



# Safety Data Sheet

## 1. Product and Company Identification

<b>Product Name:</b>	Sodium Borate Hydrate
<b>CAS#:</b>	1303-96-4
<b>Chemical Formula:</b>	Na <sub>2</sub> B <sub>4</sub> O <sub>7</sub> ·10H <sub>2</sub> O
<b>Identified uses:</b>	Laboratory chemicals, Synthesis of substances
<b>Contact Information:</b>	MTI Corporation 860 South 19 <sup>th</sup> Street Richmond, CA 94804, USA Tel: 510-525-3070 Fax: 510-525-4705 Email: <a href="mailto:info@mtixtl.com">info@mtixtl.com</a> Website: <a href="http://www.mtixtl.com">www.mtixtl.com</a>
<b>Non-emergency assistance:</b>	1-888-525-3070
<b>Emergency assistance:</b>	CHEMTREC (CCN664553) Day or Night, Tel: 1-800-424-9300

## 2. Hazards Identification

**Emergency Overview: GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)**

Reproductive toxicity (Category 2), H361

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

Health hazard: 1

Chronic Health Hazard: \*

Flammability: 0

Physical Hazard 0

**NFPA Rating**

Health hazard: 0

Fire Hazard: 0

Reactivity Hazard: 0

**GHS Label elements, including precautionary statements**

Pictogram	
Signal	Warning
Hazard statement(s)	
H361	Suspected of damaging fertility or the unborn child.
Precautionary statement(s)	
P201	Obtain special instructions before use.
P202	Do not handle until all safety precautions have been read and understood.
P210	Keep away from heat/sparks/open flames/hot surfaces. No smoking.
P280	Wear protective gloves/ protective clothing/ eye protection/ face protection.
P308 + P313	If exposed or concerned: Get medical advice/ attention.
P405	Store locked up.
P501	Dispose of contents/ container to an approved waste disposal plant.

**Hazards not otherwise classified (HNOC) or not covered by GHS**

none

### 3. Composition/Information on Ingredients

<b>Substance Name</b>	Sodium Borate Hydrate
<b>Formula</b>	Na <sub>2</sub> B <sub>4</sub> O <sub>7</sub> ·10H <sub>2</sub> O
<b>Synonyms</b>	Borax Boraxdecahydrate Sodium borate decahydrate Sodium tetraborate decahydrate
<b>Molecular weight</b>	381.37 g/mol
<b>CAS-No.</b>	1303-96-4

**Hazardous Components**

Component	Classification
<b>Disodium tetraborate decahydrate</b>	Included in the Candidate List of Substances of Very High Concern (SVHC) according to Regulation (EC) No. 1907/2006 (REACH)
	Repr. 2; H361

### 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. Move out of dangerous area.

**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

### 5. Firefighting Measures

**5.1 Extinguishing media****Suitable extinguishing media**

Use water spray, alcohol resistant-foam, dry chemical or carbon dioxide.

**5.2 Special hazards arising from the substance mixture**

Carbon oxides, Nitrogen oxides (NOx)

**5.3 Advice for firefighters**

Wear self-contained breathing apparatus for firefighting if necessary.

**5.4 Further Information**

Use water spray to cool unopened containers.

**6. Accidental Release Measures****6.1 Personal precautions, protective equipment and emergency procedures**

Use personal protective equipment. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapors accumulating to form explosive concentrations. Vapors can accumulate in low areas. 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**

Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations (see section 13).

**6.4 Reference to other sections**

For disposal see section 13.

**7. Handling and Storage****7.1 Precautions for safe handling**

Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Further processing of solid materials may result in the formation of combustible dusts. The potential for combustible dust formation should be taken into consideration before additional processing occurs.

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**

Keep container tightly closed in a dry and well-ventilated place.

Storage class (TRGS 510): Non-combustible, acute toxic Cat.3 / toxic hazardous materials or hazardous materials causing chronic effect.

**7.3 Specific end use(s)**

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

**8. Exposure Control/ Personal Protection****8.1 Control parameters****Components with workplace control parameters**

Component	CAS-No.	Value	Control Parameters	Basis
Disodium tetraborate	1303-96-4	TWA	2.000000	USA. ACGIH Threshold Limit Values



decahydrate			mg/m3	(TLV)
	Remarks	Upper Respiratory Tract irritation Not classifiable as a human carcinogen varies		
		STEL	6.000000 mg/m3	USA. ACGIH Threshold Limit Values (TLV)
		Upper Respiratory Tract irritation Not classifiable as a human carcinogen varies		
		TWA	5.000000 mg/m3	USA. NIOSH Recommended Exposure Limits
		TWA	2.000000 mg/m3	USA. ACGIH Threshold Limit Values (TLV)
		Upper Respiratory Tract irritation Not classifiable as a human carcinogen varies		
		STEL	6.000000 mg/m3	USA. ACGIH Threshold Limit Values (TLV)
		Upper Respiratory Tract irritation Not classifiable as a human carcinogen varies		
		PEL	5 mg/m3	California permissible exposure limits for chemical contaminants (Title 8, Article 107)

## 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.

If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

#### Body Protection



Complete suit protecting against chemicals, Flame retardant antistatic protective clothing. 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 respirator with multipurpose combination (US) or type ABEK (EN 14387) 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.

## 9. Physical and Chemical Properties

### 9.1 Information on basic physical and chemical properties

a) Appearance	Form: crystalline Color: white
b) Odor	No data available
c) Odor Threshold	No data available
d) pH	9.2 at 10 g/l
e) Melting point/freezing point	62 °C (144 °F)
f) Initial boiling point and	Decomposes below the boiling point.
g) Flash point	No data available
h) Evaporation rate	No data available
i) Flammability (solid, gas)	The product is not flammable.
j) Upper/lower flammability or explosive limits	No data available No data available
k) Vapor pressure	No data available
l) Vapor density	No data available
m) Relative density	1.73 g/cm <sup>3</sup> at 25 °C (77 °F)
n) Water solubility	38.1 g/l at 20 °C (68 °F) - completely soluble
o) Partition coefficient: n-octanol/water	log Pow: -1.53
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

Surface tension	40.7 mN/m
Relative vapor density	3.42 - (Air = 1.0)

## 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**

Hazardous decomposition products formed under fire conditions. - Borane/boron oxides, Sodium oxides

Other decomposition products - No data available

In the event of fire: see section 5

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## 11. Toxicological Information

**11.1 Information on toxicological effects**

**Acute toxicity**

LD50 Oral - Rat 4,500 – 5,000 mg/kg

LDLO Inhalation - Rat - 4 h - > 2.04 mg/l

(OECD Test Guideline 403)

LD50 Dermal - Rabbit - 10,000 mg/kg

No data available

**Skin corrosion/irritation**

Skin - Rabbit

Result: No skin irritation

**Serious eye damage/eye irritation**

Eyes - Rabbit

Result: Mild Eye irritation

**Respiratory or skin sensitization**

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.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

**Reproductive toxicity**

Fetotoxicity

Suspected human reproductive toxicant

**Specific target organ toxicity - single exposure**

Inhalation - May cause respiratory irritation.

**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 chronic exposures to boric acid dust and sodium borate dust. A recent epidemiological study under the conditions of normal occupational exposure to borate dusts indicated no effect on fertility.

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## 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 bacteria

IC50 - Desmodesmus subspicatus (green algae) - 158 mg/l - 96h

### 12.2 Persistence and degradability

The methods for determining biodegradability are not applicable to inorganic substances.

### 12.3 Bioaccumulative potential

No bioaccumulation is to be expected ( $\log Pow \leq 4$ ).

### 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

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## 13. Disposal Considerations

### 13.1 Waste treatment methods

#### Product

Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

#### Contaminated packaging

Dispose of as unused product.

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## 14. Transport Information

### DOT (US)

Not dangerous goods

### IMDG

Not dangerous goods

### IATA

Not dangerous goods



## 15. Regulatory Information

### SARA 302 Components

No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

### SARA 313 Components

This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313..

### SARA 311/312 Hazards

Chronic Health Hazard

<b>Massachusetts Right to Know Components</b>	CAS-No.	Revision Date
Disodium tetraborate decahydrate	1303-96-4	2007-03-01
<b>Pennsylvania Right to Know Components</b>		
Disodium tetraborate decahydrate	1303-96-4	2007-03-01
<b>New Jersey Right to Know Components</b>		
Disodium tetraborate decahydrate	1303-96-4	2007-03-01

### California Prop. 65 Components

WARNING: This product contains a chemical known to the State of California to cause birth defects or other reproductive harm.

## 16. Other Information

H361	Suspected of damaging fertility or the unborn child.
Repr.	Reproductive toxicity

The information above is believed to be accurate and represents the best information currently available to us. However, it does not represent any guarantee of the properties of the product. We make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we shall not be held liable for any damage resulting from handling or from contact with the above product. Users should make their own investigations to determine the suitability of the information for their particular purposes.