



# SAFETY DATA SHEET

Revision date 20-Jun-2022

Revision Number 1

## 1. Identification

### Product identifier

**Product Name** CLOSTRIDIUM DIFFICILE TOXOID A AND B - #10505

### Other means of identification

**Safety data sheet number** 10505

### Recommended use of the chemical and restrictions on use

**Recommended use** For research use only

**Restrictions on use** No information available

### Details of the supplier of the safety data sheet

#### Corporate Headquarters

Bio-Rad Laboratories Inc.  
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#### Manufacturer Address

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## 2. Hazard(s) identification

### Classification

Not classified

### Label elements

### Hazard statements

Not classified.

### Other information

### 3. Composition/information on ingredients

#### Substance

Not applicable.

#### Mixture

Chemical name	CAS No	Weight-%	Hazardous Material Information Review Act registry number (HMIRA registry #)	Date HMIRA filed and date exemption granted (if applicable)
Sucrose	57-50-1	60 - 80	-	
1-Piperazineethanesulfonic acid, 4-(2-hydroxyethyl)-	7365-45-9	10 - 30	-	
Sodium chloride	7647-14-5	10 - 30	-	

### 4. First-aid measures

#### Description of first aid measures

<b>General advice</b>	No hazards which require special first aid measures.
<b>Inhalation</b>	Remove to fresh air.
<b>Eye contact</b>	Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.
<b>Skin contact</b>	Wash skin with soap and water.
<b>Ingestion</b>	Rinse mouth thoroughly with water.

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

<b>Symptoms</b>	No information available.
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#### Indication of any immediate medical attention and special treatment needed

<b>Note to physicians</b>	Treat symptomatically.
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### 5. Fire-fighting measures

<b>Suitable Extinguishing Media</b>	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
<b>Unsuitable extinguishing media</b>	No information available.
<b>Specific hazards arising from the chemical</b>	None known.
<b>Explosion data</b>	
Sensitivity to mechanical impact	None.
Sensitivity to static discharge	None.
<b>Special protective equipment for fire-fighters</b>	Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

## 6. Accidental release measures

### Personal precautions, protective equipment and emergency procedures

**Personal precautions** See section 8 for more information.

### Methods and material for containment and cleaning up

**Methods for containment** Prevent further leakage or spillage if safe to do so.

**Methods for cleaning up** Pick up and transfer to properly labeled containers.

## 7. Handling and storage

### Precautions for safe handling

**Advice on safe handling** Handle in accordance with good industrial hygiene and safety practice.

### Conditions for safe storage, including any incompatibilities

**Storage Conditions** Store according to product and label instructions.

## 8. Exposure controls/personal protection

### Control parameters

#### Exposure Limits

Chemical name	Alberta	British Columbia	Ontario	Quebec
Sucrose 57-50-1	TWA: 10 mg/m <sup>3</sup>	TWA: 10 mg/m <sup>3</sup> TWA: 3 mg/m <sup>3</sup>	TWA: 10 mg/m <sup>3</sup>	TWA: 10 mg/m <sup>3</sup>

### Appropriate engineering controls

**Engineering controls** Showers  
Eyewash stations  
Ventilation systems.

### Individual protection measures, such as personal protective equipment

**Eye/face protection** Wear safety glasses with side shields (or goggles).

**Hand protection** Wear suitable gloves.

**Skin and body protection** Wear suitable protective clothing.

**Respiratory protection** No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.

**General hygiene considerations** Handle in accordance with good industrial hygiene and safety practice.

## 9. Physical and chemical properties

**Information on basic physical and chemical properties**

<b>Physical state</b>	Solid
<b>Appearance</b>	powder or cake, lyophilized
<b>Color</b>	Varies
<b>Odor</b>	No information available
<b>Odor threshold</b>	No information available

<b>Property</b>	<b>Values</b>	<b>Remarks • Method</b>
<b>pH</b>		None known
<b>Melting point / freezing point</b>	No data available	None known
<b>Boiling point / boiling range</b>	No data available	None known
<b>Flash point</b>	No data available	None known
<b>Evaporation rate</b>	No data available	None known
<b>Flammability (solid, gas)</b>	No data available	None known
<b>Flammability Limit in Air</b>		None known
<b>Upper flammability or explosive limits</b>	No data available	
<b>Lower flammability or explosive limits</b>	No data available	
<b>Vapor pressure</b>	No data available	None known
<b>Vapor density</b>	No data available	None known
<b>Relative density</b>	No data available	None known
<b>Water solubility</b>	Soluble in water	
<b>Solubility in other solvents</b>	No data available	None known
<b>Partition coefficient</b>	No data available	None known
<b>Autoignition temperature</b>	No data available	None known
<b>Kinematic viscosity</b>	No data available	None known
<b>Dynamic viscosity</b>	No data available	None known

**Other information**

<b>Explosive properties</b>	Not applicable.
<b>Oxidizing properties</b>	Not applicable.
<b>Softening point</b>	Not applicable
<b>Molecular weight</b>	Not applicable
<b>VOC Content (%)</b>	Not applicable

**10. Stability and reactivity**

<b>Reactivity</b>	No information available.
<b>Chemical stability</b>	Stable under normal conditions.
<b>Possibility of hazardous reactions</b>	None under normal processing.
<b>Conditions to avoid</b>	None known based on information supplied.
<b>Incompatible materials</b>	None known based on information supplied.
<b>Hazardous decomposition products</b>	None known based on information supplied.

**11. Toxicological information****Information on likely routes of exposure****Product Information**

<b>Inhalation</b>	Specific test data for the substance or mixture is not available.
<b>Eye contact</b>	Specific test data for the substance or mixture is not available.

**Skin contact** Specific test data for the substance or mixture is not available.

**Ingestion** Specific test data for the substance or mixture is not available.

### Symptoms related to the physical, chemical and toxicological characteristics

**Symptoms** No information available.

### Acute toxicity

#### Numerical measures of toxicity

The following values are calculated based on chapter 3.1 of the GHS document

**ATEmix (oral)** 7,984.00 mg/kg

**ATEmix (dermal)** 11,897.70 mg/kg

**Oral LD50** No information available

**Dermal LD50** No information available

**Inhalation LC50** No information available

**Inhalation LC50** No information available

#### Component Information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Sucrose 57-50-1	= 29700 mg/kg ( Rat )	-	-
1-Piperazineethanesulfonic acid, 4-(2-hydroxyethyl)- 7365-45-9	> 2000 mg/kg ( Rat )	> 2000 mg/kg ( Rat )	-
Sodium chloride 7647-14-5	= 3 g/kg ( Rat )	> 10000 mg/kg ( Rabbit )	> 42 mg/L ( Rat ) 1 h

### Delayed and immediate effects as well as chronic effects from short and long-term exposure

**Skin corrosion/irritation** Based on available data, the classification criteria are not met.

**Serious eye damage/eye irritation** Based on available data, the classification criteria are not met.

**Respiratory or skin sensitization** Based on available data, the classification criteria are not met.

**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.

**Target organ effects** Respiratory system, Eyes.

**Aspiration hazard** Based on available data, the classification criteria are not met.

## 12. Ecological information

### Ecotoxicity

Chemical name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
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1-Piperazineethanesulfonic acid, 4-(2-hydroxyethyl)- 7365-45-9	-	LC50: >100mg/L (96h, Danio rerio)	-	-
Sodium chloride 7647-14-5	-	LC50: 4747 - 7824mg/L (96h, Oncorhynchus mykiss) LC50: 5560 - 6080mg/L (96h, Lepomis macrochirus) LC50: 6020 - 7070mg/L (96h, Pimephales promelas) LC50: 6420 - 6700mg/L (96h, Pimephales promelas) LC50: =12946mg/L (96h, Lepomis macrochirus) LC50: =7050mg/L (96h, Pimephales promelas)	-	EC50: 340.7 - 469.2mg/L (48h, Daphnia magna) EC50: =1000mg/L (48h, Daphnia magna)

**Persistence and degradability** No information available.

**Bioaccumulation** There is no data for this product.

#### Component Information

Chemical name	Partition coefficient
1-Piperazineethanesulfonic acid, 4-(2-hydroxyethyl)- 7365-45-9	<-3.85

**Other adverse effects** No information available.

### 13. Disposal considerations

#### Waste treatment methods

**Waste from residues/unused products** Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

**Contaminated packaging** Do not reuse empty containers.

### 14. Transport information

**TDG** Not regulated

**DOT** Not regulated

**MEX** Not regulated

**IATA** Not regulated

**IMDG** Not regulated

### 15. Regulatory information

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

**International Regulations****The Montreal Protocol on Substances that Deplete the Ozone Layer** Not applicable**The Stockholm Convention on Persistent Organic Pollutants** Not applicable**The Rotterdam Convention** Not applicable**International Inventories**

Contact supplier for inventory compliance status

**16. Other information**

<b>NFPA</b>	<b>Health hazards</b> 0	<b>Flammability</b> 0	<b>Instability</b> 0	<b>Physical and chemical properties -</b>
<b>HMIS</b>	<b>Health hazards</b> 0	<b>Flammability</b> 0	<b>Physical hazards</b> 0	<b>Personal protection</b> X

**Key or legend to abbreviations and acronyms used in the safety data sheet****Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**

TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
Ceiling	Maximum limit value	*	Skin designation

**Key literature references and sources for data used to compile the SDS**

Agency for Toxic Substances and Disease Registry (ATSDR)  
 U.S. Environmental Protection Agency ChemView Database  
 European Food Safety Authority (EFSA)  
 EPA (Environmental Protection Agency)  
 Acute Exposure Guideline Level(s) (AEGL(s))  
 U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act  
 U.S. Environmental Protection Agency High Production Volume Chemicals  
 Food Research Journal  
 Hazardous Substance Database  
 International Uniform Chemical Information Database (IUCLID)  
 Japan GHS Classification  
 Australia National Industrial Chemicals Notification and Assessment Scheme (NICNAS)  
 NIOSH (National Institute for Occupational Safety and Health)  
 National Library of Medicine's ChemID Plus (NLM CIP)  
 National Library of Medicine's PubMed database (NLM PUBMED)  
 National Toxicology Program (NTP)  
 New Zealand's Chemical Classification and Information Database (CCID)  
 Organization for Economic Co-operation and Development Environment, Health, and Safety Publications  
 Organization for Economic Co-operation and Development High Production Volume Chemicals Program  
 Organization for Economic Co-operation and Development Screening Information Data Set  
 RTECS (Registry of Toxic Effects of Chemical Substances)  
 World Health Organization

**Prepared By** Bio-Rad Laboratories, Environmental Health and Safety.**Revision date** 20-Jun-2022**Revision Note** Significant changes throughout SDS. Review all sections.**Disclaimer**

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

**End of Safety Data Sheet**