SAFETY DATA SHEET

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

Product name : Purified Diptheria toxin from Corynebacterium diphtheria (DT)
IUPAC name: Diptheria toxin from Corynebacterium diphtheria
Product number : DIP-TNL
Company : The Native Antigen Company Ltd.
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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-phrase(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
Diphtheria Toxin from Corynebacterium diphtheria. 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: 10mM Tris, 1mM disodium EDTA, 0.05 % (w/v) lactose

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 fire fighting 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 no data available
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: noctanol/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
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 update: 05 August 2014
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.