

## *pH Reducer*

**Section 1 - IDENTIFICATION****1.1. Product Identifier**

**Product name:** pH Reducer  
**Synonym:** 100% Organic Citric Acid Solution

**1.2. Recommended Use / Restrictions**

**Identified Uses:** For soil, soilless media and water pH reduction, buffering, conditioning & remediation  
**Restrictions:** N/A

**1.3. Supplier Details**

**Company:** Growth Products, Ltd.  
80 Lafayette Avenue  
White Plains, NY 10603-1603 USA  
+011 914-428-1316 (9 am - 5 pm EST Mon - Fri)  
questions@growthproducts.com

**1.4. Emergency Telephone Number**

**Emergency Telephone:** 800-222-1222 (American Association of Poison Control Centers)

**Section 2 - HAZARD(S) IDENTIFICATION****2.1. Classification of substance or mixture**

**Target Organs:** Eyes  
**Physical Hazards:** Eye Irrit. 2A – H319  
**Health Hazards:** N/A  
**Environmental Hazards:**

**2.2. Label Elements****Pictogram(s):**

**Signal Word:** WARNING!  
**Hazard Statements:** H319 Causes serious eye irritation  
**Precautionary Statements:**

P264 Wash face, hands and any exposed skin thoroughly after handling.  
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.  
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P337+P313 If eye irritation persists: Get medical advice/attention  
P501 Dispose of contents/container in accordance with local / regional / national / international regulation

**2.3. Other Hazards**

This product does not contain any substance classified as PBT or vPvB

**Potential Health Effects**

**Eyes:** May cause irritation or inflammation, temporary

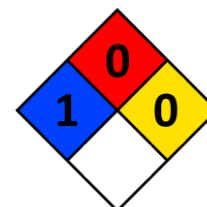
**Inhalation:** Irritating and soreness in throat and nose. In extreme exposures some congestion may occur.

**Skin:** Prolonged or repeated skin exposure may cause dermatitis.

**Ingestion:** Not hazardous when ingested.

### NFPA Ratings

<b>Health:</b>	<b>1</b>	Slightly hazardous
<b>Flammability:</b>	<b>0</b>	Will not burn
<b>Reactivity:</b>	<b>0</b>	Stable
<b>Specific Hazard:</b>		N/A



### HMIS Ratings

<b>Health:</b>	<b>1</b>	Minor hazard
<b>Flammability:</b>	<b>0</b>	Minimal hazard
<b>Reactivity:</b>	<b>0</b>	Minimal hazard
<b>Personal (PPE):</b>	<b>B</b>	Goggles, Gloves

<b>Health</b>	<i>minor</i>	<b>1</b>
<b>Flammability</b>	<i>minimal</i>	<b>0</b>
<b>Physical Hazard</b>	<i>minimal</i>	<b>0</b>
<b>Personal Protection</b>		<b>B</b>

## Section 3 - COMPOSITION/INFORMATION ON INGREDIENTS

### 3.2. Mixtures

Chemical Name	CAS Registry No.	REACH No.	ENECS No.	Classification
Citric acid:	77-92-9	-	201-069-1	<sup>GHS</sup> Eye Irrit. 2A – H319
Yucca schidigera:	223749-05-1	-	-	<sup>GHS-US</sup> Eye Irrit. 2B – H320 Skin Irrit. 3 – HH316

## Section 4 - FIRST-AID MEASURES

### 4.1. Description of first-aid measures

**Inhalation:** Move affected person to fresh air at once and keep at rest. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Get medical attention/advice.

**Ingestion:** Never give anything by mouth to an unconscious person. Do not induce vomiting unless instructed by medical professional. If conscious, rinse mouth thoroughly with water. If conscious, give water. Get medical attention/advice in symptoms persists.

**Skin Contact:** Flush with plenty of water for at least 15 minutes and take off all contaminated clothing. Get medical attention/advice if irritation persists.

**Eye Contact:** Rinse cautiously with plenty of water for at least 15 minutes and seek medical attention/advice if irritation persists.

### 4.2. Most important symptoms and effect, both acute and delayed

**Inhalation:** May cause respiratory irritation. There may be irritation of the throat with a feeling of tightness in the chest.

**Ingestion:** Ingestion may cause nausea, vomiting and severe stomach and digestive irritation/burns. There may be soreness and redness of the mouth and throat.

**Skin Contact:** Skin contact may cause redness and irritation, dermatitis. Prolonged or repeated skin contact can result in the development of allergy-like skin reactions (e.g. rashes, dermatitis)

**Eye Contact:** There may be irritation and redness. Profuse watering of the eyes.

### 4.3. Indication of any immediate medical attention and special treatment needed

**Notes for doctor:** No specific recommendations. If in doubt, get medical attention promptly. Treatment may vary with the condition of victim and specifics of incident.



**Specific treatments:** Eye bathing equipment should be available on the premises. Provide quick-drench showers and washing facilities accessible to areas of use and handling. Have supplies and equipment for neutralization and running water available.

## Section 5 - FIREFIGHTING MEASURES

### 5.1. Extinguishing media

**Suitable extinguishing media:**

Use extinguishing agent suitable for surrounding area.

**Unsuitable extinguishing media:**

N/A

**Environmental Hazards:**

Prevent spillage from entering drains. Any release to the environment may be subject to federal/national or local reporting requirements.

### 5.2. Special hazards arising from the substance or mixture

**Specific hazards arising from the chemical:**

Contact with combustible material may cause fire.

**Hazardous combustion products:**

Product components under conditions of fire may produce monoxide or dioxide of carbon. Do not inhale smoke and gases. (See also Stability and Reactivity section).

### 5.3. Advice for firefighters

**Protective actions during firefighting:**

No specific firefighting precautions known, Irritant, non-flammable, water soluble. Do not inhale gases created by fire. Do not allow run-off from firefighting to enter drains or watercourses.

**Special protective equipment for firefighters:**

Wear self-contained, approved breathing apparatus and full protective clothing, including eye protection and boots.

## Section 6 - ACCIDENTAL RELEASE MEASURES

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

**Personal precautions:**

Wear protective clothing as described in Section 8 of this safety data sheet.

### 6.2. Environmental precautions

**Environmental precautions:**

Avoid the spillage or runoff entering drains, sewers or watercourses. Any release into the environment may be subject to federal/national or local reporting requirements.

### 6.3. Methods and material for containment and cleanup

**Methods for cleaning up:**

Stop leak if possible without risk. Neutralize spill. Contain and absorb spillage with sand, earth or other noncombustible material. Transfer to a suitable container for disposal. Clean surfaces thoroughly with plenty of water to remove residual contamination. Dispose of all waste and cleanup materials in accordance with regulations. Avoid the spillage or runoff entering drains, sewers or watercourses.

### 6.4. Reference to other sections

**Reference to other sections:** For personal protection, see Section 8. For waste disposal, see Section 13.

## Section 7 - HANDLING AND STORAGE

### 7.1. Precautions for Safe Handling

**Using precautions:**

Avoid contact with skin, eyes and clothing. Wear personal protective equipment. Avoid direct sunlight, excessive heat. Isolate and post spill area. Keep people away from and upwind of spill/leak. Eliminate all sources of ignition and remove combustible materials.

**Advice on general**

**occupational hygiene:**

Do not eat, drink or smoke when using this product. Remove contaminated clothing and protective equipment before entering eating areas.

### 7.2. Conditions for Safe Storage, Including Any Incompatibilities

**Storage precautions:**

Store closed in original container in a dry, cool and well-ventilated place. Store in the dark. Keep away from incompatible materials. Keep away from food, drink and animal feeding stuffs.

### 7.3. Specific end use(s)

**Specific end use(s):**

The identified uses for this product are detailed in Section 1.2.

## Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

### 8.1. Control Parameters Occupational exposure limits

Material	Type	Value	Source
Citric acid (CAS 77-92-9):	No biological exposure limits noted for ingredient(s)	1 mg/m <sup>3</sup>	US ACGIH Threshold Limit Values US NIOSH: Pocket guide to Chemical Hazards
Yucca schidigera (CAS 223749-05-1):	N/A	N/A	Not listed in IFA database

### 8.2. Exposure controls

#### Protective equipment

##### General information:

Protective engineering solutions should be implemented and in use before personal protective equipment is considered.

##### Appropriate engineering controls:

Ensure that eyewash stations and safety showers are close to the workstation location. Ensure adequate ventilation, especially in confined areas.

##### Eye / face protection:

Use chemical splash-type goggles / safety glasses. Have eye wash station available in immediate vicinity.

##### Hand protection:

Wear approved impermeable gloves. Thoroughly rinse the outside of gloves with water prior to removal. Inspect regularly for leaks.

##### Other skin and body protection:

Wear long sleeved clothing such as an approved splash protective suit, protective apron. Have emergency shower in immediate vicinity. Wash contaminated clothing before reuse. Handle in accordance with good hygiene and safety practices

##### Hygiene measures:

Avoid breathing vapors, mist or gas. Clean water should be available for washing in case of eye or skin contamination.

##### Respiratory protection:

Under recommended conditions of use, respirator protection is not required.

##### Environmental exposure controls:

Eye bathing equipment should be available on the premises. Provide quick-drench showers and washing facilities accessible to areas of use and handling. Have supplies and equipment for neutralization and running water available. Ensure adequate ventilation, especially in confined areas.

##### Equipment:

HMIS Letter:

**B**



## Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

### 9.1. Information on basic physical and chemical properties

<b>Physical State:</b>	Liquid	<b>Evaporation Rate:</b>	Same as water
<b>Color</b>	Clear	<b>Boiling Point:</b>	About 212° F / 100° C
<b>Odor:</b>	None	<b>Freezing Point:</b>	< 32° F / 0° C
<b>Weight per Gallon / Liter:</b>	9.5# @ 70° F / 1.14 Kg @ 21° C	<b>Viscosity:</b>	1-15 cps @ 21 Degrees C
<b>Storage Life at 70F:</b>	>18 months	<b>Flash Point/Method:</b>	Non-combustible
<b>pH – 21C:</b>	1.5	<b>Vapor Pressure:</b>	N/A
<b>Solubility:</b>	Completely miscible	<b>Storage Temperature:</b>	Above 32° F / 0° C

## Section 10 - STABILITY AND REACTIVITY

### 10.1. Reactivity

**Reactivity:** This is a stable material

### 10.2. Chemical Stability

<b>Stability:</b>	Stable under normal conditions. Stable under recommended storage conditions.
<b>10.3. Possibility of Hazardous Reactions</b>	
<b>Possibility of hazardous reactions:</b>	Hazardous polymerization does not occur
<b>10.4 Conditions to Avoid</b>	
<b>Conditions to avoid:</b>	Excessive heat; Contamination; Exposure to UV-rays; pH variations. Store out of direct light.
<b>10.5 Incompatible Materials</b>	
<b>Materials to avoid:</b>	Reaction with caustic can create heat (exothermic reaction). Solutions are mildly corrosive to carbon steel.
<b>10.6 Hazardous Decomposition Products</b>	
<b>Hazardous decomposition products:</b>	In case of fire CO, CO <sub>2</sub> and other potentially toxic fumes

## Section 11 - TOXICOLOGICAL INFORMATION

### 11.1. Information on Toxicological Effects

#### Toxicological effects:

<b>Acute toxicity Dermal LD<sub>50</sub>:</b>	0.5 ml dosage level (rabbit)	
<b>Acute toxicity Oral LD<sub>50</sub>:</b>	5400 mg/kg dosage level (mouse), 6730 mg.kg dosage level (rat)	
<b>Acute toxicity Inhalation LD<sub>50</sub>:</b>	N/A	
<b>Chronic Toxicity:</b>	N/A	
<b>Symptoms:</b>	Highly irritating to eyes, exposure to can cause stinging pain, blurred vision, redness and tearing of eyes. May cause irritation to respiratory tract and may include coughing, shortness of breath. Prolonged exposure can cause irritation to skin with redness, itching, pain.	
<b>Teratogenicity:</b>	N/A	
<b>Mutagenicity:</b>	This product is not recognized as mutagenic by Research Agencies.	
<b>Embryotoxicity:</b>	N/A	
<b>Specific Target Organ Toxicity:</b>	N/A	
<b>Reproductive Toxicity:</b>	No toxicity to reproduction in animal studies.	
<b>STOT SE:</b>	Irritation to eyes, skin, respiratory tract	
<b>STOT RE:</b>	Prolonged or repeated skin contact may cause dermatitis	
<b>Target Organs:</b>	Eyes	
<b>Respiratory Sensitization:</b>	Mildly irritating	
<b>Skin Sensitization:</b>	Moderately irritating	
<b>Carcinogenicity</b>		
<b>IARC:</b>	N/A	<b>NTP:</b> N/A
<b>ACGIH:</b>	N/A	<b>OSHA:</b> N/A

## Section 12 - ECOLOGICAL INFORMATION

### Ecotoxicity

<b>12.1. Toxicity:</b>	Not expected to have significant environmental effects. Citric acid is a chemical with a favorable ecological profile (HERA). Avoid contaminating waterways, drains and sewers as product may form moderately acidic aqueous solution. Once diluted with large amounts of water, not expected to have significant environmental impact.
<b>12.2. Persistence and degradability:</b>	Rapidly degraded in both surface water and soil (HERA)
<b>12.3. Bioaccumulative potential:</b>	Not bioaccumulative
<b>Partition coefficient:</b>	N/A
<b>12.4. Mobility in Soil:</b>	Will likely be mobile in the environment due to its water solubility.
<b>12.5. Results of PBT and vPvB Assessment:</b>	N/A
<b>12.6. Other Adverse Effects:</b>	N/A

**Section 13 - DISPOSAL CONSIDERATIONS****13.1. Waste Treatment Methods**

**Disposal methods:** Users should review their operations in terms of the applicable federal/national or local regulations and consult with appropriate regulatory agencies if necessary before disposing of waste product, residue and/or container.

The information offered in Section 13 is for the product as shipped.

**US EPA Waste Number:** N/A

**Section 14 - TRANSPORTATION INFORMATION****General**

<b>14.1. UN Number:</b>	Not regulated	<b>14.4. Packing Group:</b>	Not regulated
<b>14.2. UN Proper Shipping Name:</b>	Not regulated	<b>14.5. Environmental Hazards:</b>	See Section 12
<b>14.3. Transport Hazard Class(es):</b>	Not regulated	<b>14.6. Special Precautions for User:</b>	See Section 2
<b>14.7. Transport in Bulk According to Annex II of MARPOL73/78 and the IBC Code:</b>	Not regulated		

**Section 15 - REGULATORY INFORMATION****15.1. Safety, health and Environmental Regulations / Legislation Specific for the Substance or Mixture**

**EU legislation:** Regulation (EC) No 1272/2008 of the European Parliament and the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures (as amended). Commission Regulation (EU) No 453/2010 of May 2010.

**US Federal Regulations**

**SARA 313:** Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

**SARA 311/312 Hazard Categories:**

Acute health hazard:	NO	Sudden release of pressure hazard:	NO
Chronic health hazard:	NO	Reactive Hazard:	NO
Fire hazard:	NO		

**Clean Water Act:** This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

**CERCLA / EPCRA:** None

**TSCA:** N/A - Liquid

**OSHA:** This product is hazardous under the criteria of the Federal OSHA Hazard Communication Standard 29 CFR 1910.1200

**REVISED DATE: 20 July 2016****Other Precautions:****Abbreviations / Acronyms:****Read entire label before using**

N/E	Not Established	N/A	Not applicable
ACGIH	American Conference of Governmental Industrial Hygienists		
TLV	Threshold Limit Values		
PEL	Permissible Exposure Limit		
REL	Recommended Exposure Limit		
OSHA	Occupational Safety and Health Administration		
NIOSH	National Institute for Occupational Safety and Health		
TWA	Time Weighted Average over 8 hours of work		
TLV	Threshold Limit Value over 8 hours of work		
REL	Recommended Exposure Limit		
PEL	Permissible Exposure Limit		
STEL	Short Term Exposure Limit during x minutes		
IDLH	Immediately Dangerous to Life or Health		
TSCA	Toxic Substance Control Act (United States)		
DSL	Domestic Substance List (Canada)		
EINECS	European Inventory of Existing Commercial Chemical Substances (Europe)		
ELINCS	European List of Notified Chemical Substances (Europe)		
ENCS	Existing Chemical Substances		
IECSC	Inventory of Existing Chemical Substances		
HMIS	Hazardous Material Identification System (American Coatings Association)		
NFPA	National Fire Protection Association		
PBT	Persistent Bioaccumulative and Toxic		
vPvB	Very Persistent and very Bioaccumulative		
STOT SE	Specific Target Organ Toxicity; Single Exposure		
STOT RE	Specific Target Organ Toxicity; Repeated Exposure		
HERA	Human and Ecological Risk Assessment (International Journal)		

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