



SIGMA-ALDRICH

Material Safety Data Sheet

Date Printed: 05/05/2004
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Version 1.40

Section 1 - Product and Company Information

Product Name: Botulinum toxin C solution, From Clostridium botulinum
Product Number: B1036
Brand: Sigma Chemical
Company: Sigma-Aldrich
Street Address: 3050 Spruce Street
City, State, Zip, Country: SAINT LOUIS, MO 63103 US
Technical Phone: 314 771 5765
Fax: 800 325 5052
Emergency Phone: 414 273 3850 Ext. 5996

Section 2 - Composition/Information on Ingredient

Table with 5 columns: Substance Name, CAS #, SARA 313, EC no, Annex I Index Number. Row 1: BOTULINUM TOXIN C FROM CLOSTRIDIUM BOTULINUM, 93384-45-3, No, 297-256-0

Table with 4 columns: Ingredient Name, CAS #, Percent, SARA 313. Rows: BOTULINUM TOXIN SUBUNIT (0.100%), SODIUM CHLORIDE (1.170%), SODIUM ACETATE, ANHYDROUS (0.410%)

Formula: Botulinum toxin C
Chemical Family: Etiological agent
Synonyms: BOTULIN NEUROTOXIN C BORALIN TOXIN C TOXIN BOTULIN C

Section 3 - Hazards Identification

Emergency Overview: Biohazard, Highly Toxic (USA) Very Toxic (EU). Very toxic by inhalation, in contact with skin and if swallowed. Irritating to eyes and skin. Biomedical material. May cause human disease. Target organ(s): Nerves.

HMIS Rating: Health: 4*, Flammability: 0, Reactivity: 1

NFPA Rating: Health: 4, Flammability: 0, Reactivity: 1

*additional chronic hazards present. For additional information on toxicity, please refer to Section 11.

Section 4 - First Aid Measures

Oral Exposure: If swallowed, wash out mouth with water provided person is conscious. Call a physician immediately.

Inhalation Exposure: If inhaled, remove to fresh air. If not breathing give artificial respiration. If breathing is difficult, give oxygen.

Dermal Exposure: In case of skin contact, flush with copious amounts of water for at least 15 minutes. Remove contaminated clothing and shoes. Call a physician.

Eye Exposure: In case of contact with eyes, flush with copious amounts of water for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. Call a physician.

Information for Physician: In certain emergency situations, the Center for Disease Control can supply botulinum toxoid, pentavalent (abcde) an investigational new drug. These biological products are available through the Immunobiologics Bureau of Laboratories, Center for Disease Control in Atlanta, Georgia USA.

Section 5 - Fire Fighting Measures

Autoignition Temp: N/A
Extinguishing Media: Water spray, Carbon dioxide, dry chemical powder, or appropriate foam.

Firefighting Protective Equipment: Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes. Specific Hazard(s): Emits toxic fumes under fire conditions.

Section 6 - Accidental Release Measures

Procedure to be Followed in Case of Leak or Spill: Evacuate area.
Procedure(s) of Personal Precaution(s): Wear self-contained breathing apparatus, rubber boots, and heavy rubber gloves.

Section 7 - Handling and Storage

Handling: User Exposure: Botulinum toxin should be handled in a closed system. All operations should be carried out in a glove bag of similar enclosure to avoid accidental contact. Container should be opened only by a technically qualified person. Handle as if capable of transmitting infectious agents.

Storage**Suitable**

Keep tightly closed. Store at -20°C

Special Requirements

Light sensitive, Heat sensitive.

Section 8 - Exposure Controls / PPE**Engineering Controls**

Use only in a chemical fume hood. Safety shower and eye bath.

Personal Protective Equipment**Respiratory**

Government approved respirator.

Hand

Compatible chemical-resistant gloves.

Eye

Chemical safety goggles.

General Hygiene Measures

Wash contaminated clothing before reuse. Wash thoroughly after handling.

Section 9 - Physical/Chemical Properties**Appearance****Physical State**

Liquid

Molecular Weight: 350,000 AMU

pH	N/A
BP/BP Range	N/A
MP/MP Range	N/A
Freezing Point	N/A
Vapor Pressure	N/A
Vapor Density	N/A
Saturated Vapor Conc.	N/A
SG/Density	N/A
Bulk Density	N/A
Odor Threshold	N/A
Volatile%	N/A
VOC Content	N/A
Water Content	N/A
Solvent Content	N/A
Evaporation Rate	N/A
Viscosity	N/A
Partition Coefficient	N/A
Decomposition Temp.	N/A
Flash Point °F	N/A
Flash Point °C	N/A
Explosion Limits	N/A

Flammability	N/A
Autoignition Temp	N/A

Solubility N/A

N/A = not available

Section 10 - Stability and Reactivity**Stability**

Stable

Stable.

Conditions to Avoid

Direct sunlight Protect from heat.

Materials to Avoid

Bases.

Hazardous Decomposition Products**Hazardous Decomposition Products**

Nature of decomposition products not known.

Hazardous Polymerization**Hazardous Polymerization**

Will not occur.

Section 11 - Toxicological Information**Route of Exposure****Skin Contact**

Causes skin irritation.

Skin Absorption

May be fatal if absorbed through skin.

Eye Contact

Causes eye irritation.

Inhalation

May be fatal if inhaled.

Ingestion

May be fatal if swallowed.

Signs and Symptoms of Exposure

This toxin is among the most powerful paralytic poisons known, having irreversible effects. Considered a lethal neurotoxin, 1ug may be fatal if swallowed or inhaled. Ori-man LD50: 1ug/man (Microbial Toxins, Vol. Ila, 1971). Botulinum toxin acts principally by paralyzing the synapses (junctions) of the peripheral nerves leading to muscles. Physiological changes include nausea, vertigo, pharyngeal pain, blurred vision, constipation, and respiratory paralysis. Type E toxin acts more slowly than type A, which has a rapid time of onset. After ingestion of a sufficient dose of type E toxin, humans show symptoms in 4 to 6 hours, and death occurs in several days. (Frontier 26, (2), 17, 1965).

RTECS Number: N/A

Section 12 - Ecological Information

No data available.

Section 14 - Transport Information**DOT**

Proper Shipping Name: Toxins, from living sources, liquid, n.o.s.

UN#: 3172

Class: 6.1

Packing Group: Packing Group I

Hazard Label: Toxic substances.

PIH: Not PIH

IATA

Proper Shipping Name: Toxins, extracted from living sources, liquid, n.o.s.
IATA UN Number: 3172
Hazard Class: 6.1
Packing Group: I

Section 15 - Regulatory Information

EU Additional Classification

Symbol of Danger: B T+

Indication of Danger

Biohazard. Very toxic.

Risk Statements R: 26/27/28 36/38

Very toxic by inhalation, in contact with skin and if swallowed. Irritating to eyes and skin.

Safety Statements S: 53 45

Restricted to professional users. Attention - Avoid exposure - obtain special instructions before use. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

US Classification and Label Text**Indication of Danger**

Biohazard. Highly Toxic (USA) Very Toxic (EU).

Risk Statements

Very toxic by inhalation, in contact with skin and if swallowed. Irritating to eyes and skin.

Safety Statements

Restricted to professional users. Attention - Avoid exposure - obtain special instructions before use. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

US Statements

Biomedical material. May cause human disease. Target organ(s): Nerves.

United States Regulatory Information

SARA Listed: No

Canada Regulatory Information**WHMIS Classification**

This product has been classified in accordance with the hazard criteria of the CPR, and the MSDS contains all the information required by the CPR.

DSL: No

NDSL: No

Section 16 - Other Information

Disclaimer

For R&D use only. Not for drug, household or other uses.

Warranty

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Inc., shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale. Copyright 2004 Sigma-Aldrich Co. License granted to make unlimited paper copies for internal use only.

