Material Safety Data Sheet

Version: 02
Revision Date : 8-7-2025

Section 1. Product Information and Company Identification			
Product name	Borax decahydrate		
Mol. formula	Na2B4O7·10H2O	**CAS No.**	1303-96-4
Mol.wt	381,86 g/mol		
manufacturer name	Pioneers for laboratory chemicals		
Brand name	Piochem		
Address	Area 540, Industrial Zone 6th October city Giza, Egypt.		
Website	www.piochem.com		
E-mail	info@piochem.com		
Phone number	0 12 05700001		

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008
Reproductive toxicity (Category 1B), H360FD

For the full text of the H-Statements mentioned in this Section, see Section 16.

Classification according to EU Directives 67/548/EEC or 1999/45/EC
R60, R61

For the full text of the R-phrases mentioned in this Section, see Section 16.

2.2 Label elements

Labelling according Regulation (EC) No 1272/2008
Pictogram

Signal word Danger

Hazard statement(s)
H360FD May damage fertility. May damage the unborn child.

Precautionary statement(s)

P201	Obtain special instructions before use.
P308 + P313	IF exposed or concerned: Get medical advice/ attention.
Supplemental Hazard Statements	none

Restricted to professional users.

2.3 Other hazards - none

SECTION 3: Composition/information on ingredients

3.1 Substances

Synonyms	:	Boraxdecahydrate Sodium boratedecahydrate
Formula	:	$B_4Na_2O_7 \cdot 10H_2O$
Molecular Weight	:	381,86 g/mol
CAS-No.	:	1303-96-4
EC-No.	:	215-540-4
Index-No.	:	005-011-01-1
Registration number	:	01-2119490790-32-XXXX

Hazardous ingredients according to Regulation (EC) No 1272/2008

Component		Classification	Concentration
Disodium tetraborate decahydrate Included in the Candidate List of Substances of Very High Concern (SVHC) according to Regulation (EC) No. 1907/2006 (REACH)			
CAS-No.	1303-96-4	Repr. 1B; H360FD	<= 100 %
EC-No.	215-540-4		
Index-No.	005-011-01-1		
Registration number	01-2119490790-32-XXXX		

Hazardous ingredients according to Directive 1999/45/EC

Component		Classification	Concentration
Disodium tetraborate decahydrate Included in the Candidate List of Substances of Very High Concern (SVHC) according to Regulation (EC) No. 1907/2006 (REACH)			
CAS-No.	1303-96-4	T, Repr.Cat.2, R60 - R61	<= 100 %
EC-No.	215-540-4		
Index-No.	005-011-01-1		
Registration number	01-2119490790-32-XXXX		

For the full text of the H-Statements and R-Phrases mentioned in this Section, see Section 16

SECTION 4: First aid measures

4.1 Description of first aid measures

General advice

Consult a physician. Show this safety data sheet to the doctor in attendance.

If inhaled
If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact
Wash off with soap and plenty of water. Consult a physician.

In case of eye contact
Flush eyes with water as a precaution.

If swallowed
Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

4.2 Most important symptoms and effects, both acute and delayed
The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

4.3 Indication of any immediate medical attention and special treatment needed
no data available

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

5.2 Special hazards arising from the substance or mixture
Borane/boron oxides, Sodium oxides

5.3 Advice for firefighters
Wear self contained breathing apparatus for fire fighting if necessary.

5.4 Further information
The product itself does not burn.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures
Use personal protective equipment. Avoid dust formation. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust.
For personal protection see section 8.

6.2 Environmental precautions
Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

6.3 Methods and materials for containment and cleaning up
Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal.

6.4 Reference to other sections
For disposal see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling
Avoid formation of dust and aerosols.Avoid exposure - obtain special instructions before use.
Provide appropriate exhaust ventilation at places where dust is formed.
For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities
Store in cool place. Keep container tightly closed in a dry and well-ventilated place.

7.3 Specific end use(s)
Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Components with workplace control parameters

8.2 Exposure controls

Appropriate engineering controls
Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Personal protective equipment

Eye/face protection
Safety glasses with side-shields conforming to EN166 Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection
Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Body Protection
Complete suit protecting against chemicals, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection
Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Control of environmental exposure
Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

a)	Appearance	Form: crystalline Colour: white
b)	Odour	no data available
c)	Odour Threshold	no data available
d)	pH	9,2 at 10 g/l
e)	Melting point/freezing point	62 °C
f)	Initial boiling point and	no data available

g) boiling range

h) Flash point no data available

i) Evapouration rate no data available

j) Flammability (solid, gas) no data available

k) Upper/lower flammability or explosive limits no data available

l) Vapour pressure no data available l)

Vapour density no data available m)

Relative density 1,73 g/mL at 25 °C

n) Water solubility 38,1 g/l at 20 °C - completely soluble

o) Partition coefficient: n-octanol/water no data available

p) Auto-ignition temperature no data available

q) Decomposition temperature no data available

r) Viscosity no data available

s) Explosive properties no data available

t) Oxidizing properties no data available

9.2 Other safety information
no data available

SECTION 10: Stability and reactivity

10.1 Reactivity
no data available

10.2 Chemical stability
Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions
no data available

10.4 Conditions to avoid
no data available

10.5 Incompatible materials
Strong oxidizing agents, Strong reducing agents

10.6 Hazardous decomposition products
Other decomposition products - no data available
In the event of fire: see section 5

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

LD50 Oral - rat - 4.500 - 5.000 mg/kg

LD50 Dermal - rabbit - 10.000 mg/kg

Skin corrosion/irritation
no data available

Serious eye damage/eye irritation
no data available

Respiratory or skin sensitisation
no data available

Germ cell mutagenicity
no data available

Carcinogenicity

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

Reproductive toxicity
fetotoxicity
Presumed human reproductive toxicant

Presumed human reproductive toxicant

Specific target organ toxicity - single exposure
no data available

Specific target organ toxicity - repeated exposure
no data available

Aspiration hazard
no data available

Additional Information
RTECS: VZ2275000

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 the 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 to which humans would normally be exposed. Human epidemiological studies show no increase in pulmonary disease in occupational populations with cronic exposures to boric acid dust and sodium borate dust. A recent epidemiological study under the conditions of normal occupational eposure to borate dusts indicated no effect on fertility.

SECTION 12: Ecological information

12.1 Toxicity

Toxicity to fish	LC50 - Carassius auratus (goldfish) - 178 mg/l - 72 h
Toxicity to daphnia and other aquatic invertebrates	EC50 - Daphnia magna (Water flea) - 1.085 - 1.402 mg/l - 48 h
Toxicity to algae	IC50 - Desmodesmus subspicatus (green algae) - 158 mg/l - 96 h

12.2 Persistence and degradability

no data available

12.3 Bioaccumulative potential

no data available

12.4 Mobility in soil

no data available

12.5 Results of PBT and vPvB assessment

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

12.6 Other adverse effects

no data available

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product

Offer surplus and non-recyclable solutions to a licensed disposal company.

Contaminated packaging

Dispose of as unused product.

SECTION 14: Transport information

14.1 UN number

ADR/RID: -

14.2 UN proper shipping name

ADR/RID: Not dangerous goods
IMDG: Not dangerous goods
IATA: Not dangerous goods

14.3 Transport hazard class(es)

ADR/RID: -

14.4 Packaging group

ADR/RID: -

14.5 Environmental hazards

ADR/RID: no

14.6 Special precautions for user

no data available

IMDG: - IATA-
IMDG: - IATA: -
IMDG: - IATA: -
IMDG Marine pollutant: no IATA: no

SECTION 15: Regulatory information

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

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

Authorisations and/or restrictions on use

Disodium tetraborate decahydrate CAS-No.: 1303-96-4
Candidate List of Substances of Very High Concern for Authorisation
Toxic for reproduction (article 57c)
ED/30/2010

Disodium tetraborate decahydrate CAS-No.: 1303-96-4
Candidate List of Substances of Very High Concern for Authorisation
Toxic for reproduction (article 57c)
ED/30/2010

15.2 Chemical Safety Assessment

For this product a chemical safety assessment was not carried out

SECTION 16: Other information

Full text of H-Statements referred to under sections 2 and 3.

H360FD	May damage fertility. May damage the unborn child.
Repr.	Reproductive toxicity

Full text of R-phrases referred to under sections 2 and 3

T	Toxic
R60	May impair fertility.
R61	May cause harm to the unborn child.
Repr.Cat.2	Toxic to Reproduction Category 2