

# Safety Data Sheet

Botulinum Neurotoxin Type E Complex, Nicked, from *Clostridium botulinum* Products #140A, #140B

### 1. PRODUCT AND COMPANY IDENTIFICATION

1.1 Product identifiers

Product name : Botulinum Neurotoxin Type E Complex, Nicked, from

Clostridium botulinum

Product numbers : 140A, 140B

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 1), H300 Skin irritation (Category 2), H315 Eye irritation (Category 2), H320

# 2.2 GHS Label elements, including precautionary statements

Pictogram

Signal Word Danger

Hazard statement(s)

H300 + H310 + H330 Fatal if swallowed or in contact with skin or if inhaled.

H315 Causes skin irritation. 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.

P270 Do not eat, drink or smoke when using this product.

P271 Use in a well-ventilated area.

P280 Wear protective gloves/ protective clothing.

P282 Wear respiratory protection.

P301 + P314 + P330 IF SWALLOWED: Immediately call a POISON CENTER or

doctor/physician. Rinse mouth.

P302 + P350 IF ON SKIN: Gently wash with plenty of soap and water.
P304 + P340 IF INHALED: Remove victim to fresh air and keep at rest in a

position comfortable to breathing.

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes.

Remove contact lenses, if present and easy to do so. Continue

rinsing.

P320 Specific treatment is urgent (see supplemental first aid

instructions on this label).

P337 + P313 If eye irritation occurs: Get medical advice/attention.
P361 Remove/Take off immediately all contaminated clothing.

Wash contaminated clothing before reuse.

P233 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

P363

Synonym : BoNT/E Complex, Nicked

Product #140A, #140B

Component	CAS No.	Percent (%)
Botulinum Neurotoxin Type E Complex, Nicked	N/A	~1
Citric Acid, monohydrate	77-92-9	~12
Sodium Citrate, dihydrate	6132-04-3	~17
Lactose	9004-34-6	~70

# 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 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 ≥121°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

Store at  $2 - 8^{\circ}$ C prior to and following reconstitution.

# 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 Data not available d) pH 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 Flammability (solid, gas) i) Data not available Upper/Lower flammability or explosive limits j) Data not available k) Vapor pressure Data not available 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: 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 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.

## Signs and Symptoms of Exposure

Botulinum neurotoxin is a very potent neurotoxin which may be fatal if inhaled, ingested, injected, or introduced into a wound. The incubation period is usually 4 hours to 8 days. Symptoms include muscle weakness (especially in the face and neck early on, then the upper extremities, and finally the lower extremities), fatigue, dizziness, incoordination, an extremely dry mouth, blurred vision, sensitivity to bright lights, difficulty swallowing (drooling), difficulty speaking clearly (slurring), difficulty breathing, nausea, abdominal bloating, constipation, and difficulty urinating. There are no mentation nor sensory abnormalities and no fever.

#### RTECS: No data available

**Toxicity Data References:** 

Arnon, S.S., Schechter, R. Inglesby T.V. et.al. (2001), JAMA, **285**, 1059-1070. Botulinum Toxin as a Biological Weapon: Medical and Public Health Management.

Gill, D.M., Microbiol. Rev. 46, 86, 1982.

The LD<sub>50</sub> in mice is estimated at 1.1 ng/kg. Humans are assumed to be at least as sensitive. Estimated lethal amount for a 100 lb (45.5 kg) human – without treatment or vaccinations – extrapolated from animal studies: 22.8 - 90 ng 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

IATA

UN number: UN3462 Class: 6.1 Packing group: I

Proper shipping name: Clostridium botulinum

### 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: 3.0 / 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.