

Revision date 04-Apr-2022

Revision Number 1

## 1. Identification

### Product identifier

**Product Name** Bromelin

### Other means of identification

**Catalog Number(s)** 805012

**Safety data sheet number** 186108

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

**Recommended use** Restricted to professional users  
In vitro diagnostic

**Restrictions on use** No information available

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

#### Corporate Headquarters

Bio-Rad Laboratories Inc.  
1000 Alfred Nobel Drive  
Hercules, CA 94547  
USA

#### Manufacturer Address

Bio-Rad Medical Diagnostics GmbH  
Industriestr. 1  
63303 Dreieich  
Germany  
e-mail: contact.bmd@bio-rad.com

#### Legal Entity / Contact Address

Bio-Rad Laboratories (Canada) Ltd.  
2403 Guenette  
Montreal, Quebec H4R 2E9  
Canada

**Technical Service** 1-800-361-1808  
CSD\_Techsupport@bio-rad.com

### Emergency telephone number

**24 Hour Emergency Phone Number** CHEMTREC Canada:1 (800) 424-9300

## 2. Hazard(s) identification

### Classification

Respiratory sensitization

Category 1

### Label elements

#### **Danger**

#### **Hazard statements**

May cause allergy or asthma symptoms or breathing difficulties if inhaled



**Precautionary Statements - Prevention**

Avoid breathing dust/fume/gas/mist/vapors/spray

In case of inadequate ventilation wear respiratory protection

**Precautionary Statements - Response****Inhalation**

IF INHALED: Remove person to fresh air and keep comfortable for breathing

If experiencing respiratory symptoms: Call a POISON CENTER or doctor

**Precautionary Statements - Disposal**

Dispose of contents/container in accordance with local, regional, national, and international regulations as applicable

**Other information****3. Composition/information on ingredients****Substance**

Not applicable.

**Mixture**

The product contains no substances which at their given concentration, are considered to be hazardous to health

Chemical name	CAS No	Weight-%	Hazardous Material Information Review Act registry number (HMIRA registry #)	Date HMIRA filed and date exemption granted (if applicable)
Bromelain	9001-00-7	0.1 - 1	-	

**4. First-aid measures****Description of first aid measures****General advice**

Show this safety data sheet to the doctor in attendance.

**Inhalation**

May cause allergic respiratory reaction. If breathing has stopped, give artificial respiration. Get medical attention immediately. Remove to fresh air. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation.

**Eye contact**

Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.

**Skin contact**

Wash with soap and water. May cause an allergic skin reaction. In the case of skin irritation or allergic reactions see a physician.

**Ingestion**

May produce an allergic reaction. Do NOT induce vomiting. Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person. Get immediate medical advice/attention.

**Self-protection of the first aider**

Ensure that medical personnel are aware of the material(s) involved, take precautions to

protect themselves and prevent spread of contamination. Avoid contact with skin, eyes or clothing. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation. Use personal protective equipment as required. See section 8 for more information.

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

**Symptoms** May cause allergy or asthma symptoms or breathing difficulties if inhaled. Coughing and/ or wheezing. Itching. Rashes. Hives.

**Indication of any immediate medical attention and special treatment needed**

**Note to physicians** May cause sensitization in susceptible persons. Treat symptomatically.

**5. Fire-fighting measures**

**Suitable Extinguishing Media** Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

**Unsuitable extinguishing media** No information available.

**Specific hazards arising from the chemical** Product is or contains a sensitizer. May cause sensitization by inhalation and skin contact.

**Explosion data**

**Sensitivity to mechanical impact** None.

**Sensitivity to static discharge** None.

**Special protective equipment for fire-fighters** 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** Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Use personal protective equipment as required. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.

**Other information** Refer to protective measures listed in Sections 7 and 8.

**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. Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Provide extract ventilation to points where emissions occur. In case of insufficient ventilation, wear suitable respiratory equipment. Do not eat, drink or smoke when using this product. Remove contaminated clothing and shoes.

**Conditions for safe storage, including any incompatibilities**

**Storage Conditions**

Keep containers tightly closed in a dry, cool and well-ventilated place. Store locked up. Keep out of the reach of children. Store according to product and label instructions.

## 8. Exposure controls/personal protection

**Control parameters****Exposure Limits**

This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

**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**

Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this product. Remove and wash contaminated clothing and gloves, including the inside, before re-use.

## 9. Physical and chemical properties

**Information on basic physical and chemical properties**

Physical state	Liquid
Appearance	Liquid
Color	No information available
Odor	No information available
Odor threshold	No information available

<b><u>Property</u></b>	<b><u>Values</u></b>	<b><u>Remarks • Method</u></b>
pH		None known
Melting point / freezing point	No data available	None known
Boiling point / boiling range	100 °C / 212 °F	
Flash point	No data available	None known
Evaporation rate	No data available	None known
Flammability (solid, gas)	No data available	None known
Flammability Limit in Air		None known
Upper flammability or explosive limits	No data available	
Lower flammability or explosive limits	No data available	
Vapor pressure	No data available	None known
Vapor density	No data available	None known

Relative density	No data available	None known
Water solubility	Miscible in water	
Solubility in other solvents	No data available	None known
Partition coefficient	No data available	None known
Autoignition temperature	No data available	None known
Decomposition temperature		None known
Kinematic viscosity	No data available	None known
Dynamic viscosity	No data available	None known
<b>Other information</b>		
Explosive properties	Not applicable.	
Oxidizing properties	Not applicable.	
Softening point	Not applicable	
Molecular weight	Not applicable	
VOC Content (%)	Not applicable	

## 10. Stability and reactivity

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

## 11. Toxicological information

### Information on likely routes of exposure

#### Product Information

Inhalation	Specific test data for the substance or mixture is not available. May cause sensitization in susceptible persons. (based on components).
Eye contact	Specific test data for the substance or mixture is not available.
Skin contact	Specific test data for the substance or mixture is not available. Repeated or prolonged skin contact may cause allergic reactions with susceptible persons. (based on components).
Ingestion	Specific test data for the substance or mixture is not available. May cause additional affects as listed under "Inhalation".

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

Symptoms	Symptoms of allergic reaction may include rash, itching, swelling, trouble breathing, tingling of the hands and feet, dizziness, lightheadedness, chest pain, muscle pain, or flushing. Coughing and/ or wheezing.
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### Acute toxicity

#### Numerical measures of toxicity

#### Component Information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Bromelain 9001-00-7	> 10 g/kg ( Rat )	-	-

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

<b>Skin corrosion/irritation</b>	Based on available data, the classification criteria are not met.
<b>Serious eye damage/eye irritation</b>	Based on available data, the classification criteria are not met.
<b>Respiratory or skin sensitization</b>	May cause sensitization by inhalation.
<b>Germ cell mutagenicity</b>	Based on available data, the classification criteria are not met.
<b>Carcinogenicity</b>	Based on available data, the classification criteria are not met.
<b>Reproductive toxicity</b>	Based on available data, the classification criteria are not met.
<b>STOT - single exposure</b>	Based on available data, the classification criteria are not met.
<b>STOT - repeated exposure</b>	Based on available data, the classification criteria are not met.
<b>Aspiration hazard</b>	Based on available data, the classification criteria are not met.

## **12. Ecological information**

### **Ecotoxicity**

<b>Persistence and degradability</b>	No information available.
<b>Bioaccumulation</b>	No information available.
<b>Other adverse effects</b>	No information available.

## **13. Disposal considerations**

### **Waste treatment methods**

<b>Waste from residues/unused products</b>	Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.
<b>Contaminated packaging</b>	Do not reuse empty containers.

## **14. Transport information**

<b><u>TDG</u></b>	Not regulated
<b><u>DOT</u></b>	Not regulated
<b><u>MEX</u></b>	Not regulated
<b><u>IATA</u></b>	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****NFPA****Health hazards** 2**Flammability** 0**Instability** 0**Physical and chemical properties** -  
**Personal protection** X**HMIS****Health hazards** 2 \***Flammability** 0**Physical hazards** 0

Chronic Hazard Star Legend

\* = Chronic Health Hazard

**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**

04-Apr-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**