

Revision date 13-May-2021

Revision Number 2

## 1. IDENTIFICATION

### Product identifier

**Product Name** ProteOn Hydrochloric Acid Solution

### Other means of identification

**Catalogue Number(s)** 1762250, 10004011

**Registration Number(s)** No information available

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

**Recommended use** Laboratory chemicals

### Supplier's details

#### Corporate Headquarters

Bio-Rad Laboratories Inc.  
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

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House 86-87, Udyog Vihar Phase  
IV Gurgaon 122005 Haryana India Bio-Rad  
Laboratories (Pty) Ltd.  
34 Bolton Road  
Parkwood, Johannesburg 2193  
South Africa

### Technical Service

India: 91-124-4029300 or 1-800-180-1224  
South Africa: 27-11-442-85-08  
India: support.india@bio-rad.com  
South Africa: cdg\_techsupport\_eemea@bio-rad.com

### Emergency telephone number

**24 Hour Emergency Phone Number** CHEMTREC India: 000-800-100-7141  
CHEMTREC South Africa: 0-800-983-611

## 2. HAZARDS IDENTIFICATION

### Classification of the substance or mixture

Not a hazardous substance or mixture according to the Globally Harmonised System (GHS)

Skin corrosion/irritation	Category 1
Serious eye damage/eye irritation	Category 1

### GHS Label elements, including precautionary statements



**Signal word**

**Danger**

### Hazard statements

Causes severe skin burns and eye damage

**Precautionary Statements - Prevention**

Do not breathe dust/fume/gas/mist/vapours/spray  
Wash face, hands and any exposed skin thoroughly after handling  
Wear protective gloves/protective clothing/eye protection/face protection

**Precautionary Statements - Response**

Immediately call a POISON CENTRE or doctor

**Eyes**

Immediately call a POISON CENTRE or doctor

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

**Skin**

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower]

Wash contaminated clothing before reuse

**Inhalation**

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

Immediately call a POISON CENTRE or doctor

**Ingestion**

IF SWALLOWED: rinse mouth. Do NOT induce vomiting

**Precautionary Statements - Disposal**

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

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

No information available

**3. COMPOSITION/INFORMATION ON INGREDIENTS****Substance**

Not applicable

**Mixture**

Chemical name	CAS No	Weight-%
Hydrochloric acid 7647-01-0	7647-01-0	0.38

**4. FIRST AID MEASURES****Description of necessary first aid measures**

<b>General advice</b>	Immediate medical attention is required. Show this safety data sheet to the doctor in attendance.
<b>Inhalation</b>	If breathing has stopped, give artificial respiration. Get medical attention immediately. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. If breathing is difficult, (trained personnel should) give oxygen. Delayed pulmonary edema may occur. Get immediate medical advice/attention. Remove to fresh air.
<b>Skin contact</b>	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Get immediate medical advice/attention.
<b>Eye contact</b>	Get immediate medical advice/attention. 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.
<b>Ingestion</b>	Get immediate medical advice/attention. Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person. Do NOT induce vomiting.

**For emergency responders**

**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 direct contact with skin. Use barrier to give mouth-to-mouth resuscitation. Avoid contact with skin, eyes or clothing. Wear personal protective clothing (see section 8).

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

**Symptoms** Burning sensation.

**Indication of immediate medical attention and special treatment needed, if necessary**

**Note to doctors** Product is a corrosive material. Use of gastric lavage or emesis is contra-indicated. Possible perforation of stomach or esophagus should be investigated. Do not give chemical antidotes. Asphyxia from glottal edema may occur. Marked decrease in blood pressure may occur with moist rales, frothy sputum, and high pulse pressure.

## 5. FIREFIGHTING MEASURES

**Suitable Extinguishing Media**

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

**Large Fire** CAUTION: Use of water spray when fighting fire may be inefficient.

**Unsuitable extinguishing media** Do not scatter spilled material with high pressure water streams.

**Specific hazards arising from the chemical**

**Specific hazards arising from the chemical** The product causes burns of eyes, skin and mucous membranes. Thermal decomposition can lead to release of irritating gases and vapours.

**Special protective actions for fire-fighters**

**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** Attention! Corrosive material. Ensure adequate ventilation. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak. Avoid contact with skin, eyes or clothing. Use personal protective equipment as required.

**Environmental precautions**

**Environmental precautions** Should not be released into the environment. Do not allow to enter into soil/subsoil. Prevent product from entering drains. Prevent further leakage or spillage if safe to do so.

**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 labelled containers.

**Prevention of secondary hazards** Clean contaminated objects and areas thoroughly observing environmental regulations.

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

## 7. HANDLING AND STORAGE

### Precautions for safe handling

#### Advice on safe handling

In case of insufficient ventilation, wear suitable respiratory equipment. Handle product only in closed system or provide appropriate exhaust ventilation. 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.

### Conditions for safe storage, including any incompatibilities

#### Storage Conditions

Protect from moisture. Store away from other materials. 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.

#### Incompatible materials

Acids. Bases. Oxidising agent.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Control parameters

#### Exposure guidelines

Chemical name	ACGIH TLV	OSHA PEL	Ontario	European Union	
Hydrochloric acid 7647-01-0	Ceiling: 2 ppm	(vacated) Ceiling: 5 ppm (vacated) Ceiling: 7 mg/m³ Ceiling: 5 ppm Ceiling: 7 mg/m³	CEV: 2 ppm	TWA: 5 ppm TWA: 8 mg/m³ STEL: 10 ppm STEL: 15 mg/m³	
Chemical name	China	Japan Society of Occupational Health	Korea	Australia	Taiwan
Hydrochloric acid 7647-01-0	Ceiling: 7.5 mg/m³ Ceiling	Ceiling: 2 ppm Ceiling: 3.0 mg/m³	TWA: 1 ppm STEL: 2 ppm	5 ppm Peak 7.5 mg/m³ Peak	Ceiling: 5 ppm Ceiling: 7.5 mg/m³

### Appropriate engineering controls

#### Engineering controls

Showers  
Eyewash stations  
Ventilation systems.

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

#### Eye/face protection

Face protection shield. Tight sealing safety goggles.

#### Skin and body protection

Long sleeved clothing. Chemical resistant apron. 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

Remove and wash contaminated clothing and gloves, including the inside, before re-use. 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.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### Information on basic physical and chemical properties

#### Physical state

Liquid

Appearance	aqueous solution	Odour	Odourless
Colour	colourless	Odour threshold	No information available
<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>	
pH	1		
Melting point / freezing point	0 °C / 32 °F		
Boiling point / boiling range		No information available	
Flash point	> 100 °C / 212 °F		
Evaporation rate		No information available	
Flammability (solid, gas)		No information available	
Upper/lower flammability or explosive limits			
Upper flammability or explosive limits	Not applicable		
Lower flammability or explosive limits	Not applicable		
Vapour pressure		No information available	
Vapour density		No information available	
Relative density		No information available	
Solubility(ies)			
Water solubility	Miscible in water		
Solubility in other solvents		No information available	
Partition coefficient		No information available	
Autoignition temperature		No information available	
Decomposition temperature		No information available	
Viscosity			
Kinematic viscosity		No information available	
Dynamic viscosity			
<u>Other information</u>			
Oxidising properties	Not applicable		
Explosive properties	Not applicable		

## 10. STABILITY AND REACTIVITY

### Reactivity

Reactivity No information available.

### Chemical stability

Stability Stable under normal conditions.

### Explosion data

Sensitivity to mechanical impact None  
Sensitivity to static discharge None.

### Possibility of hazardous reactions

Possibility of hazardous reactions None under normal processing.

### Conditions to avoid

Conditions to avoid Exposure to air or moisture over prolonged periods.

### Incompatible materials

Incompatible materials Acids. Bases. Oxidising agent.

### Hazardous decomposition products

Hazardous decomposition products None known based on information supplied.

## 11. TOXICOLOGICAL INFORMATION

### Information on the likely routes of exposure

#### Product Information

<b>Inhalation</b>	Corrosive by inhalation. (based on components). Inhalation of corrosive fumes/gases may cause coughing, choking, headache, dizziness, and weakness for several hours. Pulmonary edema may occur with tightness in the chest, shortness of breath, bluish skin, decreased blood pressure, and increased heart rate. Inhaled corrosive substances can lead to a toxic edema of the lungs. Pulmonary edema can be fatal. Specific test data for the substance or mixture is not available.
<b>Eye contact</b>	(based on components). Corrosive to the eyes and may cause severe damage including blindness. Specific test data for the substance or mixture is not available. Causes serious eye damage. May cause irreversible damage to eyes.
<b>Skin contact</b>	Corrosive. (based on components). Causes burns. Specific test data for the substance or mixture is not available.
<b>Ingestion</b>	Causes burns. (based on components). Ingestion causes burns of the upper digestive and respiratory tracts. May cause severe burning pain in the mouth and stomach with vomiting and diarrhea of dark blood. Blood pressure may decrease. Brownish or yellowish stains may be seen around the mouth. Swelling of the throat may cause shortness of breath and choking. May cause lung damage if swallowed. May be fatal if swallowed and enters airways. Specific test data for the substance or mixture is not available.
<b>Symptoms</b>	Coughing and/ or wheezing. Redness. Burning. May cause blindness.

### Acute toxicity

#### Numerical measures of toxicity

#### Component Information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Hydrochloric acid	238 - 277 mg/kg ( Rat )	> 5010 mg/kg ( Rabbit )	= 1.68 mg/L ( Rat ) 1 h

### Delayed and immediate effects and also chronic effects from short and long term exposure

<b>Skin corrosion/irritation</b>	Classification based on data available for ingredients. Causes burns.
<b>Serious eye damage/irritation</b>	Classification based on data available for ingredients. Causes burns. Risk of serious damage to eyes.
<b>Respiratory or skin sensitisation</b>	No information available.
<b>Germ cell mutagenicity</b>	No information available.
<b>Carcinogenicity</b>	No information available.

Chemical name	IARC
Hydrochloric acid	Group 3

<b>Reproductive toxicity</b>	No information available.
<b>STOT - single exposure</b>	No information available.
<b>STOT - repeated exposure</b>	No information available.

**Aspiration hazard** No information available.

## 12. ECOLOGICAL INFORMATION

### Toxicity

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

### Ecotoxicity

Chemical name	Algae/aquatic plants	Fish	Crustacea
Hydrochloric acid	-	LC50: =282mg/L (96h, <i>Gambusia affinis</i> )	-

### Persistence and degradability

No information available.

### Bioaccumulative potential

No information available.

### Mobility

**Mobility in soil** No information available.

**Mobility** No information available.

### Other adverse effects

No information available.

## 13. DISPOSAL CONSIDERATIONS

### Disposal 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

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

**IATA** Not regulated

**RID** Not regulated

**ADR** Not regulated

**ADN** Not regulated

**Special precautions for user** Special provisions from the regulations relative to the specified mode of transport are noted by numeric code. Refer to the regulations for the full text of special provisions.

## 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

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

**Revision date** 13-May-2021

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

### 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
C	Carcinogen		

#### 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**