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TITLE: Safety Data Sheet (SDS) for Toxoid of <i>C. botulinum</i> Neurotoxin, Serotypes A-G		
DOCUMENT NUMBER: SDS-MTA-003	VERSION: 01	OWNER: EHS
		EFFECTIVE DATE: 01-SEP-2022

Section 1: Identification of the substance/mixture of the company/ undertaking	
1.1 Product Name	Toxoid of Botulinum neurotoxin, Serotypes A-G (Inactivated protein neurotoxin made by bacteria <i>Clostridium botulinum</i>) in 0.5% formalin solution.
1.2 Relevant identified uses of the substance or mixture and uses advises against	Laboratory and research use only. Material is not suitable for clinical nor diagnostic use in humans nor in other animals.
1.3 Details of the supplier of the safety data sheet	Metabiologics 505 South Rosa Road Madison, WI 53719 USA Telephone: 1-949-269-3260
1.4 Emergency Phone #	+1-813/248-0573 or 800/ 255-3924 ChemTel MIS0003127

Section 2: Hazard(s) Identification	
2.1 Classification of the substance or mixture	GHS Classification in accordance with 29 CFR 1910 Flammable liquids (Category 4), H227 Acute toxicity, Oral (Category 4), H302 Acute toxicity, Inhalation (Category 4), H332 Skin sensitization (Category 1), H317 Germ cell mutagenicity (Category 2), H341 Carcinogenicity (Category 1B), H350 Short-term (acute) aquatic hazard (Category 3), H402 For the full text of the H-Statements mentioned in this Section, see Section 16.
2.2 GHS Label Elements, including precautionary statements	Pictograms  Signal Word Danger Hazard statement(s) H227 Combustible liquid. H302 + H332 Harmful if swallowed or if inhaled. H317 May cause an allergic skin reaction.

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Section 2: Hazard(s) Identification	
	<p>H341 Suspected of causing genetic defects. H350 May cause cancer. H402 Harmful to aquatic life.</p> <p>Precautionary statement(s)</p> <p>P201 Obtain special instructions before use. P202 Do not handle until all safety precautions have been read and understood. P210 Keep away from heat/ sparks/ open flames/ hot surfaces. No smoking. 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 only outdoors or in a well-ventilated area. P272 Contaminated work clothing must not be allowed out of the workplace. P273 Avoid release to the environment. P280 Wear protective gloves/ protective clothing/ eye protection/ face protection. P301 + P312 + P330 IF SWALLOWED: Call a POISON CENTER/ doctor if you feel unwell. Rinse mouth. P302 + P352 IF ON SKIN: Wash with plenty of soap and water. P304 + P340 + P312 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/ doctor if you feel unwell. P308 + P313 IF exposed or concerned: Get medical advice/ attention. P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention. P363 Wash contaminated clothing before reuse. P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish. P403 + P235 Store in a well-ventilated place. Keep cool. P405 Store locked up. P501 Dispose of contents/ container to an approved waste disposal plant</p>
2.3 Hazards not otherwise classified (HNOC) or not covered by GHS	None


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Section 3: Composition/Information on Ingredients

3.1 Substances	Synonyms: Toxoid of toxin complex, Toxoid of isolated neurotoxin	
Component	Classification	Concentration
Formaldehyde CAS-No. 50-00-0 EC-No. 200-001-8	Flam. Liq. 4; Acute Tox. 3; Acute Tox. 2; Acute Tox. 3; Skin Corr. 1B; Eye Dam. 1; Skin Sens. 1; Muta. 2; Carc. 1B; STOT SE 3; Aquatic Acute 2; H227, H301, H330, H311, H314, H318, H317, H341, H350, H335, H401 Concentration limits: >= 25 %: Skin Corr. 1B, H314; 5 - < 25 %: Eye Irrit. 2, H319; >= 5 %: STOT SE 3, H335; >= 0.2 %: Skin Sens. 1, H317; 5 - < 25 %: Skin Irrit. 2, H315; >= 25 %: Skin Corr. 1B, H314; 5 - < 25 %: Skin Irrit. 2, H315; 5 - < 25 %: Eye Irrit. 2, H319; >= 5 %: STOT SE 3, H335; >= 0.2 %: Skin Sens. 1, H317	<1%

Section 4: First-Aid Measures

4.1 Description of first-aid measures	<p>If inhaled After inhalation: Remove to fresh air. Consult a physician</p> <p>In case of skin contact Take off immediately all contaminated clothing. Rinse with water/shower. Consult a physician</p> <p>In case of eye contact Rinse out with plenty of water. Remove contact lenses.</p> <p>If swallowed After swallowing: make victim drink water (two glasses at most). Call a physician if feeling unwell.</p>
4.2 Most important symptoms and effects, both acute and delayed	The most important known symptoms and effects are described in the labelling


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Section 4: First-Aid Measures	
4.3 Indication of any immediate medical attention and special treatment needed	No data available

Section 5: Fire-Fighting Measures	
5.1 Extinguishing media	Suitable extinguishing agents Water Foam Dry powder Carbon dioxide Sand Unsuitable extinguishing media For this substance/mixture no limitations of extinguishing agents are given
5.2 Special hazards arising from the substance or mixture	Nature of decomposition products are unknown
5.3 Advice for firefighters	In the event of fire, wear self-contained breathing apparatus
5.4 Further information	Prevent fire extinguishing water from contaminating surface water or the ground water system

Section 6: Accidental Release Measures	
6.1 Personal Precautions, protective equipment, and emergency procedures	Advice for non-emergency personnel: Avoid inhalation of dusts and evacuate the danger area, observe emergency procedures, and consult an expert. For personal protection, see section 8.
6.2 Environmental Precautions	Do not let product enter drains
6.3 Methods and materials for containment and cleaning up	Ventilate area. Initiate clean up. If the product is dry, mop up. If product is in solution, use an absorbent material to pick up the solution. Once spent, place contaminated disposables into a suitable container, seal, label, and dispose.
6.4 Reference to other sections	For disposal, see section 13


Section 7: Handling and Storage	
7.1 Precautions for safe handling	Advice on safe handling Work under hood. Do not inhale substance/mixture. Avoid generation of vapors/aerosols. Advice on protections against fire and explosion Keep away from open flames, hot surfaces, and sources of ignition. Hygiene measures Immediately change contaminated clothing. Apply preventive skin protection. Wash hands after working with substance.

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Section 7: Handling and Storage	
7.2 Conditions for safe storage, including any incompatibilities	Storage conditions Tightly closed, dry area. Storage stability Recommended storage temperature: Short durations: 2-8°C Longer durations: -20°C
7.3 Specific end use(s)	Apart from the uses in section 1.2, no other specific uses are stipulated

Section 8: Exposure Controls/Personal Protection			
8.1 Control parameters	Formaldehyde		
	OSHA PEL	NIOSH IDLH	ACGIH TLV
	TWA: 0.75 ppm STEL: 2 ppm	IDLH: 20 ppm TWA: 0.016 ppm Ceiling: 0.1 ppm	TWA: 0.1 ppm STEL: 0.3 ppm
	OSHA – Occupational Safety and Health Administration NIOSH – National Institute for Occupational Safety and Health ACGIH – American Conference of Governmental Industrial Hygienists		
8.2 Exposure controls	Appropriate engineering controls Change contaminated clothing. Wash hands after working with substance Personal protective equipment Eye/face protection Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Safety glasses. Skin protection Handle with impervious gloves. This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. Respiratory protection Required when dusts are generated Control of environmental exposure Do not let product enter drains		

Section 9: Physical and Chemical Properties	
9.1 Information on basic physical and chemical properties	a) Appearance Form: Clear, colorless liquid b) Oder No data available c) Odor Threshold No data available


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Section 9: Physical and Chemical Properties	
	<p>d) pH Varies</p> <p>e) Melting point/freezing point No data available</p> <p>f) Initial boiling point and boiling range No data available</p> <p>g) Flash Point No data available</p> <p>h) Evaporation rate No data available</p> <p>i) Flammability (solid, gas) No data available</p> <p>j) Upper/lower flammability or explosive limits No data available</p> <p>k) Vapor pressure No data available</p> <p>l) Vapor density No data available</p> <p>m) Relative density No data available</p> <p>n) Water solubility No data available</p> <p>o) Partition coefficient: n-octanol/water No data available</p> <p>p) Autoignition temperature No data available</p> <p>q) Decomposition temperature No data available</p> <p>r) Viscosity No data available</p> <p>s) Explosive properties No data available</p> <p>t) Oxidizing properties No data available</p>
9.2 Other safety information	No data available

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Section 10: Stability and Reactivity	
10.1 Reactivity	No data available
10.2 Chemical Stability	The product is chemically stable under standard ambient conditions (room temperature)
10.3 Possibility of hazardous reactions	No data available
10.4 Conditions to Avoid	Strong heating
10.5 Incompatible Materials	Strong bases, Acids, Oxidizing agents, Alkali metals, Strong oxidizing agents, Amines, Strong acids, Acid chlorides, Acid anhydrides, Reducing agents, Peroxides, Isocyanates, Phenol, Aniline
10.6 Hazardous Decomposition Products	In the event of a fire: see section 5

Section 11: Toxicological Information	
11.1 Information on toxicological effects	<p>Toxoid:</p> <p>Acute Toxicity Oral: No data available Inhalation: No data available Dermal: No data available</p> <p>Skin corrosion/irritation No data available</p> <p>Serious eye damage/eye irritation No data available</p> <p>Respiratory or skin sensitization No data available</p> <p>Germ cell mutagenicity No data available</p> <p>Carcinogenicity No data available</p> <p>Formaldehyde</p> <p>Acute toxicity LD50 Oral - Rat - 100 mg/kg Remarks: (Lit.) LC50 Inhalation - Rat - male and female - 4 h - < 0.57 mg/l (OECD Test Guideline 403) LD50 Dermal - Rabbit - 270 mg/kg Remarks: (RTECS) No data available</p> <p>Skin corrosion/irritation Skin - Rabbit Result: Causes burns. - 20 h (OECD Test Guideline 404)</p>


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Section 11: Toxicological Information	
	<p>Serious eye damage/eye irritation Causes serious eye damage.</p> <p>Respiratory or skin sensitization Local lymph node assay (LLNA) - Mouse Result: positive (OECD Test Guideline 429)</p> <p>Germ cell mutagenicity Suspected of causing genetic defects.</p> <p>Carcinogenicity Presumed to have carcinogenic potential for humans</p> <p>Reproductive toxicity No data available</p> <p>Specific target organ toxicity – single exposure May cause respiratory irritation</p> <p>Specific target organ toxicity – repeated exposure No data available</p> <p>Aspiration hazard No data available</p>
11.2 Additional information	To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated

Section 12: Ecological Information	
12.1 Toxicity	No data available
12.2 Persistence and degradability	No data available
12.3 Bioaccumulative potential	No data available
12.4 Mobility in soil	No data available
12.5 Results of PBT and vPvB assessment	PBT/vPvB assessment not available as chemical safety assessment not required or conducted.
12.6 Other adverse effects	No data available

Section 13: Disposal Considerations	
13.1 Waste treatment methods	Dispose in a safe manner in accordance with local/national regulations. Dispose of contents/container to comply with local, state, and federal regulations
IMDG	Not dangerous goods
IATA	Not dangerous goods
Further information	Not classified as dangerous in the meaning of transport regulations

Section 14: Transport Information	
DOT (US)	NA-Number: 1993 Class: NONE Packing group: III

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Section 14: Transport Information	
	Proper shipping name: Combustible liquid, n.o.s. (formaldehyde, Methanol) Reportable Quantity (RQ): 2500 lbs Poison Inhalation Hazard: No

Section 15: Regulatory Information	
SARA Section 302 Components (extremely hazardous substances)	Formaldehyde CAS-No. 50-00-0 Revision date: 11-03-2008
SARA Section 313 (specific toxic chemical listings)	Formaldehyde CAS-No. 50-00-0 Revision date: 11-03-2008
SARA 311/312 Hazards	Fire Hazard, Acute Health Hazard, Chronic Health Hazard

Section 16: Other Information	
SDS Date of Preparation/Update	The above information is believed to be correct but does not claim to be all inclusive and should be used as a guide. The information is based on our present state of knowledge and is applicable to the product regarding safety precautions. It does not guarantee the properties of the product and Metabiologics, Inc. and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product. Date: 07 October 2021