SECTION 1 – PRODUCT AND COMPANY IDENTIFICATION

1.1 Product identifiers

Product names:
- Lyophilized pertussis toxin
- CFA Emulsion PTX (pertussis toxin vial only)
- MOG35-55/CFA Emulsion PTX (pertussis toxin vial only)
- PLP139-151/CFA Emulsion PTX (pertussis toxin vial only)
- MOG1-125/CFA Emulsion PTX (pertussis toxin vial only)
- gpMBP69-88/CFA Emulsion PTX (pertussis toxin vial only)

Catalog numbers:
- EK-2110, EK-2120, EK-2160, EK-3111, LT-0105 CK-2110, CK-2120, CK-2160, CK-3111,
- EK-3111, CK-7110, CK-7120, CK-7160, CK-8111

Brand: Hooke

1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses: Immunization of laboratory animals

1.3 Details of the supplier of the safety data sheet

Company: Hooke Laboratories, Inc.
439 South Union Street
Lawrence, MA 01843, USA

Technical information: +1 617 475 5114
Technical support: support@hookelabs.com

1.4 Emergency telephone number

Emergency telephone: +1 781 346 2302

SECTION 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/mist/vapors/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.
SECTION 3 – COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Mixtures

**Synonyms**

PT, PTX, Islet Activating Protein, Pertussigen

**Hazardous components**

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS No.</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium Phosphate, monobasic, monohydrate</td>
<td>10049-21-5</td>
<td>30.9%</td>
</tr>
<tr>
<td>Sodium Phosphate, dibasic, heptahydrate</td>
<td>7782-85-6</td>
<td>4.4%</td>
</tr>
<tr>
<td>Sodium Chloride (NaCl)</td>
<td>7647-14-5</td>
<td>64.5%</td>
</tr>
<tr>
<td>Pertussis Toxin from Bordetella pertussis</td>
<td>70323-44-3</td>
<td>&lt;0.2%</td>
</tr>
</tbody>
</table>

Reconstitution with 0.5 mL distilled water will give a solution containing 5 µg of pertussis toxin, 0.01 M sodium phosphate buffer (pH 7.0) and 0.05 M sodium chloride

SECTION 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.

**Oral Exposure:**

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

**Inhaled exposure:**

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

**Skin contact:**

Wash off with soap and plenty of water. Consult a physician.

**Eye exposure:**

Flush eyes with water as a precaution. 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

SECTION 5 – FIRE FIGHTING MEASURES

5.1 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.
SECTION 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, vapors, 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 thirty 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.

6.4 Reference to other sections

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

SECTION 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

Recommended storage temperature: -20 °C.

SECTION 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:

Eye protection

Wear safety goggles or glasses.

Skin protection

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.

SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

a) Appearance form solid
b) Odor no data available
c) Odor threshold no data available
d) pH                                no data available
e) Melting point/freezing point     no data available
f) Initial boiling point and boiling range  no data available
g) Flash point                      no data available
h) Evaporation rate                 no data available
i) Flammability (solid, gas)        no data available
j) Upper/lower flammability or explosive limits no data available
k) Vapor pressure                   no data available
l) Vapor density                    no data available
m) Relative density                 no data available
n) Solubility (ies)                 Suspension
o) Partition coefficient: n-octanol/water  no data available
p) Auto-ignition temperature        no data available
q) Decomposition temperature       no data available
r) Viscosity                        no data available

9.2 Other safety information
No data available

SECTION 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
In the event of fire: see section 5.

SECTION 11 - TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects
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
Pertussis Toxin:
Signs and Symptoms of Exposure
No data available
RTECS:  XW5883750
LD$_{50}$ rat, 114 $\mu$g/kg iv; LD$_{50}$ mice, 127 $\mu$g/kg iv
Toxicity Data Reference:
Reported changes in insulin secretory response due to intravenous injection of 1 $\mu$g /kg in 5 volunteers.
Estimated lethal amount for a 100 lb (45.5 kg) human – without treatment or vaccinations – extrapolated from animal studies: 683 $\mu$g 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.
To the best of our knowledge, the chemical, physical and toxicological properties have not been fully investigated.

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

SECTION 13 - DISPOSAL CONSIDERATIONS
Dispose of waste in accordance with appropriate federal, state and local regulations or applicable governmental requirements.
SECTION 14 - TRANSPORT INFORMATION

IATA
UN number UN3462
Class 6.1
Packing group II

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

SECTION 16 - OTHER INFORMATION

HMIS rating:
- Health Hazard: 4
- Chronic Health Hazard: *
- Flammability: 0
- Physical Hazard: 0

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

Further information

For research use only. Not for human consumption.

To the best of our knowledge, this information is correct. However, it does not represent any guarantee of the properties of the product, it does not purport to be all inclusive, and it should be used only as a guide. Hooke Laboratories, Inc. does not assume any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of the suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with due caution. Although certain hazards are described herein, we can not guarantee that these are the only other hazards which may exist. See http://hookelabs.com/terms.html for additional terms and conditions of sale.

Preparation information

Prepared by Hooke Laboratories. Inc.

- End of Safety Data Sheet -