

Material Safety Data SheetStaphylococcal Enterotoxin Type B from *Staphylococcus aureus*

Product #122

Staphylococcal Enterotoxin Type B, partially inactive Toxoid from *Staphylococcus aureus*

Product #123

1. PRODUCT AND COMPANY INFORMATION

Product Name : Staphylococcal Enterotoxin Type B from *Staphylococcus aureus*
Synonym : SEB
Product Number : 122

Product Name : Staphylococcal Enterotoxin Type B, partially inactive Toxoid
from *Staphylococcus aureus*
Synonym : SEB Toxoid
Product Number : 123

Company : List Biological Laboratories, Inc.
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2. COMPOSITION / INFORMATION ON INGREDIENTS

Product #122

Component	CAS No.	Percent (%)
Staphylococcal Enterotoxin Type B	11100-45-1	~39
Potassium Phosphate, monobasic	7778-77-0	~27
Potassium Phosphate, dibasic	7758-11-4	~34

Product #123

Component	CAS No.	Percent (%)
Staphylococcal Enterotoxin Type B	11100-45-1	~0.2
Sodium Chloride (NaCl)	7647-14-5	~24
L-Histidine, free base	71-00-1	~32
L-Histidine, monohydrochloride monohydrate	6459-59-2	~43
Trehalose	6138-23-4	~0.2

3. HAZARDS IDENTIFICATION**Emergency Overview**

Warning. Irritant. Toxic.

Avoid contact with eyes, skin and clothing. Avoid prolonged contact with eyes, skin and clothing. Do not ingest. Avoid breathing dust. Keep container closed. Use only with adequate ventilation. Wash thoroughly after handling.

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 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.

NFPA Rating

Health Hazard:	4
Fire:	0
Reactivity Hazard:	0

HMIS Rating

Health Hazard:	4*
Fire:	0
Physical Hazard:	0

Potential Health Effects

Inhalation	May be harmful if inhaled. Causes respiratory tract irritation
Skin	Causes skin irritation
Eyes	Causes eye irritation
Ingestion	Harmful if swallowed

For additional information on toxicity, please refer to Section 11.

4. 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. Consult a physician.

In case of eye contact

Flush eyes with water as a precaution. Consult a physician.

If swallowed

Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

5. FIREFIGHTING MEASURES

Flammability of the product

Not flammable or combustible.

Extinguishing media

Use extinguishing media appropriate to surrounding fire conditions.

Protective equipment for fire-fighters

Use an approved/certified respirator.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions

Wear appropriate laboratory attire including lab coat, gloves and safety glasses. Nitrile gloves are recommended when handling lyophilized material.

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 (equivalent to a 1:5 dilution of household bleach), then wiped dry.

Hold all material for appropriate disposal as described in Section 13 DISPOSAL CONDITIONS.

7. HANDLING AND STORAGE

Precautions for safe handling

Wear appropriate laboratory attire including lab coat, gloves and safety glasses. Nitrile gloves are recommended when handling lyophilized material.

Recommended storage temperature

Store at 2 – 8°C prior to and following reconstitution.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Occupational Exposure Limit

None identified.

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.

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 or chemical fume hood.

Hygiene measures

Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state and appearance

Product #122: Powder. (Lyophilized in 0.005M Potassium Phosphate, pH 6.8)

Product #123: Powder. (Lyophilized in 0.1M Histidine, 0.1M NaCl, 5% Trehalose, pH 7.0)

Color

White

Solubility

Easily soluble in water.

Odor

Data not available

Odor threshold

Data not available

Melting point / freezing point

Data not available

Initial boiling point and boiling range

Data not available

Flash point

Data not available

Evaporation rate

Data not available

Flammability (solid, gas)

Data not available

Upper/Lower flammability limit

Data not available

Upper/Lower Explosive limit

Data not available

Vapor pressure

Data not available

Vapor density	Data not available
Relative density	Data not available
Partition coefficient: n-octanol/water	Data not available
Auto-ignition temperature	Data not available
Decomposition temperature	Data not available
Viscosity	Data not available

10. STABILITY AND REACTIVITY

Stability

Stable under recommended storage conditions.

Conditions to avoid

Not applicable for this product.

11. TOXICOLOGY INFORMATION

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

Toxicity Data

It is estimated that 2-3 ng/kg causes human illness, and this toxin can be lethal at higher doses (Bergdoll, M. (1988) *Meth. Enzymol.* **165**, 324-333).

Estimated lethal amount for a 100 lb (45.5 kg) human – without treatment or vaccinations – extrapolated from animal studies:

1 µg

RTECS: LD₅₀ mice, 1600 µg/kg, LD_{LO} monkey, 25 µg/kg iv

Signs and Symptoms of Exposure

Vomiting, Diarrhea, Abdominal pain

Additional Information

RTECS: XW5807700

Toxicity Data Reference: Dinges, et al., *Clin. Microbiol. Rev.* **13**:16, 2000.

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 302

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 State of California to cause cancer, birth defects or any other reproductive harm.

16. OTHER INFORMATION

Version: 1.0 / Issued Date: 07/2013

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.