SECTION 1: Identification

1.1. Identification

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 - www.labchem.com

1.4. Emergency telephone number

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

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS-US classification
Reproductive toxicity Category 1B H360
Full text of H statements: see section 16

2.2. Label elements

GHS-US labeling

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)

Not applicable

SECTION 3: Composition/Information on ingredients

3.1. Substance

Not applicable

3.2. Mixture

<table>
<thead>
<tr>
<th>Name</th>
<th>Product identifier</th>
<th>%</th>
<th>GHS-US classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water</td>
<td>(CAS No) 7732-18-5</td>
<td>99.48</td>
<td>Not classified</td>
</tr>
<tr>
<td>Sodium Tetraborate, Decahydrate</td>
<td>(CAS No) 1303-96-4</td>
<td>0.48</td>
<td>Acute Tox. 4 (Dermal), H312 Skin Corr. 1A, H314 Eye Dam. 1, H318 Aquatic Acute 3, H402</td>
</tr>
<tr>
<td>Sodium Hydroxide</td>
<td>(CAS No) 1310-73-2</td>
<td>0.04</td>
<td></td>
</tr>
</tbody>
</table>
Full text of hazard classes and H-statements: see section 16

**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: Allow victim to breathe fresh air. 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


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 vapor. Do not handle until all safety precautions have been read and understood. Obtain special instructions before use.

Hygiene measures: Wash contaminated clothing before reuse.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions: Keep container closed when not in use.


### SECTION 8: Exposure controls/personal protection

#### 8.1. Control parameters

<table>
<thead>
<tr>
<th>Sodium Tetraborate, Decahydrate (1303-96-4)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>ACGIH ACGIH TWA (mg/m³)</td>
<td>2 mg/m³</td>
</tr>
<tr>
<td>ACGIH ACGIH STEL (mg/m³)</td>
<td>6 mg/m³</td>
</tr>
<tr>
<td>NIOSH NIOSH REL (TWA) (mg/m³)</td>
<td>5 mg/m³</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Water (7732-18-5)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Not applicable</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Sodium Hydroxide (1310-73-2)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>ACGIH ACGIH Ceiling (mg/m³)</td>
<td>2 mg/m³ (Sodium hydroxide; USA; Momentary value; TLV - Adopted Value)</td>
</tr>
<tr>
<td>OSHA OSHA PEL (TWA) (mg/m³)</td>
<td>2 mg/m³</td>
</tr>
<tr>
<td>IDLH US IDLH (mg/m³)</td>
<td>10 mg/m³</td>
</tr>
<tr>
<td>NIOSH NIOSH REL (ceiling) (mg/m³)</td>
<td>2 mg/m³</td>
</tr>
</tbody>
</table>

#### 8.2. Exposure controls

- **Appropriate engineering controls**: Emergency eye wash fountains should be available in the immediate vicinity of any potential exposure. Provide adequate general and local exhaust ventilation.
- **Personal protective equipment**: Safety glasses. Gloves.
  - **Hand protection**: Wear protective gloves.
  - **Eye protection**: Chemical goggles or safety glasses.
  - **Respiratory protection**: Respiratory protection not required in normal conditions.
  - **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

<table>
<thead>
<tr>
<th>Physical property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical state</td>
<td>Liquid</td>
</tr>
<tr>
<td>Color</td>
<td>Colorless</td>
</tr>
<tr>
<td>Odor</td>
<td>None.</td>
</tr>
<tr>
<td>Odor threshold</td>
<td>No data available</td>
</tr>
<tr>
<td>pH</td>
<td>9.5</td>
</tr>
<tr>
<td>Melting point</td>
<td>No data available</td>
</tr>
<tr>
<td>Freezing point</td>
<td>No data available</td>
</tr>
<tr>
<td>Boiling point</td>
<td>No data available</td>
</tr>
<tr>
<td>Flash point</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative evaporation rate (butyl acetate=1)</td>
<td>No data available</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>Non flammable.</td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative vapor density at 20 °C</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative density</td>
<td>No data available</td>
</tr>
<tr>
<td>Solubility</td>
<td>Miscible with water.</td>
</tr>
<tr>
<td>Log Pow</td>
<td>No data available</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>No data available</td>
</tr>
</tbody>
</table>
Borate Buffer for Nitrogen
Safety Data Sheet

Viscosity, kinematic : No data available
Viscosity, dynamic : No data available
Explosion limits : No data available
Explosive properties : No data available
Oxidizing properties : 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
Likely routes of exposure : Skin and eye contact
Acute toxicity : Not classified

Sodium Tetraborate, Decahydrate (1303-96-4)
LD50 oral rat : 2660 mg/kg
LD50 dermal rabbit : 10000 mg/kg
ATE US (oral) : 2660.000 mg/kg body weight
ATE US (dermal) : 10000.000 mg/kg body weight

Water (7732-18-5)
LD50 oral rat : ≥ 90000 mg/kg
ATE US (oral) : 90000.000 mg/kg body weight

Sodium Hydroxide (1310-73-2)
ATE US (dermal) : 1350.000 mg/kg body weight
Skin corrosion/irritation : Not classified
pH: 9.5
Serious eye damage/irritation : Not classified
pH: 9.5
Respiratory or skin sensitization : 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
Borate Buffer for Nitrogen
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according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

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

SECTION 12: Ecological information

12.1. Toxicity

<table>
<thead>
<tr>
<th>Substance</th>
<th>EC50 Daphnia</th>
<th>LC50 fish</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium Tetraborate, Decahydrate (1303-96-4)</td>
<td>1085 mg/l</td>
<td>45.4 mg/l</td>
</tr>
<tr>
<td>Sodium Hydroxide (1310-73-2)</td>
<td></td>
<td>(LC50; Other; 96 h; Salmo gairdneri; Static system; Fresh water; Experimental value)</td>
</tr>
</tbody>
</table>

12.2. Persistence and degradability

<table>
<thead>
<tr>
<th>Substance</th>
<th>Persistence and degradability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Borate Buffer for Nitrogen</td>
<td>Not established.</td>
</tr>
<tr>
<td>Sodium Tetraborate, Decahydrate (1303-96-4)</td>
<td>Not established.</td>
</tr>
<tr>
<td>Water (7732-18-5)</td>
<td>Not established.</td>
</tr>
<tr>
<td>Sodium Hydroxide (1310-73-2)</td>
<td>Biodegradability: not applicable. No test data on mobility of the substance available.</td>
</tr>
<tr>
<td>Biochemical oxygen demand (BOD)</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Chemical oxygen demand (COD)</td>
<td>Not applicable</td>
</tr>
<tr>
<td>ThOD</td>
<td>Not applicable</td>
</tr>
</tbody>
</table>

12.3. Bioaccumulative potential

<table>
<thead>
<tr>
<th>Substance</th>
<th>Bioaccumulative potential</th>
</tr>
</thead>
<tbody>
<tr>
<td>Borate Buffer for Nitrogen</td>
<td>Not established.</td>
</tr>
<tr>
<td>Sodium Tetraborate, Decahydrate (1303-96-4)</td>
<td>Not established.</td>
</tr>
<tr>
<td>Water (7732-18-5)</td>
<td>Not established.</td>
</tr>
<tr>
<td>Sodium Hydroxide (1310-73-2)</td>
<td>No bioaccumulation data available.</td>
</tr>
</tbody>
</table>

12.4. Mobility in soil

No additional information available

12.5. Other adverse effects

Effect on the global warming: No known effects from this product.
GWPmix comment: No known effects from this product.
Other information: Avoid release to the environment.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

<table>
<thead>
<tr>
<th>Waste disposal recommendations</th>
<th>Ecology - waste materials</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dispose of contents/container to comply with local, state and federal regulations.</td>
<td>Avoid release to the environment.</td>
</tr>
</tbody>
</table>

SECTION 14: Transport information

Department of Transportation (DOT)
In accordance with DOT
Not regulated
SECTION 15: Regulatory information

15.1. US Federal regulations

Borate Buffer for Nitrogen

<table>
<thead>
<tr>
<th>SARA Section 311/312 Hazard Classes</th>
<th>Delayed (chronic) health hazard</th>
</tr>
</thead>
</table>

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 any 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)**

<table>
<thead>
<tr>
<th>RQ (Reportable quantity, section 304 of EPA's List of Lists)</th>
<th>1000 lb</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>SARA Section 311/312 Hazard Classes</th>
<th>Immediate (acute) health hazard</th>
</tr>
</thead>
</table>

15.2. International regulations

**CANADA**

Borate Buffer for Nitrogen

<table>
<thead>
<tr>
<th>WHMIS Classification</th>
<th>Class D Division 2 Subdivision A - Very toxic material causing other toxic effects</th>
</tr>
</thead>
</table>

**Sodium Tetraborate, Decahydrate (1303-96-4)**

Listed on the Canadian DSL (Domestic Substances List)

<table>
<thead>
<tr>
<th>WHMIS Classification</th>
<th>Class D Division 2 Subdivision A - Very toxic material causing other toxic effects</th>
</tr>
</thead>
</table>

**Water (7732-18-5)**

<table>
<thead>
<tr>
<th>WHMIS Classification</th>
<th>Uncontrolled product according to WHMIS classification criteria</th>
</tr>
</thead>
</table>

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

Listed on the Canadian DSL (Domestic Substances List)

<table>
<thead>
<tr>
<th>WHMIS Classification</th>
<th>Class E - Corrosive Material</th>
</tr>
</thead>
</table>

**EU-Regulations**

No additional information available

**National regulations**

**Sodium Tetraborate, Decahydrate (1303-96-4)**

Listed on the Canadian IDL (Ingredient Disclosure List)

15.3. US State regulations

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

SECTION 16: Other information

Revision date: 12/15/2016

Other information: None.

Full text of H-phrases: see section 16:

- 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
Borate Buffer for Nitrogen
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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.

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 - Materials that will not burn
Physical: 0 Minimal Hazard - Materials that are normally stable, even under fire conditions, and will NOT react with water, polymerize, decompose, condense, or self-react. Non-Explosives.

Personal protection: B
B - Safety glasses, Gloves

SDS US LabChem

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