data available.
Relative density	1.81 @ 20°C
Specific volume	No data available.
Solubility	2.48% @ 20°C
Log Pow	No data available.
Log Kow	No data available.
Viscosity, kinematic	No data available.
Viscosity, dynamic	No data available.
Explosive properties	Non explosive.
Oxidizing properties	No data available.
Explosive limits	No data available.

9.2 Other information

No additional information available.

SECTION 10.- STABILITY AND REACTIVITY

10.1 Reactivity	Non-reactive
10.2 Chemical stability	Anhydrous borax is a stable product.
10.3 Possibility of hazardous reactions	Reaction with strong reducing agents such as metal hydrides, acetic anhydride or alkali metals will generate hydrogen gas which could create an explosive hazard.
10.4 Conditions to avoid	N.A.
10.5 Incompatible materials	Avoid contact with strong reducing agents such as metal hydrides, acetic anhydride or alkali metals.
10.6 Hazardous decomposition products	N.A.

SECTION 11.-TOXICOLOGICAL INFORMATION

11. 1. Information on toxicological effects

Acute toxicity: Not classified.

Name	LD_{50} oral	LD_{50} dermal	LC_{50} inhalation
Anhydrous borax	3,200 to 3,500 mg/kg (rat)	> 2,000 mg/kg (rabbit)	-

Skin corrosion/irritation: No known significant effects or critical hazards.

Serious eye damage/irritation: Serious eye irritant.

Respiratory or skin sensitization: N.A.

Germ cell mutagenicity	N.A.
Carcinogenicity	N.A.
Reproductive toxicity	Animal feeding studies in rat, mouse and dog, at high doses, have demonstrated effects on fertility and testes. Studies with the chemically related boric acid in rat, mouse and rabbit, at high doses, demonstrate developmental effects on the fetus including fetal weight loss and minor skeletal variations. The doses administered were many times in excess of those which humans would normally be exposed to. Human epidemiological studies show no increase in pulmonary disease in occupational populations with chronic exposures to sodium borate dust. A recent epidemiology study under the conditions of normal occupational exposure to borate dusts indicated no effect on fertility.
Specific target toxicity (single exposure)	N.A.
Specific target toxicity (repeat exposure)	N.A.
Aspiration hazard	Low acute inhalation toxicity; LC_{50} in rats is greater than 2.0 mg/l (or g/m^3).
Potential adverse human health effects and symptoms	N.A.

SECTION 12. ECOLOGICAL INFORMATION

12.1 Toxicity

Phytotoxicity

Boron is an essential micronutrient for healthy growth of plants; however, it can be harmful to boron sensitive plants in higher quantities. Care should be taken to minimize the amount of borate product released to the environment.

Algal toxicity

Green algae, *Pseudokirchneriella subcapitata* (Hansveit and Oldersma, 2000)

72-hr EC_{50} –biomass = 40 mg B/L, or 229 mg boric acid/L.

Invertebrate toxicity

Daphnia, Daphnids, *Daphnia magna* (Gersich, 1984a)

48-hr LC_{50} = 133 mg B/L or 760 mg boric acid/L or 619 mg disodium tetraborate , anhydrous/L

Fish toxicity

Fish, Fathered minnow, *Pimephales promelas* (Soucek et al., 2010)

96-hr LC_{50} = 79.7 mg B/L or 456 mg boric acid/L or 370 mg disodium tetraborate, anhydrous

12.2 Persistence and degradability

Boron is naturally occurring and ubiquitous in the environment. Borax decomposes in the environment to natural borate.

12.3 Bioaccumulative potential

Not significantly bioccumulative.

12.4 Mobility in soil

The product is soluble in water and is leachable through normal soil.

12.5 Other adverse effects

Other information No data available

SECTION 13.- DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Small quantities of borax can usually be disposed of at landfill sites. No special disposal treatment is required, but local authorities should be consulted about any specific local requirements. Tonnage quantities of product are not recommended to be sent

to landfills. Such product should, if possible, be used for an appropriate application.

SECTION 14.- TRANSPORT INFORMATION

Borax has no UN Number, and is not regulated under international rail, road, water or air transport regulations.

14.1.UN number Not regulated.

14.2. UN proper shipping name Not regulated.

14.3. Additional information

Other information	Not regulated.
Overland transport	Not regulated.
Transport by sea	Not regulated.
Air transport	Not regulated.

SECTION 15.- REGULATORY INFORMATION

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

It should be noted that borates are safe under conditions of normal handling and use, besides, they are essential nutrients to plants, and research shows that they play a beneficial role in human health. CLP classification has been solely based on animal tests where animals were exposed to high doses of boric acid over long periods of time. These doses were many times higher than humans are exposed to under conditions of normal handling and use. Consequently, a precautionary decision was taken by the European Commission. Although we will comply with the body of legislation triggered by that decision, we are in process of all possible legal actions.

Clean Air Act (Montreal Protocol)

Borax was not manufactured with and does not contain any Class I or Class II ozone depleting substances.

Chemical inventory listing

U.S. EPA TSCA Inventory 1330-43-4
Canadian DSL 1330-43-4
EINECS 215-540-4
South Korea 1-760
Japanese MITI (1)-69

Ensure all national/local regulations are observed.

EU Reach Regulation

Disodium Tetraborates are listed in the Candidate List of Substances of Very High Concern "SVHC" for eventual inclusion in Annex XIV to REACH Regulation 1907/2006 ("Authorization List"). (18.06.2010-ED/30/2010).
Disodium tetraborates are listed in the Annex XVII of REACH Regulation 1907/2006 (EU No.109/2012) and their use in consumer products above specific concentration limits are restricted. Note that this restriction is only specific to consumer products and do not cover their industrial and/or professional applications. Disodium tetraborates can be used in consumer products below specific concentration limits (which is C ≥6.5% for Borax).

15.2. Chemical safety assessment

Chemical Safety Assessment of Borax (disodium tetraborate) has been carried out under REACH Regulation of the EU.

SECTION 16.- OTHER INFORMATION

NFPA	NFPA health hazard	1	NFPA fire hazard	0	NFPA instability hazard	0	NFPA Special hazard	-
HMIS III	Health	1	Flammability	0	Physical	0	Personal Protection	E

E Safety glasses, gloves and dust respirator.



Other information: None.

Made for: Quimica Pima, S.A. de C.V. Del Cobre No. 20 Parque Industrial. Hermosillo, Sonora, México. 83297.

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Revision notes:

IMPORTANT NOTE: Information in this SDS is from available published sources and is believed to be accurate, but is not exhaustive and will be used only as a guide, which is based on current knowledge of the chemical substance or mixture and apply to the appropriate product for safety precautions. No warranty, express or implied, is made and Pima Chemicals & Fertilizers, LLC and Quimica Pima, S.A. de C.V. assumes no liability resulting from the use of this SDS. The user must determine suitability of this information for his application.

End of Safety Data Sheet