

### SECTION 1: Identification of the substance/mixture and of the company/undertaking

#### 1.1. Product identifier

Product form : Mixture  
Product name : Borate Buffer for Nitrogen  
Product code : LC11700

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

Use of the substance/mixture : For laboratory and manufacturing use only.

#### 1.3. Details of the supplier of the safety data sheet

LabChem Inc  
Jackson's Pointe Commerce Park Building 1000, 1010 Jackson's Pointe Court  
Zelienople, PA 16063 - USA  
T 412-826-5230 - F 724-473-0647  
[info@labchem.com](mailto:info@labchem.com) - [www.labchem.com](http://www.labchem.com)

#### 1.4. Emergency telephone number

Emergency number : CHEMTREC: 1-800-424-9300 or 011-703-527-3887

### SECTION 2: Hazards identification

#### 2.1. Classification of the substance or mixture

##### GHS-US classification

Repr. 1B H360

#### 2.2. Label elements

##### GHS-US labelling

Hazard pictograms (GHS-US) :



GHS08

Signal word (GHS-US) : Danger  
Hazard statements (GHS-US) : H360 - May damage fertility or the unborn child  
Precautionary statements (GHS-US) : P201 - Obtain special instructions before use  
P202 - Do not handle until all safety precautions have been read and understood  
P280 - Wear protective gloves, eye protection  
P308+P313 - IF exposed or concerned: Get medical advice/attention  
P405 - Store locked up  
P501 - Dispose of contents/container to comply with local, state and federal regulations

#### 2.3. Other hazards

Other hazards not contributing to the classification : None.

#### 2.4. Unknown acute toxicity (GHS-US)

No data available

### SECTION 3: Composition/information on ingredients

#### 3.1. Substance

Not applicable

#### 3.2. Mixture

Name	Product identifier	%	GHS-US classification
Water	(CAS No) 7732-18-5	99.48	Not classified
Sodium Tetraborate Decahydrate	(CAS No) 1303-96-4	0.48	Repr. 1B, H360

# Borate Buffer for Nitrogen

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Name	Product identifier	%	GHS-US classification
Sodium Hydroxide	(CAS No) 1310-73-2	0.04	Acute Tox. 4 (Dermal), H312 Skin Corr. 1A, H314 Eye Dam. 1, H318 Aquatic Acute 3, H402

### SECTION 4: First aid measures

#### 4.1. Description of first aid measures

- First-aid measures general : Never give anything by mouth to an unconscious person. IF exposed or concerned: Get medical advice/attention.
- First-aid measures after inhalation : Assure fresh air breathing. Allow the victim to rest.
- First-aid measures after skin contact : Remove affected clothing and wash all exposed skin area with mild soap and water, followed by warm water rinse.
- First-aid measures after eye contact : Rinse immediately with plenty of water. Obtain medical attention if pain, blinking or redness persist.
- First-aid measures after ingestion : Rinse mouth. Do NOT induce vomiting. Obtain emergency medical attention.

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

- Symptoms/injuries : May damage fertility or the unborn child.

#### 4.3. Indication of any immediate medical attention and special treatment needed

No additional information available

### SECTION 5: Firefighting measures

#### 5.1. Extinguishing media

- Suitable extinguishing media : Foam. Dry powder. Carbon dioxide. Water spray. Sand.
- Unsuitable extinguishing media : Do not use a heavy water stream.

#### 5.2. Special hazards arising from the substance or mixture

No additional information available

#### 5.3. Advice for firefighters

- Firefighting instructions : Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire-fighting water from entering environment.
- Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection.

### SECTION 6: Accidental release measures

#### 6.1. Personal precautions, protective equipment and emergency procedures

##### 6.1.1. For non-emergency personnel

- Protective equipment : Safety glasses. Gloves.
- Emergency procedures : Evacuate unnecessary personnel.

##### 6.1.2. For emergency responders

- Protective equipment : Equip cleanup crew with proper protection.
- Emergency procedures : Ventilate area.

#### 6.2. Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

#### 6.3. Methods and material for containment and cleaning up

- Methods for cleaning up : Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Collect spillage. Store away from other materials.

#### 6.4. Reference to other sections

See Heading 8. Exposure controls and personal protection.

### SECTION 7: Handling and storage

#### 7.1. Precautions for safe handling

- Precautions for safe handling : Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Provide good ventilation in process area to prevent formation of vapour. Do not handle until all safety precautions have been read and understood. Obtain special instructions before use.
- Hygiene measures : Wash contaminated clothing before reuse.

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### 7.2. Conditions for safe storage, including any incompatibilities

Storage conditions	: Keep container closed when not in use.
Incompatible products	: Strong oxidizers. Strong acids.
Incompatible materials	: incompatible materials. Heat sources.

### 7.3. Specific end use(s)

No additional information available

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

Sodium Tetraborate Decahydrate (1303-96-4)		
USA ACGIH	ACGIH TWA (mg/m <sup>3</sup> )	2 mg/m <sup>3</sup>
USA ACGIH	ACGIH STEL (mg/m <sup>3</sup> )	6 mg/m <sup>3</sup>

Sodium Hydroxide (1310-73-2)		
USA ACGIH	ACGIH Ceiling (mg/m <sup>3</sup> )	2 mg/m <sup>3</sup>
USA OSHA	OSHA PEL (TWA) (mg/m <sup>3</sup> )	2 mg/m <sup>3</sup>

### 8.2. Exposure controls

Appropriate engineering controls	: Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Provide adequate general and local exhaust ventilation.
Personal protective equipment	: Avoid all unnecessary exposure.
Hand protection	: Wear protective gloves.
Eye protection	: Chemical goggles or safety glasses.
Respiratory protection	: Wear appropriate mask.
Other information	: Do not eat, drink or smoke during use.

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Colour	: Colourless
Odour	: None.
Odour threshold	: No data available
pH	: 9.5
Relative evaporation rate (butylacetate=1)	: No data available
Melting point	: No data available
Freezing point	: No data available
Boiling point	: No data available
Flash point	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Flammability (solid, gas)	: No data available
Vapour pressure	: No data available
Relative vapour density at 20 °C	: No data available
Relative density	: No data available
Solubility	: Miscible with water. Water: Solubility in water of component(s) of the mixture : • Sodium Tetraborate Decahydrate: 6.25 g/100ml • Sodium Hydroxide: 42 g/100ml
Log Pow	: No data available
Log Kow	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive properties	: No data available
Oxidising properties	: No data available

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Explosive limits : No data available

### 9.2. Other information

No additional information available

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

No additional information available

### 10.2. Chemical stability

Stable under normal conditions.

### 10.3. Possibility of hazardous reactions

Not established.

### 10.4. Conditions to avoid

Incompatible materials. Extremely high or low temperatures.

### 10.5. Incompatible materials

Strong acids. Strong oxidizers.

### 10.6. Hazardous decomposition products

boron.

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

Acute toxicity : Not classified

<b>Sodium Tetraborate Decahydrate (1303-96-4)</b>	
LD50 oral rat	2660 mg/kg
LD50 dermal rabbit	10000 mg/kg
ATE US (oral)	2660 mg/kg bodyweight
ATE US (dermal)	10000 mg/kg bodyweight

<b>Water (7732-18-5)</b>	
LD50 oral rat	≥ 90000 mg/kg
ATE US (oral)	90000 mg/kg bodyweight

<b>Sodium Hydroxide (1310-73-2)</b>	
LD50 dermal rabbit	1350 mg/kg (Rabbit; Literature)
ATE US (dermal)	1350 mg/kg bodyweight

Skin corrosion/irritation : Not classified  
pH: 9.5

Serious eye damage/irritation : Not classified  
pH: 9.5

Respiratory or skin sensitisation : Not classified

Germ cell mutagenicity : Not classified

Carcinogenicity : Not classified

Reproductive toxicity : May damage fertility or the unborn child.

Specific target organ toxicity (single exposure) : Not classified

Specific target organ toxicity (repeated exposure) : Not classified

Aspiration hazard : Not classified

Potential adverse human health effects and symptoms : Based on available data, the classification criteria are not met.

## SECTION 12: Ecological information

### 12.1. Toxicity

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<b>Sodium Tetraborate Decahydrate (1303-96-4)</b>	
EC50 Daphnia 1	1085 mg/l
<b>Sodium Hydroxide (1310-73-2)</b>	
LC50 fishes 1	45.4 mg/l (96 h; Salmo gairdneri (Oncorhynchus mykiss); Solution >=50%)
EC50 Daphnia 1	40.4 mg/l (48 h; Ceriodaphnia sp.; Nominal concentration)
LC50 fish 2	189 mg/l (48 h; Leuciscus idus)
TLM fish 1	99 mg/l (48 h; Lepomis macrochirus)
TLM fish 2	125 ppm (96 h; Gambusia affinis)

### 12.2. Persistence and degradability

<b>Borate Buffer for Nitrogen</b>	
Persistence and degradability	Not established.

<b>Sodium Tetraborate Decahydrate (1303-96-4)</b>	
Persistence and degradability	Not established.

<b>Water (7732-18-5)</b>	
Persistence and degradability	Not established.

<b>Sodium Hydroxide (1310-73-2)</b>	
Persistence and degradability	Biodegradability: not applicable. No (test) data on mobility of the substance available.
Biochemical oxygen demand (BOD)	Not applicable
Chemical oxygen demand (COD)	Not applicable
ThOD	Not applicable
BOD (% of ThOD)	Not applicable

### 12.3. Bioaccumulative potential

<b>Borate Buffer for Nitrogen</b>	
Bioaccumulative potential	Not established.

<b>Sodium Tetraborate Decahydrate (1303-96-4)</b>	
Bioaccumulative potential	Not established.

<b>Water (7732-18-5)</b>	
Bioaccumulative potential	Not established.

<b>Sodium Hydroxide (1310-73-2)</b>	
Bioaccumulative potential	Bioaccumulation: not applicable.

### 12.4. Mobility in soil

No additional information available

### 12.5. Other adverse effects

Effect on ozone layer	: No additional information available
Effect on the global warming	: No known ecological damage caused by this product.
Other information	: Avoid release to the environment.

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

Waste disposal recommendations	: Dispose of contents/container to comply with local, state and federal regulations.
Ecology - waste materials	: Avoid release to the environment.

## SECTION 14: Transport information

In accordance with DOT  
Not regulated for transport

### Additional information

Other information	: No supplementary information available.
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### ADR

Transport document description :

### Transport by sea

No additional information available

### Air transport

No additional information available

## SECTION 15: Regulatory information

### 15.1. US Federal regulations

#### Borate Buffer for Nitrogen

SARA Section 311/312 Hazard Classes	Delayed (chronic) health hazard
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All components of this product are listed, or excluded from listing, on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory

This product or mixture does not contain a toxic chemical or chemicals in excess of the applicable de minimis concentration as specified in 40 CFR §372.38(a) subject to the reporting requirements of section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372.

#### Sodium Hydroxide (1310-73-2)

RQ (Reportable quantity, section 304 of EPA's List of Lists) :	1000 lb
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SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard
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### 15.2. International regulations

#### CANADA

#### Borate Buffer for Nitrogen

WHMIS Classification	Class D Division 2 Subdivision A - Very toxic material causing other toxic effects
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#### Sodium Tetraborate Decahydrate (1303-96-4)

Listed on the Canadian DSL (Domestic Substances List)

WHMIS Classification	Class D Division 2 Subdivision A - Very toxic material causing other toxic effects
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#### Water (7732-18-5)

Listed on the Canadian DSL (Domestic Substances List)

WHMIS Classification	Uncontrolled product according to WHMIS classification criteria
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#### Sodium Hydroxide (1310-73-2)

Listed on the Canadian DSL (Domestic Substances List)

WHMIS Classification	Class E - Corrosive Material
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### EU-Regulations

No additional information available

### Classification according to Regulation (EC) No. 1272/2008 [CLP]

### Classification according to Directive 67/548/EEC or 1999/45/EC

Not classified

### 15.2.2. National regulations

No additional information available

### 15.3. US State regulations

California Proposition 65 - This product does not contain any substances known to the state of California to cause cancer and/or reproductive harm

## SECTION 16: Other information

Other information :  
: None.

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Full text of H-phrases: see section 16:

Acute Tox. 4 (Dermal)	Acute toxicity (dermal), Category 4
Aquatic Acute 3	Hazardous to the aquatic environment — Acute Hazard, Category 3
Eye Dam. 1	Serious eye damage/eye irritation, Category 1
Repr. 1B	Reproductive toxicity, Category 1B
Skin Corr. 1A	Skin corrosion/irritation, Category 1A
H312	Harmful in contact with skin
H314	Causes severe skin burns and eye damage
H318	Causes serious eye damage
H360	May damage fertility or the unborn child
H402	Harmful to aquatic life

NFPA health hazard

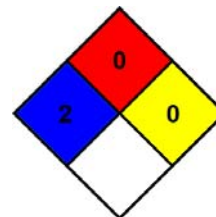
: 2 - Intense or continued exposure could cause temporary incapacitation or possible residual injury unless prompt medical attention is given.

NFPA fire hazard

: 0 - Materials that will not burn.

NFPA reactivity

: 0 - Normally stable, even under fire exposure conditions, and are not reactive with water.



### HMIS III Rating

Health : 2 Moderate Hazard - Temporary or minor injury may occur

Flammability : 0 Minimal Hazard

Physical : 0 Minimal Hazard

Personal Protection : B

SDS US (GHS HazCom 2012)

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