Material Safety Data Sheet

According to (EC) No 1907/2006 (REACH) and 1272/2008 (CLP)

BORAX

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Version: 01

MAGIS PHARMA

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

1.1 Product identifier

Product name:	Borax Borax Borax Borax Borax
N° CAS:	1303-96-4
N° EC:	603-411-9

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

Identified uses:	Active Pharmaceutical Ingredient or Excipient.

1.3 Details of the supplier of the safety data sheet

Company:	Magis – Pharma NV Neerlandweg 24 2610 Wilrijk Belgium
Telephone:	(+32) (0)3 457 11 76
Email:	info@magis-pharma.be
Web page:	www.magis-pharma.be

1.4 Emergency telephone number

Public utility foundation:	Belgisch Antigifcentrum	Centre Antipoisons Belge
Telephone:	(+32) (0)70 245 245	(Service 24/7)
Web page:	www.antigifcentrum.be	www.centreantipoisons.be

SECTION 2: HAZARDS IDENTIFICATION

2.1 Classification of the substance/mixture

Classification according to (EC) n° 1272/2008

Eye Irrit. 2	H319
Repr. 1B	H360FD

2.2 Label elements

Labelling according to (EC) n° 1272/2008

Hazard pictogram(s):

Signal word(s): Danger
Harmful
Irritant

Hazard statements:

H319	Causes serious eye irritation.
H360FD	May damage fertility or the unborn child.
Precautionary statements:	
P201	Obtain special instructions before use.
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.
Additional applicable label elements:	Not applicable.

2.3 Other hazards

Not available.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

Product name:	Borax
IUPAC name:	Disodium 1,3,5,7-tetrahydroxy-2,4,6,8,9-pentaoxa-3,7-dibora-1,5-diboranuidabicyclo[3.3.1]nonane octahydrate
Synonyms:	Disodium tetraborate decahydrate Borax decahydrate Sodium borate, decahydrate Sodium tetraborate decahydrate
N° CAS:	1303-96-4
N° EC:	603-411-9
Molecular Formula:	$Na_2B_4O_7,10H_2O$
Content:	99.0 per cent to 103.0 per cent of $Na_2B_4O_7,10H_2O$

3.2 Mixtures

It contains no other components or impurities that may influence the classification of the product.

SECTION 4: FIRST AID MEASURES

4.1 Description of first aid measures

General notes:	Consult a doctor. Show the safety data sheet to the doctor on duty.
After inhalation:	Take to fresh air. If breathing is irregular, call a doctor immediately. Only give artificial respiration if breathing stops or under medical supervision.
After skin contact:	Wash immediately with plenty of soap and water for at least 15 minutes. Remove all contaminated clothing immediately. Get medical attention if irritation develops and persists.
After eye contact:	

After ingestion:	Remove contact lenses and rinse immediately with plenty of water, including under the eyelids, for at least 15 minutes. Get medical attention. If conscious, give the victim plenty of water to drink. Never give anything by mouth to an unconscious person. Call a doctor immediately.

4.2 Most important symptoms and effects, both acute and delayed

For symptoms and effects due to the substances contained, see section 11.

4.3 Indication of any immediate medical attention and special treatment needed

Not available.

SECTION 5: FIREFIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing media:	Foam, dry powder, carbon dioxide, sand, water mist. Neighbouring fires (containers exposed to fire): Water spray or fog.
Unsuitable extinguishing media:	Direct water jet.

5.2 Special hazards arising from the substance/mixture

Avoid breathing combustion products. Product is combustible and, when dust is dispersed in air in sufficient concentrations and in the presence of an ignition person, may produce explosive mixtures with air.

Fire may develop or be fuelled by the solid, possibly escaping from the container, when it reaches high temperatures or comes into contact with ignition sources.

5.3 Advice for firefighters

Surrounding fires:	Cool containers with water to prevent decomposition of product and development of potential health hazards. Always use full fire protection. Collect water from entering sewage system. Dispose of contaminated water used for extinguishing and residues in accordance with current regulations.
Protection against fire:	Helmet with visor, flame retardant clothing (jacket and trousers with straps around the arms, legs and waist, EN 469), gloves (fireproof and dielectric, EN 659), a mask with face mask covering the whole face of the operator or the car (self protective) in case of large amounts of smoke, a self-contained breathing apparatus (EN 137).
Hazardous combustion products:	Not available.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

Avoid dust formation by spraying the product with water if there are no contraindications.

Use appropriate protective equipment (including personal protective equipment mentioned in section 8 of the safety data sheet) to avoid contamination of skin, eyes and personal clothing.

For emergency responders

Avoid dust formation by spraying the product with water if there are no contraindications.

Use appropriate protective equipment (including personal protective equipment mentioned in section 8 of the safety data sheet) to avoid contamination of skin, eyes and personal clothing.

6.2 Environmental precautions

Prevent product from entering sewers, surface and ground water.

6.3 Methods and material for containment and cleaning up

Collect spilled product by mechanical spraying and place in containers for recovery or disposal. Eliminate waste water jets if there are no contraindications.

Ensure sufficient ventilation of the site affected by the leak. Check for incompatibilities for the container material in section 7. Disposal of contaminated material should be carried out according to section 13.

6.4 Reference to other sections

For exposure control and personal protective measures, see section 8.

For waste disposal, follow the recommendations in section 13.

SECTION 7: HANDLING AND STORAGE

7.1 Precautions for safe handling

Precautions for safe handling:	Handle the product after consulting all other sections of this safety data sheet. Avoid dispersing product into the environment. Do not eat, drink or smoke during use. Wash hands after use.
Personal protection:	Not available.
Technical protective measures:	Not available.
Handling:	Handle the product after consulting all other sections of this safety data sheet. Wash hands after use.

7.2 Conditions for safe storage, including any incompatibilities

Storage:	Not available.
Conditions for safe storage, including any incompatibilities:	Keep the product in clearly labelled containers. Keep container closed, in a well-ventilated place.
Storage – away from:	Keep container out of direct sunlight.

7.3 Specific end use(s)

Active Pharmaceutical Ingredient or Excipient

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

Limit values (TLV)

	TWA (8h)	STEL (15 min)

TLV-ACHIG	2 ppm	6 ppm

Predicted concentration of environmental impact - PNEC (reference values)

Terrestrial compartment:	5.4 mg/kg
Fresh water:	2.02 mg/l
Marine water:	2.02 mg/l
Reference value for water, intermittent release:	13.7 mg/kg
STP microorganisms:	10 mg/l

Health - Derived Non-Effective Level - DNEL/DMEL

	Effects on consumers				Effects on workers			
Exposure route	Local acute	Systematic acute	Local chronic	Systematic chronic	Local acute	Systematic acute	Local chronic	Systematic chronic
Oral	*	1.15 mg/kg	*	1.15 mg/kg	*	*	*	*
Respiration	17.04 mg/m^3	*	*	4.9 mg/m^3	17.04 mg/m^3	*	*	9.8 mg/m^3
Cutaneous	*	*	*	231.8 mg/kg/day	*	*	*	458.2 mg/kg/day

Legend

* Danger identified but no PNEC/DNEL available

It is recommended to consider the ACGIH exposure limit values for inert dusts that would otherwise not be classified (respirable fraction PNOC: 3mg/mc, inhalable fraction PNOC: 10 mg/mc) in the risk assessment process. If these limits are exceeded, it is recommended to use a P-type filter whose class (1, 2 or 3) is chosen depending on the outcome of the risk assessment.

8.2 Exposure controls

Appropriate engineering control

Since the use of appropriate technical measures should always take precedence over personal protective equipment, ensure good ventilation at the workplace by effective local suction. When choosing personal protective equipment, ask your chemical suppliers if this is necessary. Personal protective equipment must be CE-marked for compliance with applicable regulations. Provide an emergency shower with a viscoelastic tray.

Hygiene measures: Handle with proper industrial hygiene precautions, and observe safety practices. Wash hands before breaks and after finishing work.

Individual protection measures

Eye/face protection:	Protective face shields and safety goggles according to EN166.
Skin protection:	Choose body protection according to the quantity and concentration of the hazardous substance in the workplace.
Hand protection:	Handle with gloves. The selected protective gloves must comply with the specifications of EU Directive 89/686/EEC and the derived EN 374 standard.
Respiratory protection:	Where risk assessment shows that air-purifying respirators are appropriate, use dust mask type N95 (USA) or type P1 (EN 143). Use respirators and

	components tested and approved under appropriate governmental standards such as NIOSH (US) or CEN (EU).
Thermal hazards:	Not determined.

Environmental exposure control

Not available.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Appearance:	White or almost white, crystalline powder, colourless crystals or crystalline masses, efflorescent.
Odour:	Odourless.
Odour threshold:	Not available.
pH:	(0.1 %): 9.3
Melting/freezing point:	742.5 °C
Initial boiling point:	Not available.
Boiling range:	Not available.
Flash point:	Not available.
Evaporation rate:	Not available.
Flammability (solid/gas):	Not available.
Upper/lower flammability or explosive limits:	Not available.
Vapour pressure:	Not available.
Vapour density:	Not available.
Relative density:	0.469 g/ml (20 °C)
Solubility:	Freely soluble in glycerol.
Solubility in water:	Soluble in water, very soluble in boiling water. 3.9 g/100 ml (20 °C)
Partition coefficient (n-octanol/water):	LogPow - 1.53
Auto-ignition temperature:	Not available.
Decomposition temperature:	Not available.
Viscosity:	Not available.
Explosive properties:	Not available.
Oxidising properties:	Not available.

9.2 Other information

Molecular weight: 381.37 g/mol

VOC (Directive 2010/75/EC): 0

VOC (volatile carbon): 0

SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity

No special conditions. Stable under recommended handling and storage conditions (see section 7).

10.2 Chemical stability

Stable under recommended handling and storage conditions (see section 7).

If heated, the product loses water by first forming metaboric acid (HBO_2) and is converted to boric anhydride on further heating (B_2O_3).

10.3 Possibility of hazardous reactions

Dusts are potentially explosive when mixed with air.

Risk of explosion in contact with: strong oxidising agents, acids, moisture, water, metal salts. Boric acid is a weak acid which may corrode base metals. Reaction with strong reducing agents, such as metal hydrides or alkali metals, generates hydrogen gas which could cause an explosion hazard.

10.4 Conditions to avoid

Keep away from: strong reducing agents. Danger of explosion. Avoid contact with strong reducing agents by storing the product in accordance with good industrial practice.

10.5 Incompatible materials

Boron and/or sodium oxides.

10.6 Hazardous decomposition products

Not available.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute toxicity:	Acute oral toxicity (LD_{50}, rat): 2660 mg/kg Acute dermal toxicity (LD_{50}, rabbit): 10000 mg/kg
Skin corrosion/irritation:	Not available.
Serious eye damage/irritation:	Causes serious eye irritation.
Respiratory/skin sensitisation:	Not available.
Germ cell mutagenicity:	Not available.
Carcinogenicity:	Not available.
Reproductive toxicity:	May damage fertility or the unborn child.
Summary of evaluation of the CMR properties:	Not available.
STOT-single exposure:	Not available.
STOT-repeated exposure:	Not available.
Aspiration Hazard:	Not available.

Other:	There are no known health related events due to exposure to the product. In any case, it is recommended to comply with the rules of good industrial hygiene.

11.2 Additional information on potential adverse human health effects and symptoms

Eye contact:	Not available.
Skin contact:	Not available.
Inhalation:	Not available.
Ingestion:	Not available.
Aspiration:	Not available.

SECTION 12: ECOLOGICAL INFORMATION

12.1 Toxicity

EC_{50} (crustaceans): 79.7 (fathead minnow)

LC_{50} (fish): 133 (*Daphnia magna*)

EC_{50} (algae): 40 (*Pseudokirchneriella subcapitata*)

12.2 Persistence and degradability

Inorganic product, cannot be removed from water by biological purification treatment.

12.3 Bioaccumulative potential

Partition coefficient (n-octanol/water): -1.53

12.4 Mobility in soil

Not available.

12.5 Results of PBT and vPvB assessment

Based on available data, the product does not contain PBT or vPvB substances above 0.10 %.

12.6 Other adverse effects

The product must be considered as hazardous to the environment and has a high toxicity to aquatic organisms with long term adverse effects on the aquatic environment.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Product

Consider all federal, state and local environmental regulations. Contact a licensed professional waste disposal service for disposal of this material. Dissolve or mix material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

Contaminated packaging

Dispose of as unused product.

SECTION 14: TRANSPORT INFORMATION

Transport information according to ADR/RID/IMDG/ICAO/IATA

14.1 UN Number

ADR/ RID(Land),IMDG(Sea), IATA/ICAO (Air) : It is not dangerous in transport.

14.2 UN proper shipping name

ADR/ RID(Land),IMDG(Sea), IATA/ICAO (Air) : It is not dangerous in transport.

14.3 Transport hazard class(es)

ADR/ RID(Land),IMDG(Sea), IATA/ICAO (Air) : It is not dangerous in transport.

14.4 Packing group

ADR/ RID(Land),IMDG(Sea), IATA/ICAO (Air) : It is not dangerous in transport.

14.5 Environmental hazards

ADR/ RID(Land),IMDG(Sea), IATA/ICAO (Air) : It is not dangerous in transport.

14.6 Special precautions for user

It is not dangerous in transport.

14.7 Transport in bulk according to annex II of Marpol and the IBC Code

Not available.

14.8 Additional transport information

The product is not to be considered dangerous according to the applicable regulations on the transport of dangerous goods by road (ADR), rail (RID), sea (IMDG Code) and air (IATA).

SECTION 15: REGULATORY INFORMATION

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

Hazard symbol:

Harmful
Irritant

Risk phrases:

R36 Irritating to eyes.

R60 May impair fertility.

R61 May cause harm to the unborn child.

Safety phrases:

S1 Keep locked up.

S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S36/37/39 Wear suitable protective clothing, gloves and eye/face protection.

S53 Avoid exposure – obtain special instructions before use.

15.2 Chemical safety assessment

A chemical safety assessment of the product has not been carried out.

SECTION 16: OTHER INFORMATION

16.1 Changes since the previous version

Not applicable.

16.2 Abbreviations and acronyms used

ADR:	European Agreement concerning the International Carriage of Dangerous Goods by Road
CAS:	Chemical Abstracts Service (division of the American Chemical Society)
EC (number):	European Community (number)
IATA:	International Air Transport Association
ICAO:	International Civil Aviation Organization
IMDG:	International Maritime Code for Dangerous Goods
IUPAC:	International Union of Pure and Applied Chemistry
PBT:	Persistent, Bioaccumulative and Toxic substance
RID:	Regulations Concerning the International Transport of Dangerous Goods by Rail
STOT:	Specific Target Organ Toxicity
UN (number):	United Nations (number)
vPvB:	very Persistent and very Bioaccumalative

16.3 Key literature references/sources for data

European Chemicals Agency.
https://www.echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database/

16.4 Method of classification in case of mixture

Not applicable.

16.5 Relevant Hazard statements and/or precautionary statements

For information on hazard and/or precautionary statements refer to section 2 up to and including section 15.

16.6 Training advisement

Not available.

16.7 Notice for user(s)

The information provided in this MSDS has been established 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, Authorization and Restriction of Chemicals (REACH), establishing the 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 Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC of the Commission.

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16.8 Department issuing MSDS

Quality Department

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