To Our Customers:

The attached Safety Data Sheet (SDS) was prepared by the vendor of the product you purchased through one of our divisions. We used the manufacturer's electronic document directly or scanned a paper copy and generated a file for our automated SDS delivery system.

All statements, technical information, and recommendations contained therein are solely that of the manufacturer of the product. We at Zep Inc. did not verify the accuracy and completeness of the statements and do not warrantee or guarantee the information. We provide vendor SDSs to assist our customers in their compliance efforts. The attached document is in compliance with one of the respective country regulatory requirements noted below:

The OSHA Hazard Communication Standard (in the United States)
The Hazardous Products Regulations (in Canada)

We made every effort to deliver all of the information prepared by the manufacturer. We cannot anticipate all conditions under which this information will be used. If you have any questions about the statements on the SDS, please contact the company shown on the document.

Zep Inc. assumes no liability or responsibility for loss or damage resulting from the improper use or handling of this product, from incompatible product combinations, or from the failure to follow instructions, warnings, and advisories in the manufacturer's product label and Safety Data Sheet.

Sincerely,

Product Stewardship Team
Zep Inc.

SECTION 1: IDENTIFICATION

1.1 Product Identifier: AQ-TY-0001-050

Trade Name:

Freshtec™

1.2 Product Use: Agricultural and Food Processing
Identified Use: Cut Fruit and Vegetable Wash.

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.

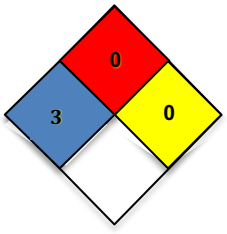
Pictogram(s):

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):

HEALTH	**2**	**Moderate Hazard**	Temporary or minor injury may occur.
FLAMMABILITY	**0**	**Minimal Hazard**	Materials that will not burn.
PHYSICAL HAZARD	**0**	**Minimal Hazard**	Materials that are normally stable, under fire conditions and will not react to water, polymerize, decompose, condense, or self-react.
PERSONAL PROTECTION	**D**		Face Shield and Eye Protection, Gloves, Synthetic Apron.

National Fire Protection Association (NFPA)



Health Hazard	**3**	**Serious or permanent injury.**
Flammability Hazard	**0**	**Will not burn under normal fire conditions.**
Instability Hazard	**0**	**Normally stable.**
Specific Hazard		

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	GHS Hazards H – phrases
Purified Water – H_2O	**7732-18-5**	**90.06 – 92.36%**	**Not Classified**
Hydrogen Sulfate – HSO_4^- (See Note Below)	**14996-02-2**	**6.04 – 7.04%**	**H315 (Causes skin irritation) H319 (Causes serious eye irritation)**
Hydronium – H_3O^+	**13968-08-6**	**1.07 – 2.07%**	**H315 (Causes skin irritation) H319 (Causes serious eye irritation)**
Tetraaquahydrogen(+1)	**12501-73-4**	**0.43 – 0.63%**	**Not Classified**
Sulfate	**14808-79-8**	**0.1 – 0.2%**	**Not Classified**

Note: Hydrogen sulfate is a key ingredient of Freshtec™. Hydrogen sulfate (HSO_4^-) is acidic in nature and is a weaker form of acid than Sulfuric acid (H_2SO_4) (CAS No, 7664-03-9).

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: Not a likely route of exposure. Remove to fresh air if irritation occurs. If symptoms develop, obtain medical attention.

Skin Contact: Exposure to skin causes irritation or redness. No toxicity associated with the product being absorbed through skin. Wash exposed areas with water. In the event of irritation or redness, seek medical advice.

Eye Contact: This product causes irritation to the eyes. Rinse with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. In the event of irritation, seek medical advice.

Ingestion: Ingesting large volumes may cause minor gastrointestinal distress due to separation of grease and oil in the digestive tract. 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: > 428º F (220º 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.

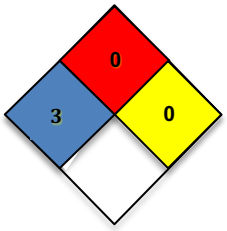
Unsuitable Extinguishing Media: None known

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 including respiratory protection. 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):



Health Hazard	3	Serious or permanent injury.
Flammability Hazard	0	Will not burn under normal fire conditions.
Instability Hazard	0	Normally stable
Specific Hazard		

SECTION 6: ACCIDENTAL RELEASE MEASURES

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: Avoid release to the environment. 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: Absorb spillage to avoid material damage. 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 chemical resistant personal protective gear. Wash hands and other exposed areas with mild soap and water before eating, drinking, smoking, and when leaving work. Do not breath mist, vapors, spray.

7.2 Conditions for Safe Storage: Store in closed containers between 35°F and 120°F.
Storage conditions: Keep containers closed and away from incompatible materials.
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^3)	0.2 mg/m^3 (thoracic fraction)	Not available for non-listed component.
OSHA PEL TWA (mg/m^3)	1 mg/m^3	Not available for non-listed component.
U.S. IDLH (mg/m^3)	15 mg/m^3	Not available for non-listed component.
NIOSH Rel TWA (mg/m^3)	1 mg/m^3	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).

8.2 Appropriate Engineering Controls: No special controls required.

8.3 Personal Protection Measures:

Respiratory Protection: Usually not needed.

Eye Protection: Safety glasses including face protection mandatory.

Hand Protection: Acid resistant gloves recommended.

Skin and Body Protection: Wearing of chemical resistant personal protective gear recommended.

8.4 General Hygiene Considerations: Handle according to established industrial hygiene and safety practices.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on Basic Physical and Chemical Properties

	Concentrate		Concentrate
Appearance:	Clear Liquid	**Vapor Pressure:**	Not available
Color:	Water White Liquid	**Vapor Density:**	Not available
Odor:	None to Mild	**Relative Density:**	Not available
Odor Threshold:	Not available	**Solubilities:**	Infinitely soluble in water
pH:	0.1 – 1.5	**Partition Coefficient: N-octanol/Water:**	Not available
Melting Point	Not available	**Decomposition Temperature:**	Not available
Initial Boiling Point:	Not available	**Percent Volatile, wt.%:**	0%
Boiling Point:	> 112 °C (233.6° F)	**Density Target:**	1.035 g/ml
Flash Point:	> 220 °C (428° F)	**Density Range:**	1.025 – 1.045 g/ml
Evaporation Rate:	1 (Water = 1)	**VOC Content, wt.%:**	0%
Flammability (solid, gas):	Non-Flammable		
Upper/Lower Flammability Limit:	Non-Flammable		
Auto-ignition Temperature:	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: Product may be irritating to nasal tissue.

Ingestion: Product may be irritating to gastrointestinal tract.

Skin Contact: Prolonged contact may result in slight irritation.

Eye Contact: Contact causes serious 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 cause long lasting harmful effects to aquatic life.

12.2 Persistence and Degradability: Readily biodegradable 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: The product does not add to the AOX-value of effluent water (DIN 38409).

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

U.S. Department of Transportation (DOT) (c)(d): Classified as hazardous for transport.

Hydrogen sulfate is a key ingredient in Freshtec™. In accordance with the DOT shipping regulations located in 49 CFR 172.101 Hazardous Materials Table, Hydrogen sulfate is not considered a proper shipping name for transportation. The Hazardous Materials Table states that Sulfuric acid will be used as the proper shipping name for Hydrogen sulfate during transportation.

Therefore, the proper shipping name for Hydrogen sulfate is "UN2796, Sulfuric acid *with not more than 51% acid*, 8, II."

UN Number: 2796
UN Shipping Name: Sulfuric acid *with not more than 51% acid*
Hazard Class: 8
Packing Group: II

DOT Special Provisions (49 CFR 172.102): 386, A3, A7, B2, B15, IB2, N6, N34, T8, TP2

DOT Packaging Exceptions (49 CFR 173.xxx): 154

DOT Packaging Non-Bulk (49 CFR 173.xxx): 202

DOT Packaging Bulk (49 CFR 173.xxx): 242

DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27): 1 Liter

DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75): 30 Liters

DOT Vessel Stowage Location (49 CFR 172.101 Table Column 10A): Stowage Category B

DOT Vessel Stowage Location (49 CFR 172.101 Table Column 10B): Code 53, Code 58

Land Transport ADR (Road) and RID (Rail) (c)(d): Classified as hazardous for transport.

Canada Transportation of Dangerous Goods (TDG) (c)(d): Classified as hazardous for transport.

Sea Transport – International Maritime Dangerous Goods (IMDG) Code (c)(d): Classified as hazardous for transport.

Air Transport – International Civil Aviation Organization (ICAO) and the International Atomic Energy Agency (IATA) (c)(d): 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.

Prepared By **Aqueus Regulatory Affairs**
Email hello@aqueus.com

Creation Date **January 18, 2024**
Revision Date **January 18, 2024**
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