



Material Safety Data Sheet  
according 1907/2006/EC (REACH), 2015/830/EU

## pH -

Date : 01 June 2016

Version No.6

Review date: 10/04/2022

### 1 SECTION 1: IDENTIFICATION OF THE SUBSTANCE/ MIXTURE AND OF THE COMPANY/ UNDERTAKING

#### Product identifier

1.1 A. Product name: pH-

1.2 **Relevant identified uses of the substance or mixture and uses advised against** **Relevant identified uses of the substance or mixture:**  
pH- decreases the pH in hydroponic nutrient solutions.

**Uses advised against:**

Any use not specified in this section or in section 7.3

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

Supplier identification Terra Aquatica  
Address 4, boulevard du Biopole 32500 FLEURANCE  
Phone number +33 (0)5 62 06 08 30  
E-mail address [info@terraaquatica.com](mailto:info@terraaquatica.com)

#### 1.4 Emergency telephone number

Medical services/  
emergency services 999

Fire and rescue services 999

Police 101

1.4 EU Emergency call line 112

Toxicological Information Centre ORFILA (INRS) +33 01 45 41 59 59

Toxicological Information Centre South West +33 05 61 77 74 47

### 2 SECTION 2 : HAZARDS IDENTIFICATION

#### 2.1 Classification of the substance or mixture

Reg. 1272/2008/CLP In accordance with Regulation No. 1272/2008 (CLP), the product is considered

dangerous.

Additional information :

Hazards for humans Causes severe skin burns and eye damage.  
Environmental hazards None  
Physico-chemical hazards None  
Other hazards None

#### Labelling elements

Labelling according to Regulation (EC) No 1272/2008 [CLP]

Hazard pictograms



Signal word DANGER

2.2 Substances Nitric Acide

Hazard statements H:  
H314 Causes skin burns  
H318 Causes serious eye damage.

Precautionary statements P:  
Phrases P  
P101 If you consult a doctor, keep the container or label available  
P102 Keep out of reach of children  
P103 Read the label before use  
P280 Wear protective gloves. Wear eye or face protection. Wear protective clothing.

#### 2.3 Other hazards

None

### 3 SECTION 3 : COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances Not applicable

3.2 Mixtures Name pH-

Description pH- consists of nitric acid, phosphoric acid and citric acid.

Chemical name	Weight % content (or range)	CAS NUMBER
Citric acid	8.9	5949-29-1
Phosphoric acid	10	7664-38-2
Nitric acid	<3	7697-37-2

### 4 SECTION 4 : FIRST AID MEASURES

In general, if in doubt or if symptoms persist, seek medical attention. Do not give anything by mouth to an unconscious person.

#### 4.1 Description of first aid measures

	Following eye contact	Wash immediately with plenty of water, keeping the eyelids well apart, and consult a specialist.
	Following skin contact	Rinse the irritated area thoroughly with soapy water. Remove contaminated clothing.
	Following ingestion	Do not induce vomiting, seek medical attention immediately by showing the product label.
	Following inhalation	Move the victim to fresh air. Keep her warm and at rest. Seek medical attention if breathing is impaired.
	Self-protection of the first aider	Depending on the first aid setting, wear appropriate protective equipment including a mask or filtered respirator and, if necessary, in the presence of another co-worker. Always wear protective gloves and a resuscitation mask in case of artificial respiration. Wash hands thoroughly after giving first aid. If your clothing becomes contaminated with a chemical during first aid procedures, change it.
	Other information	For further details of first aid administration, including but not limited to more serious health effects, the doctor may consult the Toxicological Information Centre, hotline: see section 1.4
4.2	<b>Most important symptoms and effects, both acute and delayed</b>	No known effect
4.3	<b>Indication of any immediate medical attention and special treatment needed</b>	If decomposition products are inhaled in a fire, symptoms may be delayed. The exposed person may need to be placed under medical supervision for 48 hours.

## 5 SECTION 5 : FIREFIGHTING MEASURES

	<b>Extinguishing media</b>	The product is not flammable. Fire hazard low due to the flammability characteristics of the product under normal storage, handling and use conditions. Suitable extinguishing media: In the event of a nearby fire or continued combustion, caused by improper handling, storage or use, the following extinguishing media may be used: carbon dioxide (CO <sub>2</sub> ), foam, chemical powders, and in the event of a widespread fire, also water spray. Inappropriate extinguishing media: In case of fire, do not use: Water jet
5.1		
	<b>Special hazards arising from the substance or mixture</b>	Due to its flammability characteristics, the product does not contain a fire hazard under normal conditions of storage, handling and use. A fire in the surrounding space will often produce thick black smoke. Exposure to compositional products may result in health hazards. Do not breathe fumes. Decomposition products may include the following materials: oxides of nitrogen phosphorus oxides Carbon Dioxide Carbon monoxide This product is toxic to aquatic life. Fire water contaminated with this product should be contained and prevented from being discharged to a watercourse or sewer.
5.2		

**Advice for firefighters**Protective actions to be taken when fighting fires

Quickly isolate the site by evacuating all persons from the area near the incident in case of fire. Do not take any action involving a personal risk or in the absence of adequate training. Keep containers away from fire if it can be done without risk. Use water or water spray to keep containers exposed to fire cool.

5.3

Appropriate protective equipment

The product is not combustible. In the event of a fire in the surrounding area, appropriate extinguishing media and protective equipment may be used for the other materials present (full protective clothing and personal respiratory equipment), in accordance with EN469 for a basic level of protection against chemical incidents. Have a minimum of emergency facilities or intervention elements (fire blankets, medicine kit, etc.) in accordance with Directive 89/654/EC.

**Other information**

Additional provisions:

5.4

Respond in accordance with the Internal Emergency Plan and the Fact Sheets on Accident and Other Emergency Response. Remove all sources of ignition. In case of fire, if possible, refrigerate containers and storage tanks for products that may ignite and explode as a result of high temperatures. Avoid spilling products used to extinguish the fire in the aquatic environment.

## 6 SECTION 6 : ACCIDENTAL RELEASE MESURES

### 6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

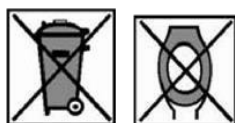
Ensure good ventilation.

In case of accidental release of a large quantity, evacuate all personnel and allow access only to trained operators with appropriate personal protective equipment. (See section 8)

For emergency responders

Responders will be equipped with appropriate personal protective equipment. (See section8)

### Environmental precautions



6.2

Avoid contamination of soil, sewers, surface water and groundwater. If this happens, inform the competent authorities.

### Methods and material for containment and cleaning up

6.3

For containment:

Sewer coverage

For cleaning up:

Mechanically collect the spilled product and remove the remains by water jets. Provide sufficient ventilation of the spillage area. Contaminated material must be disposed of in accordance with point 13.

### Reference to other sections

6.4

Collect the residues in an identified container: see point 13 for disposal.

Personal protective equipment: see section 8

Withdrawal considerations: see section 13.

See section 1 for emergency contact information.

## 7 SECTION 7 : HANDLING AND STORAGE

7.1	<b>Precautions for safe handling</b>	<p>Avoid formation of suspended particles and dispersion of the product in the air.</p> <p>Provide adequate ventilation in areas where suspended particles develop.</p> <p>Keep away from flames and sparks. Do not smoke. Keep away from heat and other sources of fire.</p> <p>Do not eat, drink or smoke in work areas.</p> <p>Wash hands after each use.</p>
	<b>Conditions for safe storage, including any incompatibilities</b>	<p>Ensure adequate local ventilation or exhaust.</p> <p>Store container upright, tightly closed in a cool, dry, well-ventilated place. Keep under lock and key.</p> <p>Close containers before and after each use to avoid sources of moisture or heat. Store in labelled bottles.</p> <p>Store in waterproof areas if possible.</p>
	<b>Specific end use(s)</b>	<p>No specific end uses.</p> <p>Good practices: keep in closed containers. Close containers before and after each use to avoid sources of moisture or heat. Store in areas with waterproof pavement.</p>

## 8 SECTION 8 : EXHIBITION CONTROLS/INDIVIDUAL PROTECTION

8.1	<b>Control parameters</b>	<p>No applicable.</p> <p>Respect good industrial hygiene practices</p>
8.2	<b>Exposure controls</b>	
	Appropriate engineering controls	<p>No special controls. Good general ventilation should be sufficient to control worker exposure to airborne contaminants.</p>
	Individual protection measures, such as personal protective equipment	<p>Use individual protection placed on the market in accordance with the provisions of Regulation (EU) 2016/425 of the European Parliament and of the Council of 9 March 2016.</p> <p>Personal protective equipment must be adapted to the risk, kept clean and properly maintained in compliance with the provisions of the labour code.</p>
	Eye/face protection	<p>It is necessary to wear protective goggles complying with standard NF EN166 before handling chemicals.</p>
	Skin protection	<p>Hands: Wear suitable protective gloves in case of prolonged or repeated contact with the product.</p> <p>Use suitable protective gloves resistant to chemical agents in accordance with NF EN374.</p>
	Respiratory protection	<p>Assurer une ventilation adéquate, surtout dans les endroits clos.</p>
	Body protection	<p>Wear appropriate protective clothing.</p> <p>After contact with the product, all parts of the body that have been in contact with the product must be washed.</p>
	Environmental exposure controls	<p>No data available</p>

## 9 SECTION 9 : PHYSICAL AND CHEMICAL PROPERTIES

### 9.1 Information on basic physical and chemical properties

Appearance	<p>Physical state: All pH- compounds are in aqueous solution.</p> <p>Color: yellowish</p>
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Odour	None
pH	1
Melting point	-8°C
Freezing point	Not determined
Initial boiling point and boiling range	104°C
Flash point	Not determined
Evaporation rate	Not determined
Flammability (solid, gas)	Non inflammable
Upper/lower flammability or explosive limits	Not applicable
Vapour pressure	2.3 Kpa (17.5mm Hg)
Vapour density	Not determined
Relative density	1.11
Solubility(ies) 20°C	Entirely soluble
Partition coefficient: n-octanol/water	Not determined
Auto-ignition temperature	Not determined
Decomposition temperature	Not determined
Viscosity	Kinematics (Room temperature) 0.01 cm <sup>2</sup> /s
Explosive properties	Not determined
Oxidising properties	Not determined
Refraction index	Not determined
Rotary power	Not determined

## 9.2

### Other information

No other information

## 10 SECTION 10 : STABILITY AND REACTIVITY

10.1	<b>Reactivity</b>	No particular risk of reaction with other materials under normal conditions of use.
10.2	<b>Chemical stability</b>	pH- is stable at room temperature in closed packages and under normal storage and handling conditions.
10.3	<b>Possibility of hazardous reactions</b>	No hazardous polymerization can be produced by any of these components. No risk of dangerous reactions under normal use and storage conditions.
10.4	<b>Conditions to avoid</b>	No special conditions to avoid. Follow usual precautionary practices regarding chemicals.
10.5	<b>Incompatible materials</b>	Oxidizing materials, metals
10.6	<b>Hazardous decomposition products</b>	At very high temperatures, decomposition products are formed: phosphorus oxide and nitrogen oxide.

## 11 SECTION 11 : TOXICOLOGICAL INFORMATION

### 11.1 Information on toxicological effects

- a) acute toxicity;
  - (b) skin corrosion/irritation;
  - (c) serious eye damage/irritation;
  - (d) respiratory or skin sensitisation;
  - (e) germ cell mutagenicity;
  - (f) carcinogenicity;
  - (g) reproductive toxicity;
  - (h) STOT-single exposure;
  - (i) STOT-repeated exposure;
  - (j) aspiration hazard
- Symptoms related to the physical, chemical and toxicological characteristics

Estimated acute toxicity	Value
By mouth	58027.1mg/kg

- Delayed and immediate effects as well as chronic effects from short- and long-term exposure
- Interactive effects
- Absence of specific data
- Mixtures
- Mixture versus substance information

Inhalation : No known significant effects or critical hazards.  
 Ingestion : No known significant effects or critical hazards.  
 Skin contact : Pain or irritation redness blistering may occur - causes severe burns  
 Eye contact : Pain and tearing redness - causes severe eye damage

No known symptoms

No known significant effects or critical hazards.

No data available

No data available

No known adverse effects or symptoms resulting from exposure to the mixture or its components.

**12 SECTION 12 : ECOLOGICAL INFORMATION**

12.1	<b>Toxicity</b>	<b>Product name</b>	<b>Result</b>	<b>Species</b>	<b>Exposure</b>
		Citric acid	LD50 160000µg/l sea water	Crustaceae: <i>Carcinus maenas</i> adult	48H
12.2	<b>Persistence and degradability</b>	No data available to date to the best of our knowledge			
12.3	<b>Bioaccumulative potential</b>	<b>Product name</b>	<b>LogP<sub>ow</sub></b>	<b>FBC</b>	<b>Potential</b>
		Citric acid	-1.8	-	Low
12.4	<b>Mobility in soil</b>	No data available to date to the best of our knowledge. Waste generation should be avoided or minimized as much as possible, and the product should not be discharged into sewers or waterways.			
12.5	<b>Results of PBT and vPvB assessment</b>	Not Applicable			
12.6	<b>Other adverse effects</b>	No known significant effects or critical hazards.			

**13 SECTION 13 : DISPOSAL CONSIDERATIONS**

13.1	<b>Waste treatment methods</b>	The product can be disposed of we would do it with any industrial fertilizer. Follow local legislation. Do not discharge into sewers or waterways. Waste: Waste management should be carried out without endangering human health and without harming the environment, in particular without creating a risk to water, air, soil, fauna and flora.
		Recycle or dispose of in accordance with current legislation, preferably by a licensed

collector or company.

Disposal of the product/packaging: Disposal into sewers or waterways is prohibited.


Residues and empty containers must be handled and disposed of in accordance with the relevant local/national legislation in force.

Follow the provisions of Directive 2008/98/EC on waste management.

Waste codes / waste designations according to LoW:

Not determined

## 14 SECTION 14 : TRANSPORT INFORMATION

14.1	<b>UN number</b>	UN3264
14.2	<b>UN proper shipping name</b>	INORGANIC LIQUID CORROSIVE, ACIDIC, N.O.S. (Nitric acid, Phosphoric phosphoric acid)
14.3	<b>Transport hazard class(es)</b>	8 
	<b>ADR IMDG OACI/IATA</b>	ADR/RID Tunnel code (E) IMDG : Marine pollutant : No Emergency schedules (EmS) : F-A, S-B
14.4	<b>Packing group</b>	II
14.5	<b>Environmental hazards</b>	Non-hazardous transport Transport with local purposes: always transport in correct and safe packaging. Make sure that the persons transporting the product know the measures to be taken in case of accident or accidental spillage
14.6	<b>Special precautions for user</b>	Non-hazardous transport.

## 15 SECTION 15 : REGULATORY INFORMATION

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

15.1	Reg. 1272/2008/CE	The product does not contain substances that can be classified as carcinogenic. 1 or 2 according to Reg.1272/2008/EC and subsequent updates.
	Reg. 830/2015/CE (REACH)	Not applicable
	Special hazards	None



15.2 Chemical safety assessment Evaluation not yet completed

## 16 SECTION 16 : OTHER INFORMATION

16.1	<b>Abbreviations and acronyms:</b>	<p>ETA = Acute Toxicity Estimation</p> <p>CLP = Regulation 1272/2008/EC on classification, labelling and packaging of substances and mixtures</p> <p>DNEL = Derived no-effect dose</p> <p>DMEL = Derived no-effect dose</p> <p>EUH = Specific hazard statement CLP</p> <p>CPSE = Predicted no-effect concentration</p> <p>RRN = REACH registration number</p> <p>PTB = Persistent, Toxic and Bioaccumulative</p> <p>tPtB = Very persistent and very bioaccumulative</p> <p>bw = Body mass</p>
16.2	<b>Key literature references and sources for data</b>	<p>Regulation (EC) 1907/2006 of the European Parliament (REACH)</p> <p>Regulation (EC) 1272/2008 of the European Parliament (CLP)</p> <p>Regulation (EC) 790/2009 of the European Parliament (I Atp. CLP)</p> <p>Regulation (EC) 453/2010 of the European Parliament Regulation (EC) 286/2011 of the European Parliament (II Atp. CLP)</p> <p>The Merck index. Ed. 10 Handling and chemical safety</p> <p>Niosh - Register of toxic effects of chemical substances</p> <p>INRS - Toxicological Data Sheet</p> <p>Patty - Industrial hygiene and toxicology</p> <p>N.I. Sax - Dangerous properties of Industrial Materials - 7 Ed., 1989</p> <p>ECHA website</p>
16.3	<b>Indication of changes:</b>	<p>Date of revision: 10/04/2022</p> <p>Previous version date: 03/01/2022</p> <p>Version :6</p>
16.4	<b>Classification and procedure used to derive the classification for mixtures according to Regulation (EC) 1272/2008 [CLP]:</b>	<p>Modification: Section 3.2 (acid concentration), 9.1 (pH)</p> <p>This Safety Data Sheet complies with the requirements laid down in Reg. 830/2015/EU. It does not exempt the user from knowing and applying all the documents that govern his activity. The user will take under his responsibility the precautions related to the specific use of the product. All the regulatory requirements mentioned are simply intended to help the recipient to assume his responsibilities. This list should not be considered exhaustive. This data sheet supplements the technical instructions for use but does not replace them. The information in this safety data sheet has been compiled by Terra Aquatica on the basis of its current knowledge (safety data sheet for the active ingredients compiled by the manufacturer and other bibliographical data) as of the date indicated. It is given in good faith. In addition, the user's attention is drawn to the possible risks involved when a product is used for purposes other than those for which it was created. The recipient must ensure that he is not liable for anything other than what is stated in the texts other than those mentioned.</p> <p>The information describes the safety aspects of the product. It is not intended to guarantee specific properties.</p> <p>It is the responsibility of our customers to observe the applicable regulations.</p>

