

# KIT SAFETY DATA SHEET



**Kit Product Name** TMB Peroxidase EIA Substrate, 200/1000 ml Kit

**Kit Catalogue Number(s)** 1721067, 1721066

**Print date** 01-Feb-2021

## Kit Contents

Catalogue Number(s)	Product Name
9701859, 9701173***	TMB Peroxidase EIA Sub Kit Solution A***
9701860, 9701174***	TMB Peroxidase EIA Sub Kit Solution B***



# SAFETY DATA SHEET

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

**Product Name** TMB Peroxidase EIA Sub Kit Solution A

**Print date** 23-Dec-2020

**Revision Number** 1

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

### Product identifier

**Product Name** TMB Peroxidase EIA Sub Kit Solution A

**Catalogue Number(s)** 9701859, 9701173

### Other means of identification

**UN/ID no** UN2265

**Pure substance/mixture** Mixture

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

#### Corporate Headquarters

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

#### Manufacturer

Bio-Rad Laboratories, Life Science  
Group  
2000 Alfred Nobel Drive  
Hercules, California 94547  
USA

#### Legal Entity / Contact Address

Bio-Rad Laboratories Ltd.  
1st and 2nd Floor, Lumpini 1 Building  
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** Laboratory chemicals

## SECTION 2: Hazards identification

### **Emergency Overview**

Irritating to eyes  
HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames

**Appearance** aqueous solution **Physical state** Liquid **Odour** Odourless

### Classification of the substance or mixture

Flammable liquids	Category 3
Flammable liquids	Category 3
Acute toxicity - Dermal	Category 5
Acute toxicity - Inhalation (Gases)	Category 4
Acute toxicity - Inhalation (Dusts/Mists)	Category 5
Serious eye damage/eye irritation	Category 2A

**Reproductive toxicity**

Category 1B

**Label elements**



**Signal word**

Danger

**Hazard statements**

Flammable liquid and vapour  
Flammable liquid and vapour  
May be harmful in contact with skin  
Harmful if inhaled  
Causes serious eye irritation  
May damage fertility or the unborn child

**Precautionary statements**

**Prevention**

Do not handle until all safety precautions have been read and understood  
Wear protective gloves/protective clothing/eye protection/face protection  
Avoid breathing dust/fume/gas/mist/vapours/spray  
Use only outdoors or in a well-ventilated area  
Wash face, hands and any exposed skin thoroughly after handling  
Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking  
Keep container tightly closed  
Ground/bond container and receiving equipment  
Use only non-sparking tools  
Take precautionary measures against static discharge

**Response**

Call a POISON CENTRE or doctor if you feel unwell  
IF INHALED: Remove person to fresh air and keep comfortable for breathing  
Call a POISON CENTRE or doctor if you feel unwell  
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower  
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing  
If eye irritation persists: Get medical advice/attention  
In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish

**Storage**

Store in a well-ventilated place. Keep cool

**Disposal**

Dispose of contents/container to an approved waste disposal plant

**Physical and chemical hazards**

Flammable; may be ignited by heat, sparks or flames. Vapours may form explosive mixtures with air. Vapours can travel considerable distances to a source of ignition where they can ignite, flash back, or explode. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated.

**Health hazards**

Immediate Health Effects: Harmful. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. If symptoms persist, call a doctor. Causes severe irritation (tears, blurred vision and redness). Irritating, but will not permanently injure eye tissue.

Chronic effects: Contains a known or suspected reproductive toxin.

**Environmental hazards**

Not applicable

**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
N,N-Dimethylformamide***	20 - 35	68-12-2

### 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>	Remove to fresh air. If symptoms persist, call a doctor. If breathing has stopped, give artificial respiration. Get medical attention immediately.
<b>Eye contact</b>	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Keep eye wide open while rinsing. Do not rub affected area. Get medical attention if irritation develops and persists.
<b>Skin contact</b>	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes.
<b>Ingestion</b>	Do NOT induce vomiting. Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person. Get medical attention.
<b><u>Most important symptoms and effects, both acute and delayed</u></b>	May cause redness and tearing of the eyes. Burning sensation. Coughing and/ or wheezing. Difficulty in breathing.
<b><u>For emergency responders</u></b>	Remove all sources of ignition. Avoid contact with skin, eyes or clothing. Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. Avoid breathing vapours or mists. Use personal protective equipment as required. See section 8 for more information.
<b><u>Note to doctors</u></b>	Treat symptomatically.

### SECTION 5: Firefighting measures

#### Extinguishing media

<b>Suitable Extinguishing Media</b>	Dry chemical. Carbon dioxide (CO <sub>2</sub> ). Water spray. Alcohol resistant foam.
<b>Unsuitable extinguishing media</b>	No information available.
<b><u>Specific hazards arising from the chemical</u></b>	Risk of ignition. Keep product and empty container away from heat and sources of ignition. In the event of fire, cool tanks with water spray. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.
<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>	Evacuate personnel to safe areas. See section 8 for more information. Keep people away from and upwind of spill/leak. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Pay attention to flashback. Take precautionary measures against static discharges. All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Avoid breathing vapours or mists. Use personal protective equipment as required.
<b>Other information</b>	Ventilate the area. 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>	Refer to protective measures listed in Sections 7 and 8. Prevent further leakage or spillage if safe to do so. Prevent product from entering drains.
<b><u>Methods and material for containment and cleaning up</u></b>	Stop leak if you can do it without risk. Do not touch or walk through spilled material. A vapour suppressing foam may be used to reduce vapours. Dyke far ahead of spill to collect run-off water. Keep out of drains, sewers, ditches and waterways. Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Take precautionary measures against static discharges. Dam up. Soak up with inert absorbent material. 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>	Use personal protection equipment. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Use grounding and bonding connection when transferring this material to prevent static discharge, fire or explosion. Use with local exhaust ventilation. Use spark-proof tools and explosion-proof equipment. Keep in an area equipped with sprinklers. Use according to package label instructions. Remove contaminated clothing and shoes. Avoid contact with skin, eyes or clothing. Handle in accordance with good industrial hygiene and safety practice. Avoid breathing vapours or mists. In case of insufficient ventilation, wear suitable respiratory equipment. Do not eat, drink or smoke when using this product. Contaminated work clothing should not be allowed out of the workplace. Regular cleaning of equipment, work area and clothing is recommended. Wash hands before breaks and immediately after handling the product. Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this product. See Section 8 for information on appropriate personal protective equipment.
<b><u>Conditions for safe storage, including any incompatibilities</u></b>	Keep away from heat, sparks, flame and other sources of ignition (i.e., pilot lights, electric motors and static electricity). Keep in properly labelled containers. Do not store near combustible materials. Keep in an area equipped with sprinklers. Store in accordance with the particular national regulations. Store in accordance with local regulations. Store locked up. Keep containers tightly closed in a dry, cool and well-ventilated place. Keep out of the reach of children. Store according to product and label instructions.
<b>Incompatible materials</b>	None known based on information supplied.

## SECTION 8: Exposure controls/personal protection

### Occupational exposure limits

**Product Name** TMB Peroxidase EIA Sub Kit Solution A  
**Print date** 23-Dec-2020

**(M)SDS Number**

HRLS00109

Chemical name	China	ACGIH TLV
N,N-Dimethylformamide*** - 68-12-2	TWA: 20 mg/m <sup>3</sup> STEL: 40 mg/m <sup>3</sup> Skin*	TWA: 5 ppm S*

**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

Chemical name	Biological standards	Monitoring and observation processes	ACGIH
N,N-Dimethylformamide*** - 68-12-2			30 mg/L - urine (Total N-methylformamide) - end of shift 30 mg/L - urine (N-Acetyl-S-(N-methylcarbamoyl)cysteine) - end of shift at end of workweek

#### **Monitoring and observation processes**

No applicable information was found.

#### **Engineering controls**

Showers  
Eyewash stations  
Ventilation systems.

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

<b>Eye/face protection</b>	Tight sealing safety goggles.
<b>Skin and body protection</b>	Long sleeved clothing. Chemical resistant apron. Antistatic boots. Wear suitable protective clothing.
<b>Hand protection</b>	Impervious gloves. Wear suitable gloves.
<b>Respiratory protection</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.
<b>General hygiene considerations</b>	Contaminated work clothing should not be allowed out of the workplace. Regular cleaning of equipment, work area and clothing is recommended. Wash hands before breaks and immediately after handling the product. Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this product.

## **SECTION 9: Physical and chemical properties**

#### **Information on basic physical and chemical properties**

<b>Appearance</b>	aqueous solution
<b>Colour</b>	colourless
<b>Physical state</b>	Liquid
<b>Odour</b>	Odourless
<b>Odour threshold</b>	No information available

<b>Property</b>	<b>Values</b>	<b>Remarks • Method</b>
<b>pH</b>	No information available	None known
<b>Melting point / freezing point</b>	No data available	None known
<b>Boiling point / boiling range</b>	> 100 °C	
<b>Flash point</b>	58 °C	
<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>Vapour pressure</b>	No data available	None known
<b>Vapour density</b>	No data available	None known
<b>Relative density</b>	No data available	None known
<b>Water solubility</b>	Partially miscible	
<b>Solubility(ies)</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>Decomposition 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

**Additional information**

<b>Explosive properties</b>	Not applicable
<b>Oxidising properties</b>	Not applicable

## SECTION 10: Stability and reactivity

**Stability** Stable under normal conditions.

**Possibility of hazardous reactions** None under normal processing.

**Sensitivity to mechanical impact** None.

**Sensitivity to static discharge** Yes.

**Conditions to avoid** Heat, flames and sparks. Excessive heat.

**Incompatible materials** None known based on information supplied.

**Hazardous decomposition products** None known based on information supplied.

## 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)	10,108.30 mg/kg
ATEmix (dermal)	3,971.10 mg/kg
ATEmix (inhalation-gas)	10,866.40 mg/l
ATEmix (inhalation-dust/mist)	5.42 mg/l

**Unknown acute toxicity**

0 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity

0 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas)

0 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist)

**Component Information**

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
N,N-Dimethylformamide***	= 2800 mg/kg ( Rat ) = 2000 mg/kg ( Rat )	= 1100 mg/kg ( Rat ) > 3.2 g/kg ( Rat )	-

**Skin corrosion/irritation** May cause skin irritation.

**Serious eye damage/eye irritation** Classification based on data available for ingredients. Causes serious eye irritation.

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

**Germ cell mutagenicity** Based on available data, the classification criteria are not met.

**Carcinogenicity** .

The table below indicates whether each agency has listed any ingredient as a carcinogen.

Chemical name	China	IARC
N,N-Dimethylformamide***	-	Group 2A

**Legend**

**IARC (International Agency for Research on Cancer)**

Group 2A - Probably Carcinogenic to Humans

**Reproductive toxicity** Contains a known or suspected reproductive toxin. Classification based on data available for ingredients. May damage fertility or the unborn child.

**Specific target organ toxicity — single exposure** Based on available data, the classification criteria are not met.

**Specific target organ toxicity — repeated exposure** Based on available data, the classification criteria are not met.

**Target organ effects** Liver. Kidney. Respiratory system. Eyes. Skin. Central Vascular System (CVS).

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

## SECTION 12: Ecological information

**Ecotoxicity** .

**Unknown aquatic toxicity** 0 % of the mixture consists of component(s) of unknown hazards to the aquatic environment

Chemical name	Algae/aquatic plants	Fish	Crustacea
N,N-Dimethylformamide***	EC50: >500mg/L (96h, Desmodemus subspicatus)	LC50: =10410mg/L (96h, Pimephales promelas) LC50: =6300mg/L (96h, Lepomis macrochirus) LC50: =9800mg/L (96h, Oncorhynchus mykiss)	EC50: 6800 - 13900mg/L (48h, Daphnia magna) EC50: =7500mg/L (48h, Daphnia magna) EC50: =8485mg/L (48h, Daphnia magna)

**Persistence and degradability** No information available.

**Bioaccumulative potential** There is no data for this product.

**Component Information**

Chemical name	Partition coefficient
N,N-Dimethylformamide***	-1.028

**Mobility in soil** No information available.

**Other adverse effects** .

## SECTION 13: Disposal considerations

**Waste chemicals** Should not be released into the environment. Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.



**Product Name** TMB Peroxidase EIA Sub Kit Solution A  
**Print date** 23-Dec-2020

**(M)SDS Number**

HRLS00109

**Contaminated packaging**

Empty containers pose a potential fire and explosion hazard. Do not cut, puncture or weld containers.

## SECTION 14: Transport information

### IMDG

**UN number** UN2265  
**UN proper shipping name** N,N-DIMETHYLFORMAMIDE SOLUTION  
**Description** UN2265, N,N-DIMETHYLFORMAMIDE SOLUTION, 3, III, (58°C C.C.)  
**Transport hazard class(es)** 3  
**Packing group** III  
**Marine pollutant** NP  
**EmS-No** F-E, S-D  
**Transport in bulk according to Annex II of MARPOL and the IBC Code** No information available

### IATA

**UN number** UN2265  
**UN proper shipping name** N,N-Dimethylformamide solution  
**Description** UN2265, N,N-Dimethylformamide solution, 3, III  
**Transport hazard class(es)** 3  
**Packing group** III  
**ERG Code** 3L

### China

**UN proper shipping name** N,N-DIMETHYL-FORMAMIDE SOLUTION  
**Description** .?1 N,N-DIMETHYL-FORMAMIDE SOLUTION.?2

### **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:

Listed. Chemical hazards.

Catalogue of occupational diseases:

Listed. Occupational poisoning.

Chemical name	Category
N,N-Dimethylformamide***	Chemical hazards

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

Inventory of hazardous chemicals

The table below indicates ingredients above the cut-off threshold considered as relevant which are listed. Verify that licence requirements are met.

Flammable liquid - Category 3 Weight-% 28

Chemical name	Inventory of hazardous chemicals
N,N-Dimethylformamide***	Listed

GB 18218-2009 Identification of major hazard installations for dangerous chemicals

Category

Flammable liquids

Threshold quantity (T)

5000

#### **List of hazardous chemicals under priority management**

Not applicable

<b>Product Name</b>	TMB Peroxidase EIA Sub Kit Solution A	<b>(M)SDS Number</b>	HRLS00109
<b>Print date</b>	23-Dec-2020		

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

Inventory of highly toxic goods	Not applicable
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**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
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**Measures for the Environmental Management of New Chemical Substances**

<b>IECSC - China Inventory of Existing Chemical Substances</b>	Contact supplier for inventory compliance status.
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**International Regulations**

<b>The Montreal Protocol on Substances that Deplete the Ozone Layer</b>	Not applicable
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<b>The Stockholm Convention on Persistent Organic Pollutants</b>	Not applicable
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<b>The Rotterdam Convention</b>	Not applicable
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**SECTION 16: Other information**

<b>Prepared By</b>	Bio-Rad Laboratories, Environmental Health and Safety
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<b>Print date</b>	23-Dec-2020
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<b>Revision Note</b>	*** Indicates this information has changed since the previous revision.
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**Abbreviations and acronyms**

<b>Legend</b>	<b>Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION</b>
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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) (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  
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**

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

<b>Product Name</b>	TMB Peroxidase EIA Sub Kit Solution A	<b>(M)SDS Number</b>	HRLS00109
<b>Print date</b>	23-Dec-2020		

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**End of Safety Data Sheet**



# SAFETY DATA SHEET

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

**Product Name** TMB Peroxidase EIA Sub Kit Solution B

**Print date** 23-Dec-2020

**Revision Number** 1

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

### Product identifier

**Product Name** TMB Peroxidase EIA Sub Kit Solution B

**Catalogue Number(s)** 9701860, 9701174

### Other means of identification

**Pure substance/mixture** Mixture

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

#### Corporate Headquarters

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

#### Manufacturer

Bio-Rad Laboratories, Life Science  
Group  
2000 Alfred Nobel Drive  
Hercules, California 94547  
USA\*\*\*

#### Legal Entity / Contact Address

Bio-Rad Laboratories Ltd.  
1st and 2nd Floor, Lumpini 1 Building  
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** Laboratory chemicals\*\*\*

## SECTION 2: Hazards identification

### **Emergency Overview**

Irritating to skin  
Irritating to eyes\*\*\*

**Appearance** aqueous solution

**Physical state** Liquid

**Odour** Odourless

### Classification of the substance or mixture

**Skin corrosion/irritation**

Category 2\*\*\*

**Serious eye damage/eye irritation**

Category 2A\*\*\*

### Label elements

**Print date** 23-Dec-2020

**Review Date**

23-Dec-2020



**Signal word**

Warning\*\*\*

**Hazard statements**

Causes skin irritation

Causes serious eye irritation\*\*\*

**Precautionary statements**

**Prevention**

Wash face, hands and any exposed skin thoroughly after handling

Wear protective gloves/protective clothing/eye protection/face protection\*\*\*

IF ON SKIN: Wash with plenty of water and soap

If skin irritation occurs: Get medical advice/attention

Take off all contaminated clothing and wash it before reuse\*\*\*

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

If eye irritation persists: Get medical advice/attention\*\*\*

**Physical and chemical hazards**

Not applicable.

**Health hazards**

Immediate Health Effects: Causes skin irritation (pain, redness and swelling). Causes severe irritation (tears, blurred vision and redness). Irritating, but will not permanently injure eye tissue.\*\*\*

Chronic effects: Not applicable.

**Environmental hazards**

Not applicable

**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
Hydrogen peroxide***	1 - 2.5	7722-84-1

## SECTION 4: First aid measures

**Description of necessary first aid measures**

**General advice**

Show this safety data sheet to the doctor in attendance.\*\*\*

**Inhalation**

Get medical attention immediately if symptoms occur. Remove to fresh air.\*\*\*

**Eye contact**

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.

	Remove contact lenses, if present and easy to do. Continue rinsing. Keep eye wide open while rinsing. Do not rub affected area. Get medical attention if irritation develops and persists.***
<b>Skin contact</b>	Wash off immediately with soap and plenty of water for at least 15 minutes. Get medical attention if irritation develops and persists.***
<b>Ingestion</b>	Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person. Do NOT induce vomiting. Call a doctor.***
<b><u>Most important symptoms and effects, both acute and delayed</u></b>	May cause redness and tearing of the eyes. Burning sensation.***
<b><u>For emergency responders</u></b>	Avoid contact with skin, eyes or clothing. Wear personal protective clothing (see section 8).***
<b><u>Note to doctors</u></b>	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>	No information available.
<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>	Ensure adequate ventilation. Avoid contact with skin, eyes or clothing. Use personal protective equipment as required.***
<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>	Take off contaminated clothing and wash it before reuse. Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Do not eat, drink or smoke when using this product.*** Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this product.*** See Section 8 for information on appropriate personal protective equipment.
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**Conditions for safe storage,  
including any incompatibilities**

Keep containers tightly closed in a dry, cool and well-ventilated place. Store according to product and label instructions.\*\*\*

**Incompatible materials**

Strong acids. Strong bases. Strong oxidising agents.\*\*\*

## SECTION 8: Exposure controls/personal protection

**Occupational exposure limits**

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Chemical name	China	ACGIH TLV
Hydrogen peroxide*** - 7722-84-1	TWA: 1.5 mg/m <sup>3</sup> STEL: 3.75 mg/m <sup>3</sup>	TWA: 1 ppm

**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.

**Engineering controls**

Showers  
Eyewash stations  
Ventilation systems.

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

**Eye/face protection**

If splashes are likely to occur, wear safety glasses with side-shields.\*\*\*

**Skin and body protection**

Long sleeved clothing. Wear suitable protective clothing.\*\*\*

**Hand protection**

Impervious gloves. Wear suitable gloves.\*\*\*

**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.\*\*\*

## SECTION 9: Physical and chemical properties

**Information on basic physical and chemical properties**

Appearance	aqueous solution
Colour	colourless
Physical state	Liquid
Odour	Odourless
Odour threshold	No information available

**Property**

**Values**

**Remarks • Method**

pH	No information available
Melting point / freezing point	No data available
Boiling point / boiling range	100 °C***
Flash point	No data available
Evaporation rate	No data available
Flammability (solid, gas)	No data available
Flammability Limit in Air	
Upper flammability or explosive limits	No data available

None known  
None known  
\*\*\*  
Not applicable  
None known  
None known  
None known

<b>Lower flammability or explosive limits</b>	No data available	
<b>Vapour pressure</b>	No data available	None known
<b>Vapour density</b>	No data available	None known
<b>Relative density</b>	No data available	None known
<b>Water solubility</b>	Miscible in water	***
<b>Solubility(ies)</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>Decomposition 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

**Additional information**

<b>Explosive properties</b>	Not applicable
<b>Oxidising properties</b>	Not applicable

## SECTION 10: Stability and reactivity

**Stability** Stable under normal conditions.

**Possibility of hazardous reactions** None under normal processing.

**Sensitivity to mechanical impact** None.  
**Sensitivity to static discharge** None.

**Conditions to avoid** None known based on information supplied.

**Incompatible materials** Strong acids. Strong bases. Strong oxidising agents.\*\*\*

**Hazardous decomposition products** None known based on information supplied.

## 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 (inhalation-dust/mist) 200.00\*\*\* mg/l\*\*\*

**Component Information** \*\*\*

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Hydrogen peroxide***	= 1518 mg/kg ( Rat )	= 9200 mg/kg ( Rabbit )	= 2000 mg/m <sup>3</sup> ( Rat ) 4 h

**Skin corrosion/irritation** Classification based on data available for ingredients. Irritating to skin.\*\*\*

**Serious eye damage/eye irritation** Classification based on data available for ingredients. Causes serious eye irritation.\*\*\*

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

**Germ cell mutagenicity** Based on available data, the classification criteria are not met.

**Carcinogenicity** \*\*\*

The table below indicates whether each agency has listed any ingredient as a carcinogen.\*\*\*

Chemical name	China	IARC
Hydrogen peroxide***	-	Group 3



**Legend**

\*\*\*

**IARC (International Agency for Research on Cancer)**  
Group 3 - Not Classifiable as to Carcinogenicity in Humans

<b>Reproductive toxicity</b>	Based on available data, the classification criteria are not met.
<b>Specific target organ toxicity — single exposure</b>	Based on available data, the classification criteria are not met.
<b>Specific target organ toxicity — repeated exposure</b>	Based on available data, the classification criteria are not met.
<b>Target organ effects</b>	Respiratory system. Eyes. Skin.***
<b>Aspiration hazard</b>	Based on available data, the classification criteria are not met.

## SECTION 12: Ecological information

**Ecotoxicity**

\*\*\*

**Unknown aquatic toxicity** 0 % of the mixture consists of component(s) of unknown hazards to the aquatic environment\*\*\*

Chemical name	Algae/aquatic plants	Fish	Crustacea
Hydrogen peroxide***	EC50: =2.5mg/L (72h, Chlorella vulgaris)	LC50: 10.0 - 32.0mg/L (96h, Oncorhynchus mykiss) LC50: 18 - 56mg/L (96h, Lepomis macrochirus) LC50: =16.4mg/L (96h, Pimephales promelas)	EC50: 18 - 32mg/L (48h, Daphnia magna) EC50: =7.7mg/L (24h, Daphnia magna)

**Persistence and degradability** No information available.

**Bioaccumulative potential** There is no data for this product.

**Mobility in soil** No information available.

## 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:

Listed. Chemical hazards.\*\*\*

Catalogue of occupational diseases:

Listed. Occupational poisoning.\*\*\*

Chemical name	Category
Hydrogen peroxide***	Chemical hazards

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

Inventory of hazardous chemicals

The table below indicates ingredients above the cut-off threshold considered as relevant which are listed.\*\*\*

Weight-% 1\*\*\*

Chemical name	Inventory of hazardous chemicals
Hydrogen peroxide***	Listed

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

**Print date** 23-Dec-2020

**Revision Note** \*\*\* Indicates this information has changed since the previous revision.

#### **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)

**Product Name** TMB Peroxidase EIA Sub Kit Solution B  
**Print date** 23-Dec-2020

**(M)SDS Number**

HRLS00115

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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  
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

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**End of Safety Data Sheet**