

**SECTION 1: IDENTIFICATION**

**1.1 Product Identifier:** AQ-TY-0001-045

**Trade Name:**

**Growthful™ Trees, Shrubs, and Ornamentals**

**1.2 Product Use:** Trees, Shrubs, and Ornamental Soil Amendment

**Identified Use:** Soil amendment for the growth enhancement of trees, shrubs, and ornamentals.

**Product Form:** Acidic Mixture

**1.3 Manufacturer/Supplier:**

**Company:** Aqueus LLC

**Address:** 1132 E. Big Beaver Road Troy, MI 48083

**Telephone:** + 1 (231) 412-2420

**Email:** hello@aqueus.com

**1.4 Emergency Telephone Number:**

**(800) 424-9300 CHEMTREC (USA)**

24 hours/day, 7 days/week

**SECTION 2: HAZARDS IDENTIFICATION**

Classification of the Substance or Mixture: Complies with OSHA 29 CFR 1910.1200 Appendix B (B.16 Corrosive to Metals, B.16.1).

Hazard Classification:

Skin Corrosion / Irritation, Category 2, H315 (Causes skin irritation)

Serious Eye Irritation, Category 2, H319 (Causes serious eye irritation)

Corrosive to Metals, Category 1, H290 (May be corrosive to metals.)

Signal Word: Warning

Hazard Statement(s): Causes skin irritation and serious eye irritation. May be corrosive to metals.

Pictogram(s):

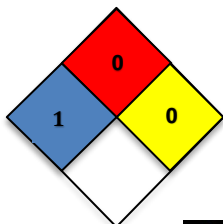


Precautionary Statement(s): Do not get into the eyes. Wash hands, forearms, and face thoroughly after handling. Do not eat, drink, or smoke when using this product. Wear protective gloves/protective clothing/eye protection/face protection. May damage metal application equipment containing zinc and/or low carbon steel substrates if used improperly.


Hazardous Materials Information System (HMIS):

<b>HEALTH</b>	<b>1</b>	<b>Slight Hazard</b>	Irritation or minor reversible injury possible
<b>FLAMMABILITY</b>	<b>0</b>	<b>Minimal Hazard</b>	Materials that will not burn.
<b>PHYSICAL HAZARD</b>	<b>0</b>	<b>Minimal Hazard</b>	Materials that are normally stable, under fire conditions and will not react to water, polymerize, decompose, condense, or self-react.
<b>PERSONAL PROTECTION</b>	<b>D</b>		Face Shield and Eye Protection, Gloves, Synthetic Apron.

National Fire Protection Association (NFPA)



<b>Health Hazard</b>	<b>1</b>	<b>Significant irritation.</b>
<b>Flammability Hazard</b>	<b>0</b>	<b>Will not burn under normal fire conditions.</b>
<b>Instability Hazard</b>	<b>0</b>	<b>Normally stable.</b>
<b>Specific Hazard</b>		

**California Proposition 65:**  **WARNING** – This product can expose you to chemicals known to the State of California to cause cancer and birth defects or reproductive harm.

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

Classification of the Substance or Mixture: Complies with OSHA 29 CFR 1910.1200(i) "Trade Secrets".

Chemical Identity	CAS No.	%W/W Still to be determined!!	GHS Hazards H – phrases
Purified Water – H <sub>2</sub> O	7732-18-5	99.59 – 99.68%	Not Classified
Hydrogen Sulfate – HSO <sub>4</sub> <sup>-</sup>	14996-02-2	0.29 – 0.34%	H315 (Causes skin irritation) H319 (Causes serious eye irritation)
Hydronium – H <sub>3</sub> O <sup>+</sup>	13968-08-6	0.03 – 0.07%	H315 (Causes skin irritation) H319 (Causes serious eye irritation)

**SECTION 4: FIRST AID MEASURES**
**4.1 Description of First Aid Measures**

**First-aid measures - general:** Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).

**Inhalation:** Remove to fresh air if irritation occurs. If symptoms develop, obtain medical attention.

**Skin Contact:** Exposure to skin normally does not cause irritation or redness. No toxicity associated with the product being absorbed through skin. Wash exposed areas with water. In the event of irritation, seek medical attention.

**Eye Contact:** This product may cause irritation to the eyes after direct contact with concentrate. Rinse with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. In the event of irritation, pain, or redness, seek medical attention.

**Ingestion:** Ingesting large volumes may cause minor gastrointestinal distress due to separation of grease and oil in the digestive tract. Rinse mouth and Drink water to assist in digestion if swallowed. Contact a poison control center and seek medical advice/attention.

**4.2 Most Important Symptoms and Effects, Both Acute and Delayed**

**Acute:** Ingestion will cause minor distress to the gastrointestinal tract. May cause chemical and mechanical eye irritation with direct contact.

**Delayed and Chronic Effects:** Expected to be similar to acute exposures.

**4.3 Indication of the Immediate Medical Attention and Special Treatment Needed:** Treat symptomatically. Obtain medical assistance if required.

**SECTION 5: FIREFIGHTING MEASURES**

**Not flammable or combustible by OSHA/WHMIS criteria. Not sensitive to mechanical impact and static discharge.**

**Flash Point:** > 428° F (220° C)

**Explosive Limits:** Not Applicable (Auto-Ignition)

**Temperatures:** Not Applicable

**5.1 Extinguishing Media**

**Suitable Extinguishing Media:** Use extinguishing media appropriate to surrounding fire conditions.

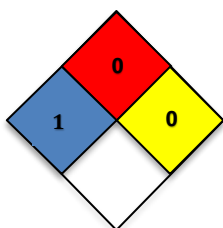
**Unsuitable Extinguishing Media:** None known

**5.2 Special Hazards Arising from the Substance or Mixture:** Containers may rupture from exposure to high temperatures, releasing contents that may be slippery.

**5.3 Advice for Firefighters:** Suitable protective clothing should be worn in fire conditions. Extinguish preferably with dry chemical, foam, or water spray. Exercise caution when fighting any chemical fire. Prevent fire-fighting water run-off from entering the environment.

**5.4 Hazardous Combustion Products:** Compounds of Sulfur.

**5.5 National Fire Protection Association (NFPA):**



<b>Health Hazard</b>	<b>1</b>	<b>Significant irritation.</b>
<b>Flammability Hazard</b>	<b>0</b>	<b>Will not burn under normal fire conditions.</b>
<b>Instability Hazard</b>	<b>0</b>	<b>Normally stable.</b>
<b>Specific Hazard</b>		

**SECTION 6: ACCIDENTAL RELEASE MEASURES**

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**6.1 Personal Precautions, Protective Equipment and Emergency Procedures:** Eye protection, face protection, gloves, and synthetic apron recommended. Evacuate unnecessary personnel.

**6.2 Environmental Precautions:** Prevent entry to the sewers and public waters. Notify appropriate authorities if any liquid enters the sewers or public waters.

**6.3 Methods and Material for Containment and Cleaning Up:** Soak up any spills with inert solids, such as clay or diatomaceous earth as soon as possible. Collect spillage. Dispose of material in accordance with local regulations.

**6.4 Reference to Other Sections:** See Also Section 7, 8, 13.

**6.5 Additional Information:** None

**SECTION 7: HANDLING AND STORAGE**

**7.1 Precautions for Safe Handling:** Avoid contact with eyes. Wear appropriate personal protective gear. Wash hands and other exposed areas with mild soap and water before eating, drinking, smoking, and when leaving work.

**7.2 Conditions for Safe Storage:** Store in closed containers between 35°F and 120°F.  
 Storage conditions: Keep containers closed.  
 Incompatible products: Metals, cyanides, strong bases.  
 Incompatible materials: Metals such as zinc and/or low carbon steel substrates.

**SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION**
**8.1 Control Parameters**
**8.1.1 Occupational Exposure Limits**

Substance	Hydrogen Sulfate	Hydronium
CAS No.	14996-02-2	13968-08-6
ACGIH TWA (mg/m <sup>3</sup> )	0.2 mg/m <sup>3</sup> ( thoracic fraction)	Not available for non-listed component.
OSHA PEL TWA (mg/m <sup>3</sup> )	1 mg/m <sup>3</sup>	Not available for non-listed component.
U.S. IDLH (mg/m <sup>3</sup> )	15 mg/m <sup>3</sup>	Not available for non-listed component.
NIOSH Rel TWA (mg/m <sup>3</sup> )	1 mg/m <sup>3</sup>	Not available for non-listed component.

The Threshold–Limit Values (TLVs) for Hydronium have not been established by the American Conference of Governmental Industrial Hygienists (ACGIH).

The Permissible Exposure Limits (PELs) for Hydronium have not been established by the Occupational Safety and Health Administration (OSHA).

**8.1.2 PNECs and DNELs:** There are no Predicted No-Effect Concentrations (PNECs) or Derived No-Effect Levels (DNELs) available for this product. As with all chemical products, users are cautioned to avoid unnecessary exposures.

**8.2 Appropriate engineering controls**

**Engineering Controls:** Emergency eyewash fountains should be available in the immediate vicinity of any potential exposure. Provide adequate general and local exhaust ventilation.

**8.3 Individual Protection Measures / Personal Protective Equipment:** Safety glasses, Gloves, Protective clothing, Face Shield



**8.4 General Hygiene Considerations:** Handle according to established industrial hygiene and safety practices. Do not eat, drink, or smoke during use.

**SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES**
**9.1 Information on Basic Physical and Chemical Properties**

	Concentrate		Concentrate
<b>Appearance:</b>	Liquid	<b>Vapor Pressure:</b>	Not available
<b>Color:</b>	Light Amber, translucent	<b>Vapor Density:</b>	Not available
<b>Odor:</b>	Mild soapy	<b>Relative Density:</b>	Not available
<b>Odor Threshold:</b>	Not available	<b>Solubilities:</b>	Infinitely miscible in water
<b>pH:</b>	0.5 – 1.5	<b>Partition Coefficient: N-octanol/Water:</b>	Not available
<b>Melting Point</b>	Not available	<b>Decomposition Temperature:</b>	Not available
<b>Initial Boiling Point:</b>	Not available	<b>Percent Volatile, wt. %:</b>	0%
<b>Boiling Point:</b>	> 112 °C (233.6° F)	<b>Density Target:</b>	1.001 g/ml
<b>Flash Point:</b>	> 220 °C (428° F)	<b>Density Range:</b>	1.000 – 1.003 g/ml
<b>Evaporation Rate:</b>	1 (Water = 1)	<b>VOC Content, wt. %:</b>	0%
<b>Flammability (solid, gas):</b>	Non-Flammable		
<b>Upper/Lower Flammability Limit:</b>	Non-Flammable		
<b>Auto-ignition Temperature:</b>	Non-Flammable		

**SECTION 10: STABILITY AND REACTIVITY**

- 10.1 Reactivity:** No additional information available.
- 10.2 Chemical Stability:** Stable under normal conditions. Avoid temperature extremes.
- 10.3 Possibility of Hazardous Reactions:** No hazardous reactions observed.
- 10.4 Conditions to Avoid:** Do not freeze. Do not use above ambient temperature.
- 10.5 Incompatible Materials:** Avoid prolonged contact with metals.
- 10.6 Hazardous Decomposition Product(s):** Sulfur Oxides.

**SECTION 11: TOXICOLOGICAL INFORMATION**

**Substance:** Hydrogen Sulfate - CAS 14996-02-2; Hydronium – CAS 13968-08-6

**11.1 Information on Toxicological Effects****Effects of Acute Exposure**

- Inhalation:** Not known. Product not likely a route of exposure.
- Ingestion:** Not known. Product may be irritating to the gastrointestinal tract.
- Skin Contact:** Not known. Prolonged contact may result in mild irritation.
- Eye Contact:** Not known. Contact may result in mild eye irritation.
- Repeated Dose Toxicity:** Expected to be similar to single exposures.

**Carcinogenicity:** This product does not contain any carcinogens or potential carcinogens as listed by the American Conference of Governmental Industrial Hygienists (ACGIH), the International Agency for Research on Cancer (IARC), the Occupational Safety and Health Administration (OSHA), or the National Toxicology Program (NTP).

**Mutagenicity:** Not available.

**Toxicity for Reproduction:** Not available.

**11.2 Other Information:** None

**SECTION 12: ECOLOGICAL INFORMATION**

- 12.1 Toxicity:** Not expected to be harmful to soil environments. Not expected to be harmful to aquatic life.
- 12.2 Persistence and Degradability:** Readily biodegradable organic liquid.
- 12.3 Bio-accumulative Potential:** Not available.
- 12.4 Mobility in Soil:** Not available.
- 12.5 Results of PBT and vPvB Assessment:** Not available.
- 12.6 Additional Information on Eco-toxicity:** This product does not add to the AOX-value of effluent water (DIN 38409).
- 12.5 Other adverse effects :** No additional information available

**SECTION 13: DISPOSAL CONSIDERATIONS**

**13.1 Waste Treatment Methods:** Disposal should be in accordance with local, state, or national legislation. For disposal within the EC, the appropriate code according to the European Waste Catalogue (EWC) should be used. Containers must not be punctured or destroyed by burning, even when empty.

**13.2 Additional Information:** Neutralization recommended before disposal.

**SECTION 14: TRANSPORT INFORMATION**

**Land Transport ADR (Road) and RID (Rail) (c)(d):** Not classified as hazardous for transport.

**U.S. Department of Transportation (DOT) (c)(d):** Not classified as hazardous for transport.

**Canada Transportation of Dangerous Goods (TDG) (c)(d):** Not classified as hazardous for transport.

**Sea Transport – International Maritime Dangerous Goods (IMDG) Code (c)(d):** Not classified as hazardous for transport.

**Air Transport – International Civil Aviation Organization (ICAO) and the International Atomic Energy Agency (IATA) (c)(d):**  
Not classified as hazardous for transport.

*(c)– Consult with transport provider. (d) – Check relevant regulations for Special Provisions.*

**SECTION 15: REGULATORY INFORMATION****15.1 U.S. FEDERAL REGULATIONS****40 CFR 370.66 – Emergency Planning, Community Right to Know Act (EPCRA) Section 311/312 Reporting:**

Health Hazards:

Skin Corrosion or Irritation

Serious Eye Damage or Eye Irritation

Physical Hazard:

Corrosive to Metal

**40 CFR Chapter I, Subchapter R – Toxic Substance Control Act (TSCA):**

All components of this product are listed, or excluded from listing, on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory.

**15.2 INTERNATIONAL REGULATIONS**

**CANADA** – No additional information available

**EU REGULATIONS** – No additional information available

**SECTION 16: OTHER INFORMATION**

**Training Advice:** None

**Additional Information:** Replaces all previous editions.

**References:** RTECS, CAS Registry, EINECS/ESIS, Manufacturer Information.

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**Revision Date**                    **October 20, 2023**  
**Print Date**

**Revision Summary:** This document has been updated to comply with the US OSHA HazCom 2012 Standard replacing the current legislation under 29 CFR 1910.1200 to align with the Globally Harmonized System of Classification and Labeling of Chemicals (GHS).

**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 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**