



# SAFETY DATA SHEET

This safety data sheet was created pursuant to the requirements of:  
GB/T 16483-2008, GB/T 17519-2013

**Product Name** PEROXIDASE - #20188

**Revision date** 20-Feb-2023

**Revision Number** 1

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

### Product identifier

**Product Name** PEROXIDASE - #20188

### Other means of identification

**Safety data sheet number** 20188

**Pure substance/mixture** Substance

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

#### Corporate Headquarters

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

#### Manufacturer

Bio-Rad  
Endeavour House  
Langford Business Park  
Kidlington  
Oxford  
OX5 1GE  
United Kingdom  
e-mail:  
antibody\_safetydatasheets@bio-rad.com

#### Legal Entity / Contact Address

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239/2, Rajdamri Road, Lumpini,  
Pathumwan, Bangkok 10330  
Thailand

**Technical Service** +66 2 652 8313  
ctsthailand@bio-rad.com

### Emergency telephone number

**24 Hour Emergency Phone Number** CHEMTREC Hong Kong: 800-968-793

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

**Recommended use** For research use only

## SECTION 2: Hazards identification

### **Emergency Overview**

May cause allergic respiratory reaction

**Appearance** powder or cake, lyophilised **Physical state** Solid **Odour** No information available

### Classification of the substance or mixture

<b>Acute toxicity - Inhalation (Dusts/Mists)</b>	Category 4
<b>Respiratory sensitisation</b>	Category 1
<b>Hazardous to the Aquatic Environment - Acute Hazard</b>	Category 3

**Label elements****Signal word**

Danger

**Hazard statements**

Harmful if inhaled

May cause allergy or asthma symptoms or breathing difficulties if inhaled

Harmful to aquatic life

**Precautionary statements****Prevention**

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

Use only outdoors or in a well-ventilated area

In case of inadequate ventilation wear respiratory protection

Avoid release to the environment

**Response**

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

If experiencing respiratory symptoms: Call a POISON CENTER or doctor

**Disposal**

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

**Physical and chemical hazards**

Not applicable.

**Health hazards**

Immediate Health Effects: Harmful. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed.

Allergic reactions (sensitiser). 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.

Chronic effects: Not applicable.

**Environmental hazards**

This material is a water pollutant. Keep out of drains, sewers, ditches and waterways. Minimise use of water to prevent environmental contamination

**Other hazards which do not result in classification**

Not applicable

**SECTION 3: Composition/information on ingredients****Substance**

Not applicable.

**Mixture**

Chemical name	Weight-%	CAS No
Peroxidase	35 - 50	9003-99-0

**SECTION 4: First aid measures****Description of necessary first aid measures**

<b>General advice</b>	Show this safety data sheet to the doctor in attendance.
<b>Inhalation</b>	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. Get immediate medical advice/attention.
<b>Eye contact</b>	Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a doctor.
<b>Skin contact</b>	Wash with soap and water. May cause an allergic skin reaction. In the case of skin irritation or allergic reactions see a doctor.
<b>Ingestion</b>	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.
<b><u>Most important symptoms and effects, both acute and delayed</u></b>	May cause allergy or asthma symptoms or breathing difficulties if inhaled. Coughing and/ or wheezing. Itching. Rashes. Hives. Difficulty in breathing.
<b><u>For emergency responders</u></b>	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. Avoid breathing dust/fume/gas/mist/vapours/spray.
<b><u>Note to doctors</u></b>	May cause sensitisation in susceptible persons. Treat symptomatically.

**SECTION 5: Firefighting measures****Extinguishing media**

<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><u>Specific hazards arising from the chemical</u></b>	Product is or contains a sensitiser. May cause sensitisation by inhalation and skin contact.
<b><u>Special protective actions for fire-fighters</u></b>	Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

**SECTION 6: Accidental release measures****Personal precautions, protective equipment and emergency procedures**

<b>Personal precautions</b>	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. Avoid generation of dust. Do not breathe dust.
<b>Other information</b>	Refer to protective measures listed in Sections 7 and 8.

<b>For emergency responders</b>	Use personal protection recommended in Section 8.
<b><u>Environmental precautions</u></b>	Prevent further leakage or spillage if safe to do so.
<b><u>Methods and material for containment and cleaning up</u></b>	Prevent further leakage or spillage if safe to do so. Pick up and transfer to properly labelled containers.
<b><u>Precautions to prevent secondary hazards</u></b>	Clean contaminated objects and areas thoroughly observing environmental regulations.

## SECTION 7: Handling and storage

<b><u>Precautions for safe handling</u></b>	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. Avoid breathing dust/fume/gas/mist/vapours/spray. Avoid generation of dust. 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. Avoid breathing dust/fume/gas/mist/vapours/spray. See Section 8 for information on appropriate personal protective equipment.
<b><u>Conditions for safe storage, including any incompatibilities</u></b>	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.
<b><u>Incompatible materials</u></b>	None known based on information supplied.

## SECTION 8: Exposure controls/personal protection

### **Occupational exposure limits**

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

**Note** See section 16 for terms and abbreviations

### **Biological occupational exposure limits**

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

### **Monitoring and observation processes**

No applicable information was found.

<b><u>Engineering controls</u></b>	Showers Eyewash stations Ventilation systems.
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### **Individual protection measures, such as personal protective equipment**

<b><u>Eye/face protection</u></b>	Wear safety glasses with side shields (or goggles).
<b><u>Skin and body protection</u></b>	Wear suitable protective clothing.
<b><u>Hand protection</u></b>	Wear suitable gloves.
<b><u>Respiratory protection</u></b>	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. Avoid breathing dust/fume/gas/mist/vapours/spray.

**SECTION 9: Physical and chemical properties****Information on basic physical and chemical properties**

Appearance	powder or cake, lyophilised
Colour	No information available
Physical state	Solid
Odour	No information available
Odour threshold	No information available

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
pH		None known
Melting point / freezing point	No data available	None known
Boiling point / boiling range	No data available	None known
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	
Vapour pressure	No data available	None known
Vapour density	No data available	None known
Relative density	No data available	None known
Water solubility	Soluble in water	
Solubility(ies)	No data available	None known
Partition coefficient	No data available	None known
Autoignition temperature	No data available	None known
Decomposition temperature	No data available	None known
Kinematic viscosity	No data available	None known
Dynamic viscosity	No data available	None known

**Additional information**

Explosive properties	Not applicable
Oxidising properties	Not applicable

**SECTION 10: Stability and reactivity**

<u>Stability</u>	Stable under normal conditions.
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<u>Possibility of hazardous reactions</u>	None under normal processing.
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Sensitivity to mechanical impact None.

Sensitivity to static discharge None.

<u>Conditions to avoid</u>	Excessive heat.
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<u>Incompatible materials</u>	None known based on information supplied.
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<u>Hazardous decomposition products</u>	None known based on information supplied.
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**SECTION 11: Toxicological information**

**Acute toxicity****Numerical measures of toxicity**

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

ATEmix (oral)	5,153.80 mg/kg
ATEmix (inhalation-dust/mist)	2.06 mg/l

**Unknown acute toxicity**

39 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist)

<b>Oral LD50</b>	No information available
<b>Dermal LD50</b>	No information available
<b>Inhalation LC50</b>	No information available
<b>Inhalation LC50</b>	No information available

<b>Skin corrosion/irritation</b>	Based on available data, the classification criteria are not met.
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<b>Serious eye damage/eye irritation</b>	Based on available data, the classification criteria are not met.
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<b>Respiratory or skin sensitisation</b>	May cause sensitisation by inhalation.
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<b>Germ cell mutagenicity</b>	Based on available data, the classification criteria are not met.
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<b>Carcinogenicity</b>	Based on available data, the classification criteria are not met.
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<b>Reproductive toxicity</b>	Based on available data, the classification criteria are not met.
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<b>Specific target organ toxicity — single exposure</b>	Based on available data, the classification criteria are not met.
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<b>Specific target organ toxicity — repeated exposure</b>	Based on available data, the classification criteria are not met.
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<b>Aspiration hazard</b>	Based on available data, the classification criteria are not met.
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## SECTION 12: Ecological information

<b><u>Ecotoxicity</u></b>	Harmful to aquatic life.
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<b><u>Unknown aquatic toxicity</u></b>	0 % of the mixture consists of component(s) of unknown hazards to the aquatic environment
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<b><u>Persistence and degradability</u></b>	No information available.
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<b><u>Bioaccumulative potential</u></b>	There is no data for this product.
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**Component Information**

Chemical name	Partition coefficient
Peroxidase	-1.3

<b><u>Mobility in soil</u></b>	No information available.
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## SECTION 13: Disposal considerations

**Waste chemicals** Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

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

## SECTION 14: Transport information

**IMDG** Not regulated  
**Transport in bulk according to Annex II of MARPOL and the IBC Code** No information available

**IATA** Not regulated

**China** Not regulated

### **Special precautions for user**

Please refer to the applicable dangerous goods regulations for additional information

## SECTION 15: Regulatory information

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

#### **National regulations**

##### **Law of the People's Republic of China on Prevention and Control of Occupational Diseases**

Catalogue of occupational hazard factors: Not applicable.  
 Catalogue of occupational diseases: Not applicable.

##### **Regulations on the Control over Safety of Hazardous Chemicals**

Inventory of hazardous chemicals Not applicable.

GB 18218-2009 Identification of major hazard installations for dangerous chemicals Not applicable

**List of hazardous chemicals under priority management** Not applicable

##### **Regulations on Labour Protection in Workplaces Where Toxic Substances Are Used**

Inventory of highly toxic goods Not applicable

##### **Regulations for Environmental Management on the First Import of Chemicals and the Import and Export of Toxic Chemicals**

List of toxic chemicals severely restricted for import and export in China Not applicable

##### **Measures for the Environmental Management of New Chemical Substances**

**IECSC - China Inventory of Existing Chemical Substances** Contact supplier for inventory compliance status.

#### **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

## SECTION 16: Other information

**Prepared By** Bio-Rad Laboratories, Environmental Health and Safety

**Revision date** 20-Feb-2023

**Revision Note** Significant changes throughout SDS. Review all sections.

**Abbreviations and acronyms**Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

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

**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) (AELG(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  
Australian 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)  
Organisation for Economic Co-operation and Development Environment, Health, and Safety Publications  
Organisation for Economic Co-operation and Development High Production Volume Chemicals Programme  
Organisation for Economic Co-operation and Development Screening Information Data Set  
RTECS (Registry of Toxic Effects of Chemical Substances)  
World Health Organization

**Disclaimer**

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**End of Safety Data Sheet**