1. PRODUCT AND COMPANY IDENTIFICATION

1.1 Product identifiers
Product name : Staphylococcal Enterotoxin Type B from *Staphylococcus aureus*
Product number : 122

Product name : Staphylococcal Enterotoxin Type B, partially inactive Toxoid from *Staphylococcus aureus*
Product number : 123

1.2 Relevant identified uses of the substance or mixture and uses advised against
Identified uses : Laboratory chemicals, Manufacture of substances

1.3 Details of the supplier of the safety data sheet
Company : List Biological Laboratories, Inc.
540 Division Street
Campbell, CA 95008-6906, USA
Telephone : (408) 866-6363
Fax : (408) 866-6364

1.4 Emergency telephone number
24 Hour Emergency : 1 (800) 255-3924 ChemTel Domestic
Phone # : +1 (813) 248-0585 ChemTel International
ChemTel Customer # : MIS2844833

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture
**GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)**
Acute toxicity, Oral (Category 1), H300
Acute aquatic toxicity, Oral (Category 2), H400
Eye irritation (Category 2), H320

2.2 Pictogram

Signal Word : Danger

Hazard statement(s)
H300 + H310 + H330 : Fatal if swallowed or in contact with skin or if inhaled.
H320 : Causes eye irritation.

Precautionary statement(s)
P260 : Avoid breathing dust/fume/gas/vapours/spray.
P262 : Do not get in eyes, on skin or on clothing.
P264 : Wash skin thoroughly after handling.
2.3 Hazards not otherwise classified (HNOC) or not covered by GHS

Biohazard. Handle as if capable of transmitting infectious agents.

3. COMPOSITION / INFORMATION ON INGREDIENTS

3.1 Mixtures

Synonym : SEB

Product #122

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS No.</th>
<th>Percent (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Staphylococcal Enterotoxin Type B</td>
<td>11100-45-1</td>
<td>~6</td>
</tr>
<tr>
<td>Sodium Phosphate, monobasic</td>
<td>7558-80-7</td>
<td>~32</td>
</tr>
<tr>
<td>Sodium Phosphate, dibasic</td>
<td>7558-79-4</td>
<td>~62</td>
</tr>
</tbody>
</table>

Product #122

<table>
<thead>
<tr>
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<th>CAS No.</th>
<th>Percent (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Staphylococcal Enterotoxin Type B</td>
<td>11100-45-1</td>
<td>~22</td>
</tr>
<tr>
<td>Sodium Phosphate, monobasic</td>
<td>7558-80-7</td>
<td>~22</td>
</tr>
<tr>
<td>Sodium Phosphate, dibasic</td>
<td>7558-79-4</td>
<td>~42</td>
</tr>
<tr>
<td>Potassium Phosphate, monobasic</td>
<td>7778-77-0</td>
<td>~6</td>
</tr>
<tr>
<td>Potassium Phosphate, dibasic</td>
<td>7758-11-4</td>
<td>~8</td>
</tr>
</tbody>
</table>

Synonym : SEB Toxoid

Product #123

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS No.</th>
<th>Percent (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Staphylococcal Enterotoxin Type B</td>
<td>11100-45-1</td>
<td>~0.2</td>
</tr>
<tr>
<td>Sodium Chloride (NaCl)</td>
<td>7647-14-5</td>
<td>~24</td>
</tr>
<tr>
<td>L-Histidine, free base</td>
<td>71-00-1</td>
<td>~32</td>
</tr>
<tr>
<td>L-Histidine, monohydrochloride monohydrate</td>
<td>6459-59-2</td>
<td>~43</td>
</tr>
<tr>
<td>Trehalose</td>
<td>6138-23-4</td>
<td>~0.2</td>
</tr>
</tbody>
</table>
4. FIRST AID MEASURES

4.1 Description of first aid measures

**General advice**
Move affected person out of dangerous area. 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. Take victim immediately to hospital. Consult a physician.

**In case of eye contact**
Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

**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 labeling (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 extinguishing media appropriate to surrounding fire conditions.

5.2 Special hazards arising from the substance or mixture
Not flammable or combustible.

5.3 Protective equipment and precautions for fire-fighters
Use an approved/certified respirator.

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures
Wear respiratory protection. Wear appropriate laboratory attire including lab coat, gloves and safety glasses. Nitrile gloves are recommended when handling lyophilized material. Avoid formation of dust and aerosols. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust, vapours, mist or gas.

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
In case of a spill or a release, take precautions to minimize worker exposure. For spills onto surface areas, the contaminated surface should be thoroughly sprayed or rinsed for at least 30 minutes with at least a 1% sodium hypochlorite solution, then wiped dry.
Hold all material for appropriate disposal as described in Section 13 DISPOSAL CONSIDERATIONS.

7. HANDLING AND STORAGE

7.1 Precautions for safe handling
Avoid contact with skin and eyes. Wear appropriate laboratory attire including lab coat, gloves and safety glasses. Nitrile gloves are recommended when handling lyophilized material. Avoid formation of dust and aerosols. Ensure adequate ventilation.
7.2 Conditions for safe storage, including any incompatibilities
Store at 2 – 8°C prior to reconstitution. Following reconstitution with water, unused toxin may be frozen in aliquots and stored at -20°C.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Control parameters
Components with workplace control parameters
Contains no substances with occupational exposure limit values.

8.2 Exposure controls
Appropriate engineering controls
Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.

Personal protective equipment

Eyes
Wear safety goggles or glasses.

Skin
Handle with appropriate gloves. Wear nitrile gloves when handling the product in the lyophilized form. Wear appropriate laboratory clothing / lab coat.

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
Use respirators and components tested and approved under appropriate government standards; or, ensure adequate ventilation using engineering controls, such as a biological safety cabinet.

9. PHYSICAL AND CHEMICAL PROPERTIES

a) Appearance Form: solid; Color: white
b) Odor Data not available
c) Odor threshold Data not available
d) pH Data not available
e) Melting point / freezing point Data not available
f) Initial boiling point and boiling range Data not available
g) Flash point Data not available
h) Evaporation rate Data not available
i) Flammability (solid, gas) Data not available
j) Upper/Lower flammability or explosive limits Data not available
k) Vapor pressure Data not available
l) Vapor density Data not available
m) Relative density Data not available
n) Solubility(ies) Easily soluble in water
o) Partition coefficient: n-octanol/water Data not available
p) Auto-ignition temperature Data not available
q) Decomposition temperature Data not available
r) Viscosity Data not available

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
No data available

10.6 Hazardous decomposition products
No data available

11. TOXICOLOGY INFORMATION

11.1 Information on toxicological effects
To the best of our knowledge, the chemical, physical and toxicological properties have not been fully investigated.

Acute toxicity
No data available

Inhalation: LC50 Inhalation - Human - 0.000004 mg/l

Dermal: No data available

Oral: LD50 - Humans - 0.00002 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.
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
No data available

Specific target organ toxicity – single exposure
No data available

Specific target organ toxicity – repeated exposure
No data available

Additional Information
These products are Select Agents & Toxins. Select Agents & Toxins (SA&T) include materials that have been identified by the CDC (Centers for Disease Control and Prevention), DHHS (Dept. of Health and Human Services) and/or the USDA (US Department of Agriculture) as having the potential to pose a severe threat to public health and safety.

Product #123: SEB Toxoid is made by chemical inactivation of the SEB Toxin (Product #122), and the toxicity is significantly decreased relative to the fully active toxin; however, some residual toxicity is expected.

Signs and Symptoms of Exposure
Vomiting, Diarrhea, Abdominal pain

RTECS: XW5807700
LDso mice, 1,600 μg/kg; LDLO monkey, 25 μg/kg iv
Toxicity Data References:
It is estimated that 2-3 ng/kg causes human illness, and this toxin can be lethal at higher doses.
Estimated lethal amount for a 100 lb (45.5 kg) human – without treatment or vaccinations – extrapolated from animal studies: 1 μg iv

12. ECOLOGICAL INFORMATION
Product is unlikely to cause a concern to the environment.

13. DISPOSAL CONSIDERATIONS
Dispose of waste in accordance with appropriate federal, state and local regulations or applicable governmental requirements.

14. TRANSPORT INFORMATION

**IATA**
Product #122
UN number: UN3462 Class: 6.1 Packing group: I
Proper shipping name: Staphylococcus aureus

Product #123
UN number: UN3462 Class: 6.1 Packing group: II
Proper shipping name: Staphylococcus aureus

15. REGULATORY INFORMATION

**OSHA Hazards**
Irritant

**SARA**
Not subject to reporting requirements and there are no Threshold Planning Quantities for this product.

**WHMIS**
D3 Biohazardous Infectious Material

**Safety Phrases**
S22 – Do not breathe dust
S24/25 – Avoid contact with skin and eyes
S36/37/39 – Wear suitable protective clothing, gloves and eye/face protection

**Risk Phrases**
R23/24/25 – Toxic by inhalation, in contact with skin and if swallowed

**California Prop. 65 Components**
This product does not contain any chemicals known to the State of California to cause cancer, birth defects or any other reproductive harm.

16. OTHER INFORMATION

**NFPA Rating**
Health Hazard: 4
Fire Hazard: 0
Reactivity Hazard: 0

**HMIS Rating**
Health Hazard: 4
Chronic Health Hazard: *
Flammability: 0
Physical Hazard: 0
Version: 4.0 / Issued Date: 01/2019

CAUTION – Not fully tested. For research use only. Not for human use.

The preceding information is based on available data and is believed to be correct, but does not purport to be all inclusive and should be used as a guide in handling this material. Users should make independent determinations of suitability and completeness of information from all sources to assure proper use and disposal of these materials, the safety and health of employees and customers, and the protection of the environment. The absence of warning must not, under any circumstance, be taken to mean that no hazard exists. List Biological Laboratories, Inc. shall not be held liable for any damage resulting from handling or from contact with the above product.