

Electrode cleaning solution for PROTEINS

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

1.1 Product identifier

Trade name: Electrode cleaning solution for proteins
Code: 32208063; 32208093

1.2 Relevant identified uses of the substance or mixture and uses advised against

General use: Chemical solutions for pH/ORP sensor maintenance.

1.3 Details of the supplier of the safety data sheet

Company name: GIORGIO BORMAC s.r.l.
Street/POB-No.: via della meccanica, 25
Postal Code, city: 41012 Carpi MO
Italia
WWW: www.giorgiobormac.com
Telephone: +39 059 653 274
Telefax: +39 059 653 282
Dept. responsible for information: Massimo Brachi,
Telefono: +39 059 653 274, e-mail m.brachi@giorgiobormac.com

1.4 Emergency telephone number

Centro Antiveneni: Pavia 0382/24444; Milano 02/66101029; Bergamo 800883300; Firenze 055/4277238; Roma Gemelli 06/3054343; Roma Umberto I 06/49970698; Napoli 081/7472870; Torino 011/6637637; Padova 049/8275078

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to EC regulation 1272/2008 (CLP)

The product is classified as dangerous according to the provisions of Regulation (EC) 1272/2008 (CLP) (and subsequent amendments and adjustments). The product therefore requires a safety data sheet in accordance with the provisions of Regulation (EC) 1907/2006 and subsequent amendments.

Further information on health and / or environment hazards can be found in sections 11 and 12 of this document.



GHS08 health hazard

Resp. Sens. 1 H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled

2.2 Label elements

Labelling (CLP)

Hazard statements:



GHS08 health hazard

Hazardous statements:

H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled H290

Precautionary statements:

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

Contains:

pepsin

2.3 Other hazards



Based on the available data, the product does not contain PBT or vPvB substances in excess of 0.1%.

SECTION 3: Composition / information on ingredients



3.1 Substances: not applicable

3.2 Mixtures

Chemical characterisation: Mixture of inorganic salts in aqueous solution with dyestuff.

		Conc %	Classificazione 1271/2008 (CLP)
CAS 9001-75-6 EINECS 232-629-3 INDEX -647-008-00-6	pepsin	< 2,5%	  Resp. Sens. 1, H334 Skin Irrit. 2, H315; Eye Irrit. 2, H319; STOT SE 3, H335

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CAS 7647-01-0 CE 231-595-7 INDEX 017-002-01-X Nr. Reg. 01-2119484862-27-XXXX	hydrochloric acid	0,25 – 0,35 %		Met. corr. 1, H290; Skin corr. 1B H314; H335, Nota B		STOT SE 3,
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Additional information: Top range value excluded.
The full text of the hazard statements (H) is given in section 16 of the card.

SECTION 4: First aid measures

4.1 Description of first aid measures

In case of inhalation: Call a physician immediately. Bring the subject outdoors, away from the scene. If breathing ceases, practice artificial respiration. Adequate precautions for the rescuer.

Following skin contact: Remove residues with water. Remove contaminated clothing. In case of skin reactions, consult a physician.

After eye contact: Remove any contact lenses. Wash immediately and abundantly with water for at least 30/60 minutes, opening your eyelids well. Consult a physician immediately.

After swallowing: Drink as much water as possible. Consult a physician immediately. Do not induce vomiting unless specifically authorized by your doctor.

4.2 Most important symptoms and effects, both acute and delayed

For symptoms and effects due to the contained substances, see ch. 11

HYDROCHLORIC ACID:

Dose-dependent acute effects.
 Cute: irritation, burn, ulcer
 Eyes: irritation, corneal damage
 Nose: irritation
 First airway: irritation
 Lungs: Irritation
 Digestive system: if retrosternal and epigastric pain is ingested, hematemesis
 Chronic Effects.
 Cute: irritation, depigmentation, skin dryness, hair removal
 Eyes: irritation
 Nose: irritation
 First airway: irritation
 Lungs: Irritation

4.3 Indication of any immediate medical attention and special treatment needed

HYDROCHLORIC ACID
 Useful emergency medical intervention
 There may be delayed pulmonary edema within 48 hours.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media: The extinguishing media are the traditional ones: carbon dioxide, foam, powder and water spray.

5.2 Special hazards arising from the substance or mixture

Fires in the immediate vicinity may cause the development of dangerous vapours.

5.3 Advice for firefighters

Special protective equipment for firefighters:

In case of surrounding fires: Cool down with water jets the containers to prevent product decomposition and the development of substances potentially hazardous for health. Always wear full fire prevention gear. Collect extinguishing water to prevent it from draining into the sewer. Dispose of contaminated water used for extinction and the remains of the fire according to applicable regulations.

EQUIPMENT

Hardhat with visor, fireproof clothing (fireproof jacket and trousers with straps around arms, legs and waist), work gloves (fireproof, cut proof and dielectric), a depressurised mask with facemask covering the whole of the operator's face or the self (self-protector) in the event of large quantities of foam.

Additional information: Hazchem-Code: -

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Ventilate the area before working. Remove people not involved and wear proper protective equipment mentioned in item 8.

6.2 Environmental precautions

Discharge into the environment must be avoided.

6.3 Methods and material for containment and cleaning up

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Aspirate the spilled product in a suitable container. Evaluate the compatibility of the container to be used with the product, by checking section 10.

Absorb remaining material with inert absorbent material.

Ensure sufficient ventilation of the site affected by the leak. Check for any incompatibilities for container material in section 7.

Disposal of contaminated material must be performed in accordance with item 13.

Store in special closed containers and dispose of according to ordinance. Wash spill area with plenty of water.

6.4 Reference to other sections

Refer additionally to section 8 and 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Advice on safe handling: Avoid contact with skin and eyes.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storerooms and containers:

Keep container tightly closed. Store at room temperature.

Storage class: 12 = Non-combustible liquids

7.3 Specific end use(s)

Chemical solution for pH/ORP sensor maintenance

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Normative requirements:

EU OEL EU Directive 2009/161/EU; Directive 2006/15/EC; Directive 2004/37/EC; Directive 2000/39/EC.
TLV-ACGIH ACGIH 2014

Hydrochloric acid

Threshold limit value

Type	State	TW A/8h		STEL/15min		
		mg/m3	ppm	mg/m3	ppm	
OEL	ITA	8	5	15	10	
OEL	EU	8	5	15	10	
TLV-ACGIH				2,9 (C)	2 (C)	A4

Expected Environmental Impact Concentration - PNEC

Reference value in fresh water	0,036	mg/l
Reference value in marine water	0,036	mg/l
Reference value for water, intermittent release	0,045	mg/l
Reference value for the terrestrial compartment	0,036	mg/l

Health - Non-Effective Derived Level - DNEL / DMEL

Exposure	Effects on consumers.			Effects on workers					
	Acute	Topic	Systemic Acute	Topic chronic	Systemic chronic	Acute	Topic chronic	Systemic chronic	
Inalazione						VND	15 mg/m3	VND	8 mg/m3

Legend:

(C) = CEILING; INALAB = Inhalable fraction; RESPIR = Breathable fraction; TORAC = Toraceal Fraction.

VND = Danger identified but no DNEL / PNEC available; NEA = no expected exposure; NPI = no identified hazard

8.2 Exposure controls

Given that the use of appropriate technical measures should always have priority over personal protection equipment, ensure good ventilation at the workplace by means of effective local suction.

When choosing personal protective equipment, ask your chemical suppliers if necessary.

Personal protective equipment must bear the CE marking attesting to their compliance with applicable regulations.

Provide emergency shower with visocular pan.

Personal protection equipment

Occupational exposure controls

Respiratory protection:

In case of exceeding the threshold value (eg TLV-TWA) of the substance or one or more of the substances present in the product, it is advisable to wear a B-type filter mask whose class (1, 2 or 3) be chosen in relation to the limit of use concentration. (standard EN 14387). In case there are gases or vapors of different nature and / or gases or vapors with particles (aerosols, fumes, fogs, etc.), combine filters should be provided.

The use of respiratory protection means is necessary if the technical measures taken are not sufficient to limit the exposure of the worker to the threshold values taken into account. The protection offered by the masks is however limited.

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If the substance considered to be odorless or its odor threshold is higher than its TLV-TWA and in case of emergency, wear an open-air compressed-air breathing apparatus (EN 137) or a breathing apparatus external air (standard EN 138). For the correct choice of respiratory protective device, refer to EN 529.

Hand protection: Protect your hands with Category III work gloves (standard EN 374).
For the definitive choice of material for work gloves, consider compatibility, degradation, breaking time and permeation. In the case of preparations, the resistance of work gloves to chemical agents must be verified before use as unpredictable. The gloves have a wear time that depends on the length and type of wear.

Eye protection: It is advisable to wear a cap or visor visor combined with hermetic spectacles (standard EN 166).

Body protection: Wear work clothes with long sleeves and safety footwear for professional use in category II (see Directive 89/686 / EEC and EN ISO 20344). Wash with soap and water after removing protective clothing.

General protection and hygiene measures: Emissions from production processes, including those from ventilation equipment, should be checked for compliance with environmental protection legislation.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance:	Form: liquid Colour: light yellow
Odour:	characteristic
Odour threshold:	no data available
pH value:	at 20 °C: 2-4
Melting point/freezing point:	no data available
Initial boiling point and boiling range:	approx. 100 °C
Flash point/flash point range:	no data available
Evaporation rate:	no data available
Flammability:	no data available
Explosion limits:	no data available
Vapour pressure:	no data available
Vapour density:	no data available
Density:	at 20 °C: approx. 1.0 g/mL
Water solubility:	at 20 °C: completely miscible
Partition coefficient:	n-octanol/water: no data available
Auto-ignition temperature:	no data available
Thermal decomposition:	no data available
Viscosity, kinematic:	no data available
Explosive properties:	no data available
Oxidizing characteristics:	no data available

9.2 Other information

Additional information: no data available

SECTION 10: Stability and reactivity

10.1 Reactivity

There are no particular dangers of reaction with other substances under normal conditions of use.

10.2 Chemical stability

Product is stable under normal storage conditions.

10.3 Possibility of hazardous reactions

Under normal use and storage conditions, no hazardous reactions are anticipated.

10.4 Conditions to avoid

Avoid overheating of the solution.

10.5 Incompatible materials

Hydrochloric acid: Alkalies, organic substances, strong oxidants and metals.

10.6 Hazardous decomposition products

Thermal decomposition: no data available

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Toxicological effects: In the absence of experimental toxicological data on the product, any dangers of the health product have been evaluated on the basis of the properties of the substances contained, according to the criteria laid down by the classification standards for classification. Consider therefore the concentration of the individual hazardous substances mentioned in Sect. 3, to assess the toxicological effects of exposure to the product.

The product causes serious eye injuries and can cause corneal opacity, iris lesions, irreversible eye color.

Acute effects: In contact with skin irritation is caused by erythema, edema, dryness and cracking.

Swallowing may cause health disorders, including abdominal pain with burns, nausea and vomiting

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Hydrochloric acid
LD50 (Oral) .900 mg / kg rabbit
LC50 (Inhalation) .3124 ppm / 1h rat

SECTION 12: Ecological information

Use in accordance with good working practices, avoiding dispersing the product in the environment. Notify the competent authorities if the product has reached waterways or sewers or contaminated soil or vegetation.

12.1 Toxicity

Hydrochloric acid
LC50 - Fish. 3.25 mg / l / 96h (3.25 - 3.5) Bluegill (*Lepomis macrochirus*)

Hydrogen chloride
LC50 - Fish. 22mg / l / 96h *Pimephales promelas* - non-hydrated substance - ECOTOX
EC50 - Crustaceans. 9.6 mg / l / 48h *Daphnia magna* (large water flea) - non-hydrated substance - ECOTOX

12.2. Persistence and degradability

Further details: no data available

12.3 Bioaccumulative potential

Partition coefficient: n-octanol/water:
no data available

12.4 Mobility in soil

no data available

12.5 Results of PBT and vPvB assessment

Based on the available data, the product does not contain PBT or vPvB substances in excess of 0.1%.

12.6 Other adverse effects

HYDROCHLORIC ACID
Despite dilution, form water with corrosive mixtures. Harmful effect due to pH variation.

SECTION 13: Disposal considerations**13.1 Waste treatment methods**

Reuse, if possible. Product residues are considered to be hazardous special waste. The hazards of waste that contain this product in part must be evaluated in accordance with the applicable laws. Disposal must be entrusted to a waste management company, subject to national and, where appropriate, local legislation.

CONTAMINATED PACKAGING

Contaminated packaging should be sent to recovery or disposal in accordance with national waste management regulations.

SECTION 14: Transport information**14.1 UN number**

ADR, IMDG, IATA UN 1760

14.2 UN proper shipping name

ADR/RID : Corrosive liquids, n.o.s. (Hydrochloric acid)
IMDG : CORROSIVE LIQUID, N.O.S. (Hydrochloric acid)
IATA : CORROSIVE LIQUID, N.O.S. (Hydrochloric acid)

14.3 Transport hazard class(es)

ADR/RID : Class: 8 Label: 8



IMDG : Class: 8 Label: 8



IATA : Class: 8 Label: 8



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14.4 Packing group

ADR/RID, IMDG, IATA-DGR: III

14.5 Environmental hazards

Marine pollutant: No

14.6 Special precautions for user

ADR/RID	HIN – Kemler: 80 Special Provision	Limited Quantity: 5 L	Tunnel restriction: (E)
IMGD	EMS: F-A, S-B	Limited Quantity: 5 L	
IATA	Cargo: Pass: Special Provision: A3, A803	Limited Quantity: 60 L Limited Quantity: 5 L	Packaging instruction: 856 Packaging instruction: 852

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

no data available

SECTION 15: Regulatory information

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

National regulations - Great Britain

Hazardchem-Code: No data available

National regulations - USA

Hazard rating systems:



NFPA Hazard Rating:
Health: 1 (Slight)
Fire: 0 (Minimal)
Reactivity: 0 (Minimal)
HMIS Version III Rating:
Health: 1 (Slight)
Flammability: 0 (Minimal)
Physical Hazard: 0 (Minimal)
Personal Protection: B

HEALTH	1
FLAMMABILITY	0
PHYSICAL HAZARD	0
	B

15.2 Chemical Safety Assessment

A chemical safety assessment has been carried out for the following substances:
Hydrochloric acid

SECTION 16: Other information

Further information

Wording of the H-phrases under paragraph 2 and 3:

Met. Corr. 1	Corrosive substance or mixture for metals, category 1
Acute Tox. 4	Acute toxicity, category 4
Skin Corr. 1B	Skin corrosion, category 1B
Eye Dam. 1	Serious eye injuries, category 1
Skin Irrit. 2	Skin irritation, category 2
STOT SE 3	Specific Target Organ Toxicity - Single Exposure, Category 3

Date of Revision 3: 22/10/2015. Review of head data.

Date of Revision 4: 22/03/2018. General revision

Department issuing data sheet

Contact person: see section 1: Dept. responsible for information

For abbreviations and acronyms, see: ECHA Guidance on information requirements and chemical safety assessment, chapter R.20 (Table of terms and abbreviations).

The information in this data sheet has been established to our best knowledge and was up-to-date at time of revision. It does not represent a guarantee for the properties of the product described in terms of the legal warranty regulations.