



**Material Safety Data Sheet**  
**Buffer Solution for Water hardness, ASTM**

**Section 1 - Chemical Product and Company Identification**

**MSDS Name:**

Buffer Solution for Water hardness, ASTM

**Catalog Numbers:**

LC26840

**Synonyms:****Company Identification:**

LabChem, Inc.  
 200 William Pitt Way  
 Pittsburgh, PA 15238

**Company Phone Number:**

(412) 826-5230

**Emergency Phone Number:**

(800) 424-9300

**CHEMTREC Phone Number:**

(800) 424-9300

**Section 2 - Composition, Information on Ingredients**

CAS#	Chemical Name:	Percent
1303-96-4	Borax	4
1310-73-2	Sodium hydroxide	1
1313-82-2	Sodiumsulfide	1
6381-59-5	Sodiumpotassiumtartrate	1
14402-88-1	Magnesiumdisodiummethylenediaminetetraacetate	0.1

**Section 3 - Hazards Identification**

**EMERGENCY OVERVIEW**

*Appearance: Colorless to light green.*

*Warning! May cause irritation with possible injury by all exposure routes.*

*Target Organs: Noneknown.*

**Potential Health Effects****Eye:**

Irritant, produces pain, reddening, conjunctivitis, and insufficient concentrations, corneal burns.



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**Skin:**

Irritant, can produce reddening and insufficient concentration burn, blistering. Borates absorbed through the skin producing skin eruptions, anuria, fever.

**Ingestion:**

Vomiting, diarrhea, burn to mouth, convulsions, throat and stomach; oliguria/anuria leading to cyanosis, hypotension, coma, death (fatal dose range 2-30+ grams).

**Inhalation:**

Mucous membrane irritation. Produces sore throat, headache, nausea, dizziness, vomiting, coughing, dyspnea, pneumonitis, rhinitis, bronchitis, pharyngitis, possible pulmonary edema.

**Chronic:**

Hazards: dermatitis, conjunctivitis, possible neurotoxicity with liver and kidney damage.

## Section 4 - First Aid Measures

**Eyes:**

Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower lids until no evidence of chemical remains. Get medical aid at once.

**Skin:**

Get medical aid. Immediately flush skin with plenty of soap and water for at least 15 minutes while removing contaminated clothing and shoes. Remove contaminated clothing and shoes.

**Ingestion:**

Get medical aid at once. Medical personnel may administer oxygen, maintain airway and blood pressure; gastric lavage may be performed. If victim is conscious, give 2-4 glasses of water and induce vomiting.

**Inhalation:**

Give artificial respiration if necessary. Get medical aid. Keep victim warm, at rest. Move victim to fresh air.

**Notes to Physician:**

Treat symptomatically and supportively.

## Section 5 - Fire Fighting Measures

**General Information:**

Negligible fire and explosion hazard when exposed to heat or flame. Move container if possible, avoid breathing vapors or dust.

**Extinguishing Media:**

For small fires, use dry chemical, carbon dioxide, water spray or alcohol-resistant foam.

**Autoignition Temperature:**

No information found.

**Flash Point:**

No information found.

**NFPA Rating:**

CAS# 1303-96-4: Not published.

CAS# 1310-73-2: Not published.

CAS# 1313-82-2: Not published.

CAS# 6381-59-5: Not published.

CAS# 14402-88-1: Not published.



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**Explosion Limits:**

Lower:      Upper:

### Section 6 - Accidental Release Measures

**General Information:**

Use proper personal protective equipment as indicated in Section 8.

**Spills/Leaks:**

Absorb spills with absorbent (vermiculite, sand, fuller's earth) and place in plastic bags for later disposal.

### Section 7 - Handling and Storage

**Handling:**

Wash thoroughly after handling. Avoid breathing dust, vapor, mist, or gas.

**Storage:**

Store capped at room temperature. Protect from heat and incompatibles.

### Section 8 - Exposure Controls, Personal Protection

**Engineering Controls:**

Provide local exhaust or general dilution ventilation.

**Exposure Limits**

Chemical Name:	ACGIH	NIOSH	OSHA
<b>Borax</b>	1 mg/m <sup>3</sup> TWA (anhydrous); 5 mg/m <sup>3</sup> TWA (decahydrate); 1 mg/m <sup>3</sup> TWA (pentahydrate)	5 mg/m <sup>3</sup> TWA	None of the components are on this list.
<b>Sodium hydroxide</b>	None of the components are on this list.	None of the components are on this list.	2 mg/m <sup>3</sup> TWA;
<b>Sodium sulfide</b>	None of the components are on this list.	None of the components are on this list.	None of the components are on this list.
<b>Sodium potassium tartrate</b>	None of the components are on this list.	None of the components are on this list.	None of the components are on this list.
<b>Magnesium disodium ethylenediaminetetraacetate</b>	None of the components are on this list.	None of the components are on this list.	None of the components are on this list.

**OSHA Vacated PELs**

- Borax: 10 mg/m<sup>3</sup> TWA
- Borax: 10 mg/m<sup>3</sup> TWA
- Borax: 10 mg/m<sup>3</sup> TWA
- Borax: 10 mg/m<sup>3</sup> TWA
- Borax: 10 mg/m<sup>3</sup> TWA

**Personal Protective Equipment**

**Eyes:**

Do not wear contact lenses when working with chemicals. An eye wash fountain should be available in the immediate work area. Wear splash-proof safety goggles.



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**Skin:**

Wear appropriate protective gloves to prevent skin exposure.

**Clothing:**

Wear appropriate protective clothing to prevent skin exposure.

**Respirators:**

Not required for normal use. Fire fighting--any self-contained breathing apparatus with full face piece operated in pressure-demand mode.

## Section 9 - Physical and Chemical Properties

**Physical State:** Clear liquid

**Color:** Colorless

**Odor:** Odorless

**pH:** Alkaline

**Vapor Pressure:** No information found.

**Vapor Density:** > air

**Evaporation Rate:** < ether

**Viscosity:** No information found.

**Boiling Point:** > 212°F (> 100.00°C)

**Freezing/Melting Point:** < 32°F (< 0.00°C)

**Decomposition Temperature:** No information found.

**Solubility in water:** Soluble.

**Specific Gravity/Density:** 1.0

**Molecular Formula:** No information found.

**Molecular Weight:** No information found.

## Section 10 - Stability and Reactivity

**Chemical Stability:**

Stable under normal temperatures and pressures.

**Conditions to Avoid:**

Incompatible materials.

**Incompatibilities with Other Materials**

Strong acids, oxidizing agents, water reactive substances (e.g. sulfuric acid, sodium metal, potassium metal, calcium carbide).

**Hazardous Decomposition Products**

Oxides of carbon, hydrogen sulfide, hydrogen gas, oxides of sodium.

**Hazardous Polymerization**

Has not been reported

## Section 11 - Toxicological Information

**RTECS:**

CAS# 1303-96-4: VZ2275000.

CAS# 1310-73-2: WB4900000.



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CAS# 1313-82-2: WE1905000.

CAS# 6381-59-5 unlisted.

CAS# 14402-88-1 unlisted.

### LD50/LC50:

CAS# 1303-96-4:

Oral, mouse: LD50 = 2 gm/kg

Oral, rat: LD50 = 2660 mg/kg.

CAS# 1310-73-2:

No information found.

CAS#1313-82-2:

Oral,mouse:LD50=205mg/kg

Oral,rat:LD50=208mg/kg.

CAS#6381-59-5:

No information found.

CAS#14402-88-1:

No information found.

### Carcinogenicity:

CAS#1303-96-4:Not listed as a carcinogen by ACGIH, IARC, NIOSH, NTP, OSHA, or CAProp65.

CAS#1310-73-2:Not listed as a carcinogen by ACGIH, IARC, NIOSH, NTP, OSHA, or CAProp65.

CAS#1313-82-2:Not listed as a carcinogen by ACGIH, IARC, NIOSH, NTP, OSHA, or CAProp65.

CAS#6381-59-5:Not listed as a carcinogen by ACGIH, IARC, NIOSH, NTP, OSHA, or CAProp65.

CAS#14402-88-1:Not listed as a carcinogen by ACGIH, IARC, NIOSH, NTP, OSHA, or CAProp65.

### Epidemiology:

Borate poisoning affects kidneys.

Sodium sulfide is a corrosive irritant to eyes, skin, mucous membranes; poisoning affects central nervous system, kidneys, liver.

### Teratogenicity:

### Reproductive:

### Mutagenicity:

### Neurotoxicity:

## Section 12 - Ecological Information

No information found.

## Section 13 - Disposal Considerations

Dispose of in accordance with Federal, State, and local regulations.

## Section 14 - Transport Information

### US DOT

**Shipping Name:** Not regulated.

**Hazard Class:**

**UN Number:**

**Packing Group:**



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**Section 15 - Regulatory Information**

**US Federal**

**TSCA**

CAS#1303-96-4 is listed on the TSCA Inventory.

CAS#1310-73-2 is listed on the TSCA Inventory.

CAS#1313-82-2 is listed on the TSCA Inventory.

CAS#6381-59-5 is not on the TSCA Inventory, however, it is anhydrous form is on the inventory and so this hydrate is exempt from TSCA Inventory requirements (40CFR270.3(u)(2)).

CAS#14402-88-1 is listed on the TSCA Inventory.

**SARA Reportable Quantities (RQ)**

CAS#1310-73-2: final RQ = 1000 pounds (454 kg)

**CERCLA/SARA Section 313**

None of the components are on this list.

**OSHA - Highly Hazardous**

None of the components are on this list.

**US State**

**State Right to Know**

Borax can be found on the following state Right-to-Know lists: California, New Jersey, Florida, Pennsylvania, Minnesota, Massachusetts.

Sodium hydroxide can be found on the following state Right-to-Know lists: California, New Jersey, Florida, Pennsylvania, Minnesota, Massachusetts.

Sodium sulfide can be found on the following state Right-to-Know lists: New Jersey, Massachusetts.

**California Regulations**

**European/International Regulations**

**Canadian DSL/NDSL**

CAS# 1303-96-4 is listed on Canada's DSL List.

CAS# 1310-73-2 is listed on Canada's DSL List.

CAS# 1313-82-2 is listed on Canada's DSL List.

CAS# 14402-88-1 is listed on Canada's DSL List.

**Canada Ingredient Disclosure List**

CAS# 1303-96-4 is listed on Canada's Ingredient Disclosure List.

CAS# 1310-73-2 is listed on Canada's Ingredient Disclosure List.

CAS# 1313-82-2 is not listed on Canada's Ingredient Disclosure List.

CAS# 6381-59-5 is not listed on Canada's Ingredient Disclosure List.

CAS# 14402-88-1 is not listed on Canada's Ingredient Disclosure List.

**Section 16 - Other Information**

MSDS Creation Date: November 29, 1998

Revision Date: September 29, 2008



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