

Safety Data Sheet

Toxin B from *Clostridium difficile*
Products #155A, #155B, #155L

1. PRODUCT AND COMPANY IDENTIFICATION

1.1 Product identifiers

Product name : Toxin B from *Clostridium difficile*
Product numbers : 155A, 155B, 155L

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
(800) 726-3213
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 2), H300
Acute toxicity, Inhalation (Category 2), H330
Acute toxicity, Dermal (Category 2), H310
Skin irritation (Category 2), H315
Eye irritation (Category 2A), H319
Specific target organ toxicity – single exposure (Category 3), Respiratory system, H335

2.2 GHS Label elements, including precautionary statements

Pictogram



Signal Word

Danger

Hazard statement(s)

H300 + H310+ H330
H315
H319
H335

Fatal if swallowed, if in contact with skin or if inhaled
Causes skin irritation.
Causes serious eye irritation.
May cause respiratory irritation.

Precautionary statement(s)

P260
P262
P264
P270
P271

Do not breathe dust/fume/gas/vapours/spray.
Do not get in eyes, on skin or on clothing.
Wash skin thoroughly after handling.
Do not eat, drink or smoke when using this product.
Use only outdoors or in a well-ventilated area.

P280	Wear protective gloves / protective clothing / eye protection / face protection.
P284	Wear respiratory protection
P301 + P316 + P330	IF SWALLOWED: Get emergency medical help immediately. Rinse mouth.
P302 + P352	IF ON SKIN: Wash with plenty of soap and water.
P304 + P340 + P316	IF INHALED: Remove person to fresh air and keep comfortable for breathing. Get emergency medical help immediately.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P332 + P317	If skin irritation occurs: Get medical help.
P337 + P317	If eye irritation persists: Get medical help.
P361 + P364	Take off immediately all contaminated clothing. And wash it before reuse.
P403 + P233	Store in a well-ventilated place. Keep container tightly closed.
P405	Store locked up.
P501	Dispose of contents/container to an approved waste disposal plant.

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 : Toxin B (cytotoxin)

Product #155A

Component	CAS No.	Percent (%)
Toxin B	N/A	~2
Sodium Chloride (NaCl)	7647-14-5	~31
HEPES, potassium salt	82207-62-3	~30
HEPES free acid	7365-45-9	~26
Trehalose	6138-23-4	~11

Product #155B

Component	CAS No.	Percent (%)
Toxin B	N/A	~18
Sodium Chloride (NaCl)	7647-14-5	~26
HEPES, potassium salt	82207-62-3	~25
HEPES free acid	7365-45-9	~22
Trehalose	6138-23-4	~9

Product #155L

Component	CAS No.	Percent (%)
Toxin B	N/A	~1.5
Sodium Chloride (NaCl)	7647-14-5	~45
Tris(hydroxymethyl)aminomethane, free base	77-86-1	~23
Tris(hydroxymethyl)aminomethane, hydrochloride salt	1185-53-1	~30

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

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 five minutes with at least a 0.5% sodium hypochlorite solution, then wiped dry. Autoclaving may be applied to contaminated material which is in solution or to which the autoclave steam has access. Autoclaving at $\geq 121^{\circ}\text{C}$, ≥ 15 psi in a validated cycle will render the product safe.

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

155A/B: Store at 2 – 8°C. DO NOT FREEZE.

155L: Store at 2 – 8°C. DO NOT FREEZE.

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.

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

Products #155A, #155B

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

Product #155L

a) Appearance	Form: liquid
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)	Soluble
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: No data available

Dermal: No data available

Oral: No data available

Skin corrosion/irritation

No data available

Serious eye damage/eye irritation

No data available

Respiratory or skin sensitization

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

Signs and Symptoms of Exposure

No data available

RTECS: XW5807300

LD₅₀ mice, >5 µg/kg subcutaneous; LD₅₀ mice, >200 mg/kg intravenous; LD_{Lo} mice, 240 ng/kg oral

Toxicity Data Reference:

Guidebook to Protein Toxins and Their Use in Cell Biology, Eds. Rappuoli, R. and Montecucco, C., 1997, Oxford University Press Inc., New York, p. 72.

Estimated lethal amount for a 100 lb (45.5 kg) human – without treatment or vaccinations – extrapolated from animal studies: 114 µg ip

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**For Products 155A and 155B****IATA**

UN number: UN3462

Class: 6.1

Packing group: II

Proper shipping name: Toxins, extracted from living sources, solid, n.o.s. (Clostridium difficile Toxin B)

For Product 155L

Class: 6.1

Packing group: II

IATA

UN number UN3172

Proper shipping name: Toxins, extracted from living sources, liquid, n.o.s. (Clostridium difficile Toxin B)

15. REGULATORY INFORMATION**OSHA Hazards**

Irritant

SARA

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

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

Version: 5.0 / Issued Date: 10/2019

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.