Safety Data Sheet
Pertussis Toxin from *Bordetella pertussis* (in glycerol)
Products #179A, 179B

1. PRODUCT AND COMPANY IDENTIFICATION

1.1 Product identifiers

<table>
<thead>
<tr>
<th>Product name</th>
<th>Pertussis Toxin from <em>Bordetella pertussis</em> (in glycerol)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product numbers</td>
<td>179A, 179B</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Company</th>
<th>List Biological Laboratories, Inc.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Company Address</td>
<td>540 Division Street</td>
</tr>
<tr>
<td></td>
<td>Campbell, CA 95008-6906, USA</td>
</tr>
<tr>
<td>Telephone</td>
<td>(408) 866-6363</td>
</tr>
<tr>
<td></td>
<td>(800) 726-3213</td>
</tr>
<tr>
<td>Fax</td>
<td>(408) 866-6364</td>
</tr>
</tbody>
</table>

1.4 Emergency telephone number

| 24 Hour Emergency Phone #               | 1 (800) 255-3924 ChemTel Domestic |
|                                         | +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)

| Skin irritation (Category 2), H315 | Eye irritation (Category 2), H320 |

2.2 GHS Label elements, including precautionary statements

Pictogram

| Signal Word | Warning |

Hazard statement(s)

| H315        | Causes skin irritation. |
| H320        | Causes eye irritation.  |
| H335        | May cause respiratory irritation. |

Precautionary statement(s)

| P261        | Avoid breathing dust/fume/gas/vapours/spray. |
| 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. |
| P301 + P312 + P330 | IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician if you feel unwell. Rinse mouth. |
| P302 + P352 | IF ON SKIN: Wash with plenty of soap and water |
| P304 + P340 + P313 | IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable to breathing. Get medical advice/attention. |
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.
P321 Specific treatment (see supplemental first aid instructions on this label).
P332 + P313 If skin irritation occurs: Get medical advice/attention.
P337 + P313 If eye irritation occurs: Get medical advice/attention.
P362 Take off contaminated clothing and wash before reuse.
P233 Keep container tightly closed.

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
Synonyms: PT, PTx, Islet Activating Protein, Pertussigen
Product #179A, #179B

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS No.</th>
<th>Percent (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pertussis Toxin</td>
<td>70323-44-3</td>
<td>~0.02</td>
</tr>
<tr>
<td>Sodium Chloride (NaCl)</td>
<td>7647-14-5</td>
<td>~2.5</td>
</tr>
<tr>
<td>Tris(hydroxymethyl)aminomethane, free base</td>
<td>77-86-1</td>
<td>~0.3</td>
</tr>
<tr>
<td>Tris(hydroxymethyl)aminomethane, hydrochloride salt</td>
<td>1185-53-1</td>
<td>~0.3</td>
</tr>
<tr>
<td>Glycine</td>
<td>56-40-6</td>
<td>~0.1</td>
</tr>
<tr>
<td>Glycerol</td>
<td>8043-29-6</td>
<td>~54</td>
</tr>
<tr>
<td>Water</td>
<td>7732-18-5</td>
<td>~43</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. 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.

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. 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 ≥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. Avoid formation of dust and aerosols. Ensure adequate ventilation.

7.2 Conditions for safe storage, including any incompatibilities
Store 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 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

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) Suspension

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**

**Pertussis Toxin:**
Signs and Symptoms of Exposure
No data available

RTECS: XW5883750
LD_{50} rat, 114 μg/kg iv; LD_{50} mice, 127 μg/kg iv

Toxicity Data Reference:
Reported changes in insulin secretory response due to intravenous injection of 1 μg /kg in 5 volunteers.

Estimated lethal amount for a 100 lb (45.5 kg) human – without treatment or vaccinations – extrapolated from animal studies: 683 μg ip

**Glycerol:**
Signs and Symptoms of Exposure
No data available

RTECS: MA8050000
LD_{50} rat, 12,600 mg/kg oral; LD_{50} rat, 4,420 mg/kg ip.

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**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: UN3172 Class: 6.1 Packing group: II

**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.