

## SAFETY DATA SHEET

### 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

Product name : Diphtheria Toxin  
IUPAC name: Diphtheria toxin from *Corynebacterium diphtheria*  
Product number : DIP-TNL-100 / DIP-TNL-1000  
CAS number:

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### 2. HAZARDS IDENTIFICATION

#### Classification of the substance or mixture:

**Classification according to Regulation (EC) No 1272/2008 [EU-GHS/CLP]**

Acute toxicity, Oral (Category 1)

#### Classification according

Very toxic if swallowed.

#### Label elements

#### Pictogram



**Signal word:** Danger

**Hazard statement(s)** H300 Fatal if swallowed.

**Precautionary statement(s)** P264 Wash hands thoroughly after handling  
P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/  
physician.

**Hazard symbol(s)** Toxic

**R-phrases(s)** R28 Very toxic if swallowed.



- S-phrase(s)**
- S36/S37/39 Wear suitable protective clothing, gloves and eye/face protection.
  - S45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible)
  - S28 After contact with skin, wash immediately with plenty of soap and water

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

Purified diphtheria toxin from *Corynebacterium diphtheriae*. Sample is of biological origin and is presented as a white lyophilized solid in a glass vial. Each vial contains no more than 1000µg.

Additional components present: 0.01 M Tris and 0.001 M Na<sub>2</sub>EDTA, 0.05% D-lactose, pH 7.5

### 4. FIRST AID MEASURES

#### General advice

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

Flush eyes with water as a precaution.

#### If swallowed

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

#### Most important symptoms and effects, both acute and delayed

Fever, Headache

#### Indication of any immediate medical attention and special treatment needed

no data available

### 5. FIRE-FIGHTING MEASURES

#### Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

#### Special hazards arising from the substance or mixture

Nature of decomposition products not known.

#### Advice for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

### 6. ACCIDENTAL RELEASE MEASURES

#### Personal precautions, protective equipment and emergency procedures

Wear respiratory protection. Avoid dust formation. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust.

#### Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

#### Methods and materials for containment and cleaning up



Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal.

## 7. HANDLING AND STORAGE

### Precautions for safe handling

Avoid contact with skin and eyes. Avoid formation of dust and aerosols.  
Provide appropriate exhaust ventilation at places where dust is formed.

### Conditions for safe storage, including any incompatibilities

Store in cool place. Keep container tightly closed in a dry and well-ventilated place.  
Recommended storage temperature: 2 - 8 °C

### Specific end uses

No data available

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Control parameters

#### Components with workplace control parameters

Contains no substances with occupational exposure limit values.

### 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/face protection

Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

#### Skin protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

#### 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

Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

#### Hygiene measures

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

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### Appearance

White powder, lyophilized

### Safety data

Odour	no data available
pH:	7.5
Melting point/freezing point	no data available
Initial boiling point and boiling range	no data available
Flash point	no data available
Evaporation rate	no data available
Flammability (solid, gas)	no data available
Upper/lower flammability or explosive limits	no data available
Vapour pressure	no data available
Vapour density	no data available
Relative density	no data available
Water solubility	no data available
Partition coefficient: octanol/water	no data available
Autoignition temperature	no data available
Decomposition temperature	no data available
Viscosity	no data available
Explosive properties	no data available
Oxidizing properties	no data available

## 10. STABILITY AND REACTIVITY

### Chemical stability

Stable under recommended storage conditions.

### Conditions to avoid

Avoid multiple freeze thaw cycles

### Materials to avoid

Strong oxidizing agents

### Hazardous decomposition products

None known

## 11. TOXICOLOGICAL INFORMATION

### Acute toxicity

LD50 Intraperitoneal - mouse - < 0.001 mg/kg

LD50 Intravenous - mouse - 0.00001 mg/kg

LD50 Subcutaneous - mouse - < 0.001 mg/kg

### 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.

**Reproductive toxicity**

Reproductive toxicity - Hamster - Intraperitoneal  
Effects on Fertility: Other measures of fertility  
no data available

**Aspiration hazard**

no data available

**Specific target organ toxicity - single exposure**

no data available

**Specific target organ toxicity - repeated exposure**

no data available

**Potential health effects**

**Inhalation** May be harmful if inhaled. May cause respiratory tract irritation.

**Ingestion** May be fatal if swallowed.

**Skin** May be harmful if absorbed through skin. May cause skin irritation.

**Eyes** May cause eye irritation.

**Signs and Symptoms of Exposure**

Fever, Headache.

**Additional Information**

RTECS: Not available

**12. ECOLOGICAL INFORMATION****Toxicity**

no data available

**Persistence and degradability**

Toxin degrades easily

**Bioaccumulative potential**

no data available

**Mobility in soil**

no data available

**Results of PBT and vPvB assessment**

no data available

**Other adverse effects**

no data available

**13. DISPOSAL CONSIDERATIONS****Waste treatment methods****Product**

Offer surplus and non-recyclable solutions to a licensed disposal company. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

**Contaminated packaging**

Dispose of as unused product.



**14. TRANSPORT INFORMATION**

UN Number: 3462

Class: 6.1

Packing group: I

Proper shipping name: TOXINS EXTRACTED FROM LIVING SOURCES, SOLID, N.O.S. (Diphtheria Toxin from *Corynebacterium diphtheriae*)

Shipped as Excepted Quantity transport class 6.1

**15. REGULATORY INFORMATION**

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

**Last updated:** 11/12/2020**Prepared by:** The Native Antigen Company

Although the information, opinions and recommendations contained in this Safety Data Sheet are compiled from sources believed to be reliable, we accept no responsibility for the accuracy, sufficiency, or reliability or for any loss or injury resulting from the use of the information.