

Safety data sheet according to 1907/2006/EC, Article 31

Printing date 28.01.2021

Revision: 28.01.2021

SECTION 1: Identification of the substance/mixture and of the company/ undertaking

- **1.1 Product identifier**
- **Trade name:** Cholera toxin (Vibrio cholerae), (azide free)
- **Article number:** BML-G117
- **CAS Number:**
9012-63-9
- **1.2 Relevant identified uses of the substance or mixture** For Research Use only
- **Application of the substance / the preparation:** Laboratory chemicals
- **1.3 Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
Enzo Life Sciences, Inc.
10 Executive Boulevard
Farmingdale, NY 11735
U.S.A.
msds@enzolifesciences.com
- **Further information obtainable from:**
Customer service
During normal business hours.
U.S. +800-942-0430
International +41 61 926 8989
- **1.4 Emergency telephone number:**
U.S. +1 800-255-3924
International +01-813-248-0585

SECTION 2: Hazards identification

- **2.1 Classification of the substance or mixture**
- **Classification according to Regulation (EC) No 1272/2008**



GHS06 skull and crossbones

Acute Tox. 2 H300 Fatal if swallowed.

Acute Tox. 2 H310 Fatal in contact with skin.

Aquatic Chronic 3 H412 Harmful to aquatic life with long lasting effects.

- **2.2 Label elements**
- **Labelling according to Regulation (EC) No 1272/2008:**
The substance is classified and labelled according to the CLP regulation.
- **Hazard pictograms:**



GHS06

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- **Signal word:** Danger
- **Hazard-determining components of labelling:**
Cholera toxin (*Vibrio cholerae*) (azide free)
- **Hazard statements:**
H300+H310 Fatal if swallowed or in contact with skin.
H412 Harmful to aquatic life with long lasting effects.
- **Precautionary statements**
P280 Wear protective gloves / protective clothing.
P301+P310 IF SWALLOWED: Immediately call a POISON CENTER/ doctor.
P321 Specific treatment (see on this label).
P330 Rinse mouth.
P361+P364 Take off immediately all contaminated clothing and wash it before reuse.
P405 Store locked up.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.
- **2.3 Other hazards** Toxic in the bloodstream.
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

SECTION 3: Composition/information on ingredients

- **3.1 Chemical characterisation: Substances**
- **CAS No. Description:**
9012-63-9 Cholera toxin (*Vibrio cholerae*) (azide free)
- **Identification number(s):** Not applicable

SECTION 4: First aid measures

- **4.1 Description of first aid measures**
- **General information:**
Immediately remove any clothing soiled by the product.
In case of irregular breathing or respiratory arrest provide artificial respiration.
- **After inhalation:** In case of unconsciousness place patient stably in side position for transportation.
- **After skin contact:**
Immediately wash with water and soap and rinse thoroughly.
Remove contaminated clothing.
- **After eye contact:** Rinse opened eye for several minutes under running water. Then consult a doctor.
- **After ingestion:** Do not induce vomiting; call for medical help immediately.
- **4.2 Most important symptoms and effects, both acute and delayed**
No further relevant information available.
- **4.3 Indication of any immediate medical attention and special treatment needed**
In case of accident, seek medical advice immediately and show the label and the MSDS where possible.

SECTION 5: Firefighting measures

- **5.1 Extinguishing media**
- **Suitable extinguishing agents:** Use fire extinguishing methods suitable to surrounding conditions.
- **5.2 Special hazards arising from the substance or mixture** No further relevant information available.

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- **5.3 Advice for firefighters**
- **Protective equipment:**
Wear self-contained respiratory protective device.
Do not inhale explosion gases or combustion gases.
Wear fully protective suit.

SECTION 6: Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures:**
Keep unprotected persons away from the area.
Wear protective clothing.
- **6.2 Environmental precautions:**
Inform respective authorities in case of seepage into water course or sewage system.
Do not allow to enter sewers/ surface or ground water.
- **6.3 Methods and material for containment and cleaning up:**
Dispose contaminated material as waste according to item 13.
- **6.4 Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

SECTION 7: Handling and storage

- **7.1 Precautions for safe handling:** No special precautions are necessary if used correctly.
- **Information about fire - and explosion protection:** No special measures required.
- **7.2 Conditions for safe storage, including any incompatibilities**
Keep away from heat, sources of ignition and incompatibles such as oxidizing agents.
- **Storage:**
- **Requirements to be met by storerooms and receptacles:**
Store tightly sealed in a cool, dry and well ventilated location (see label for storage temperature and additional specific information).
- **Information about storage in one common storage facility:**
Do not store in warm environment or in contact with flammable or oxidizing substances.
- **Further information about storage conditions:**
Store under lock and key and with access restricted to technical experts or their assistants only.
- **7.3 Specific end use(s)** No further relevant information available.

SECTION 8: Exposure controls/personal protection

- **Additional information about design of technical facilities:** No further data; see item 7.
- **8.1 Control parameters**
- **Ingredients with limit values that require monitoring at the workplace:** Not required.
- **Additional information:** The lists valid during the making were used as basis.
- **8.2 Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**
Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing
Wash hands before breaks and at the end of work.
Store protective clothing separately.

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Avoid contact with the eyes and skin.

- **Respiratory protection:** Suitable respiratory protective device recommended.
- **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation. Due to missing tests no recommendation to the glove material can be given for the product/the preparation/the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

- **Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.

Nitrile rubber, NBR

- **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

- **Eye Protection:**



Safety glasses

SECTION 9: Physical and chemical properties

- **9.1 Information on basic physical and chemical properties**

- **General Information**

- **Appearance:**

Form: Lyophilized
Colour: Not determined.

- **Odour:** Characteristic

- **Odour threshold:** Not determined.

- **pH-value:** Not applicable.

- **Change in condition**

Melting point/freezing point: Undetermined.

Initial boiling point and boiling range: Undetermined.

- **Flash point:** Not applicable.

- **Flammability (solid, gas):** Product is not flammable.

- **Decomposition temperature:** Not determined.

- **Auto-ignition temperature:** Not determined.

- **Explosive properties:** Product does not present an explosion hazard.

- **Explosion limits:**

Lower: Not determined.

Upper: Not determined.

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· Vapour pressure:	Not applicable.
· Density:	Not determined.
· Relative density	Not determined.
· Vapour density	Not applicable.
· Evaporation rate	Not applicable.
· Solubility in / Miscibility with water:	Soluble.
· Partition coefficient: n-octanol/water:	Not determined.
· Viscosity:	
Dynamic:	Not applicable.
Kinematic:	Not applicable.
Solids content:	100.0 %
· 9.2 Other information	No further relevant information available.

SECTION 10: Stability and reactivity

- **10.1 Reactivity** No further relevant information available.
- **10.2 Chemical stability:** Stable. Avoid strong oxidizing agents.
- **Thermal decomposition / conditions to be avoided:**
No decomposition if used according to specifications.
- **10.3 Possibility of hazardous reactions:** No dangerous reactions known.
- **10.4 Conditions to avoid:** No further relevant information available.
- **10.5 Incompatible materials:** No further relevant information available.
- **10.6 Hazardous decomposition products:** No dangerous decomposition products known.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Fatal if swallowed or in contact with skin.

LD/LC50 values relevant for classification:

9012-63-9 Cholera toxin (*Vibrio cholerae*) (azide free)

LD50 0.26 mg/kg (mouse) (intravenous)

- **Primary irritant effect:**
- **Skin corrosion/irritation** Based on available data, the classification criteria are not met.
- **Serious eye damage/irritation** Based on available data, the classification criteria are not met.
- **Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.
- **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**
- **Germ cell mutagenicity** Based on available data, the classification criteria are not met.
- **Carcinogenicity** Based on available data, the classification criteria are not met.
- **Reproductive toxicity** Based on available data, the classification criteria are not met.
- **STOT-single exposure** Based on available data, the classification criteria are not met.
- **STOT-repeated exposure** Based on available data, the classification criteria are not met.
- **Aspiration hazard** Based on available data, the classification criteria are not met.

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SECTION 12: Ecological information

- **12.1 Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **12.2 Persistence and degradability:** No further relevant information available.
- **12.3 Bioaccumulative potential:** No further relevant information available.
- **12.4 Mobility in soil:** No further relevant information available.
- **Ecotoxicological effects:**
- **Remark:** Harmful to fish
- **Additional ecological information:**
- **General notes:**
Water hazard class 2 (German Regulation) (Self-assessment): hazardous for water
Do not allow product to reach ground water, water course or sewage system.
Danger to drinking water if even small quantities leak into the ground.
Harmful to aquatic organisms
- **12.5 Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **12.6 Other adverse effects** No further relevant information available.

SECTION 13: Disposal considerations

- **13.1 Waste treatment methods**
- **Recommendation:**
Must not be disposed together with household garbage. Do not allow product to reach sewage system.
Must be specially treated adhering to official regulations.
- **Uncleaned packaging:**
- **Recommendation:**
All waste must be handled in accordance with local, state and federal regulations. This material and its container must be disposed of in a safe way.
- **Recommended cleansing agents:** Water, if necessary together with cleansing agents.

SECTION 14: Transport information

- | | |
|---|--|
| <ul style="list-style-type: none"> · 14.1 UN-Number · ADR, IMDG, IATA | <p>UN3288</p> |
| <ul style="list-style-type: none"> · 14.2 UN proper shipping name · ADR · IMDG · IATA | <p>3288 TOXIC SOLID, INORGANIC, N.O.S. (Cholera toxin (<i>Vibrio cholerae</i>) (azide free))
TOXIC SOLID, INORGANIC, N.O.S. (Cholera toxin (<i>Vibrio cholerae</i>) (azide free))
TOXIC SOLID, INORGANIC, N.O.S. (containing Cholera toxin (<i>Vibrio cholerae</i>) (azide free))</p> |

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· **14.3 Transport hazard class(es)**

· **ADR, IMDG, IATA**



· **Class** 6.1 Toxic substances.
 · **Label** 6.1

· **14.4 Packing group**

· **ADR, IMDG, IATA** II

· **14.5 Environmental hazards:**

· **Marine pollutant:** No

· **14.6 Special precautions for user:**

· **Hazard identification number (Kemler code):** Warning: Toxic substances.
 60
 · **EMS Number:** F-A,S-A
 · **Stowage Category** B

· **14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code:**

Not applicable.

· **Transport/Additional information:**

· **ADR**

· **Limited quantities (LQ)** 500 g
 · **Excepted quantities (EQ)** Code: E4
 Maximum net quantity per inner packaging: 1 g
 Maximum net quantity per outer packaging: 500 g
 · **Transport category** 2
 · **Tunnel restriction code** D/E

· **IMDG**

· **Limited quantities (LQ)** 500 g
 · **Excepted quantities (EQ)** Code: E4
 Maximum net quantity per inner packaging: 1 g
 Maximum net quantity per outer packaging: 500 g

· **UN "Model Regulation":**

UN 3288 TOXIC SOLID, INORGANIC, N.O.S. (CHOLERA TOXIN (VIBRIO CHOLERAЕ) (AZIDE FREE)), 6.1, II

SECTION 15: Regulatory information

· **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

- **Directive 2012/18/EU**
- **Named dangerous substances - ANNEX I** Substance is not listed.
- **Seveso category** H2 ACUTE TOXIC
- **Qualifying quantity (tonnes) for the application of lower-tier requirements** 50 t
- **Qualifying quantity (tonnes) for the application of upper-tier requirements** 200 t

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- **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship. Not for drug, household or other uses.

- **Department issuing SDS:** Customer service

- **Contact:** tel. +1 610-941-0430

- **Abbreviations and acronyms:**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

CAS: Chemical Abstracts Service (division of the American Chemical Society)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

Acute Tox. 2: Acute toxicity - oral – Category 2

Aquatic Chronic 3: Hazardous to the aquatic environment - long-term aquatic hazard – Category 3

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