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.

SAFETY DATA SHEET

SECTION 1: IDENTIFICATION

1.1 Product Identifier AQ-TY-0001
Trade Name Growthful™ Pre-Emerge MAX

1.2 Product Use Soil Amendment
Identified Use Low pH electrolyte
Product form Mixture

1.3 Manufacturer/Supplier

Company Aqueus LLC

Address 1132 E. Big Beaver Road Troy, MI 48083

Telephone (248) 218-0347

Email hello@aqueus.com

1.4 Emergency Telephone Number **Emergency Phone Chemtrec (800) 424-9300**

SECTION 2: HAZARDS IDENTIFICATION

2.1 GHS Classifications and Regulation (EC) No. 1272/2008 (CLP):
Skin Corrosion /irritation ,

Skin corrosion/irritation Category 1B	H314	Causes severe skin burns and eye damage
Serious eye damage/eye irritation	H318	Causes serious eye damage
Category 1		

Full text of H statements : see section 16

2.2 Label Elements
Hazard pictograms (GHS-US)

GHS05

Signal word (GHS-US)	Danger
Hazard statements (GHS-US).	H314 - Causes severe skin burns and eye damage
Precautionary statements (GHS-US)	P260 - Do not breathe mist, vapors, spray
	P264 - Wash exposed skin thoroughly after handling
	P280 - Wear protective gloves, protective clothing, eye protection, face protection

P301+P330+P331 - IF SWALLOWED: rinse mouth. Do NOT induce vomiting
P303+P361+P353 - IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower
P304+P340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
P305+P351+P338 - If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P310 - Immediately call a poison center or doctor/physician
P363 - Wash contaminated clothing before reuse
P405 - Store locked up
P501 - Dispose of contents/container to comply with local, state and federal regulations

2.3 Other Hazards which do not result in classification
Other hazards not contributing to the classification : None.

HMIS
Health: 3
Flammability: 0
Reactivity: 0

HEALTH	3
FLAMMABILITY	0
REACTIVITY	0
PERSONAL PROTECTION	H

2.4 Unknown acute toxicity (GHS US)
Not applicable

SECTION 3: COMPOSITION / INFORMATION ON INGREDIENTS

3.1 Substances
Not applicable

Chemical Identity	CAS No.	%W/W	GHS-US classification
Purified Water	7732-18-5	78.5 - 83.7	Not classified
Hydrogen Sulfate - HSO_4^-	14996-02-2	12.5 – 14.5%	Skin Corr 1A, H314 Eye Dam 1, H318
Hydronium – H_3O^+	13968-08-6	3.5 – 4.5%	Skin Corr 1A, H314 Eye Dam 1, H318
Tetraaquahydrogen(+1)	12501-73-4	0.2 - 2.2%	Not classified
Sulfate	14808-79-8	0.1- -0.3%	Not classified

3.2 Mixtures

Full text of hazard classes and H-statements: see section 16

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).
First-aid measures after inhalation	:	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a poison center or doctor/physician.
First-aid measures after skin contact	:	Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. Immediately call a poison center or doctor/physician.
First-aid measures after eye contact	:	Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center or doctor/physician.
First-aid measures after ingestion	:	Rinse mouth. Do NOT induce vomiting. Immediately call a poison center or doctor/physician.

4.2 Most Important Symptoms and Effects, Both Acute and Delayed

Acute: Ingestion will cause burns or irritation to linings of mouth, throat and distress to the gastrointestinal tract.
May cause severe chemical and mechanical eye damage and irritation with direct contact.
May cause burns or irritation of skin.
Will irritate upper respiratory tract and may cause corrosion.

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

SECTION 5: FIREFIGHTING MEASURES

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

Flash Point	Explosive Limits	Temperatures
> 220° C (428° F)	NA Auto-Ignition	NA

5.1 Extinguishing Media

Suitable Extinguishing Media: Use extinguishing media appropriate to surrounding fire condition includes foam, dry powder, carbon dioxide, water spray, sand.

Unsuitable Extinguishing Media: None known

5.2 Special Hazards Arising from the Substance or Mixture: thermal decomposition generates corrosive vapors

5.3 Advice for Firefighters and First Responders: 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 from entering the environment.

5.4 Hazardous Combustion Products: Sulfur compounds

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal Precautions, Protective Equipment and Emergency Procedures:
Protective equipment : Safety glasses . Gloves, protective clothing, head and neck protection
Emergency procedures : Evacuate unnecessary personnel.

6.2 Environmental Precautions: Try to prevent entry to sewers and public waterways. Notify appropriate authorities if liquid enters sewers or public waters

6.3 Methods and Material for Containment and Cleaning Up: Soak up 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. Wash hands and other exposed areas with mild soap and water before eating, drinking

or 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 container closed, and away from incompatible materials
Incompatible products : metals. Cyanides. Strong bases
Incompatible materials : metals such as zinc

SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Control Parameters

8.1.1 Occupational Exposure Limits

Sulfuric acid (7664-93-9)		
ACGIH	**ACGIH TWA (mg/m3)**	**0.2 mg/m3 (thoracic fraction)**
OSHA	**OSHA PEL (TWA) (mg/m3)**	**1 mg/m3**
IDLH	**US IDLH (mg/M3)**	**15 mg/m3**
NiOSH	**NIOSH REL (TWA) (mg/m3)**	**1 mg/m3**

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

Respiratory Protection: Mist formation :aerosol mask

Eye Protection: Chemical goggles or face shield

Hand Protection: Acid resistant gloves.

Skin and Body Protection: Wear acid resistant personal protective gear

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
Appearance:	liquid
Color:	Clear colorless
Odor:	None
Odor Threshold:	Not available
pH:	0.2 – 2.0
Melting Point / Freezing Point:	NA)
Initial Boiling Point:	Not available
Boiling Point:	> 112 °C (233.6° F)
Flash Point:	> 220 °C (428° F)
Evaporation Rate:	1 (Water = 1)
Flammability (solid, gas):	Non-Flammable
Upper/Lower Flammability Limit:	Non-Flammable
Auto-ignition Temperature:	Non-Flammable
Vapor Pressure:	Not available
Vapor Density:	Not available

Relative Density:	Not available
Solubilities:	Infinitely miscible with water
Partition Coefficient: N-octanol/Water:	Not available
Decomposition Temperature:	Not available
Percent Volatile, wt.%:	0%
Density Range:	1.065 – 1.09 g/ml
VOC Content, wt.%:	0%

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: reacts violently with some strong bases

10.4 Conditions to Avoid: Extremely high or low temperatures

10.5 Incompatible Materials: Metals. Cynides. Strong bases

10.6 Hazardous Decomposition Product(s): Sulfur compounds, thermal decomposition generates corrosive vapors

SECTION 11: TOXICOLOGICAL INFORMATION

11.1 Information on Toxicological Effects

11.1.2 Mixtures

Likely routes of exposure : Skin and eye contact
Acute toxicity : Not classified

Sulfuric acid (7664-93-9)	
LD50 oral rat	2140 mg/kg body weight (Rat, Experimental value)
ATE US (oral)	2140 mg/kg body weight

Water (7732-18-5)	
LD50 oral rat	>/= 90000 mg/kg
ATE US (oral)	90000 mg/kg body weight

Skin corrosion/irritation : may cause burns or irritation
Serious eye damage/irritation : causes serious eye damage
Respiratory or skin sensitization. : Not classified
Germ cell mutagenicity : Not classified
Carcinogenicity : Not classified

Sulfuric acid (7664-93-9)	
Additional information	Strong inorganic mists containing sulfuric acid are carcinogenic to humans
National Toxicology Program (NTP) Status	2 – Known Human carcinogens

Reproductive toxicity : Not classified
Specific target organ toxicity – single exposure : Not classified
Specific target organ toxicity – repeated. : Not classified
Aspiration hazard. : Not classified
Potential Adverse human health effects and symptoms : Based on available data, the classification criteria are not met
Symptoms/effects after inhalation :Corrosion of the upper respiratory tract
Symptoms/effects after skin contact :Caustic burns/corrosion of the skin.
Symptoms/effects after eye contact :Causes serious eye damage
Symptoms/effects after ingestion :Burns or irritation of the linings of the mouth, throat, and gastrointestinal tract.

11.2 Other Information: None

SECTION 12: ECOLOGICAL INFORMATION

12.1 Toxicity: Not established for mixture

Sulfuric acid (7664-93-9)	
LC50 Fish 1	42 mg/l (96 h, Gambusia affinis)
EC50 Daphnia	29 mg/l (24, Daphnia Magna)

12.2 Persistence and Degradability: Not established for mixture

Sulfuric acid (7664-93-9)	
Persistence and degradability	Biodegradability: not applicable
Biochemical oxygen demand	Not applicable
Chemical oxygen demand	Not applicable
ThOD	Not applicable
BOD (% of ThOD)	Not applicable

12.3 Bio-accumulative Potential: Not established for mixture

Sulfuric acid (7664-93-9)	
Log Pow	-2.2 (estimated value)
Bio-accumulative potential	Not Bio-accumulative

12.4 Mobility in Soil: Not available

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: None

SECTION 14: TRANSPORT INFORMATION

U.S. Department of Transportation (DOT)

In accordance with DOT
Transport document description UN2796 Sulfuric acid (with not more than 51% acid), 8, II

UN-No.(DOT)	:	UN2796
Proper Shipping Name (DOT)	:	Sulfuric acid with not more than 51% acid
Transport hazard class(es) (DOT)	:	8 - Class 8 - Corrosive material 49 CFR 173.136
Packing group (DOT)	:	II - Medium Danger
Hazard labels (DOT)	:	8 - Corrosive

DOT Packaging Non Bulk (49 CFR 173.xxx)	:	202
DOT Packaging Bulk (49 CFR 173.xxx)	:	242

DOT Special Provisions (49 CFR 172.102)	:	A3 - For combination packaging, if glass inner packaging (including ampoules) are used, they must be packed with absorbent material in tightly closed metal receptacles before packing in outer packaging. A7 - Steel packaging must be corrosion-resistant or have protection against corrosion. B2 - MC 300, MC 301, MC 302, MC 303, MC 305, and MC 306 and DOT 406 cargo tanks are not authorized. B15 - Packaging must be protected with non-metallic linings impervious to the lading or have a suitable corrosion allowance. I B2 - Authorized IBCs: Metal (31A, 31B and 31N); Rigid plastics (31H1 and 31H2); Composite (31HZ1). Additional Requirement: Only liquids with a vapor pressure less than or equal to 110 kPa at 50 C (1.1 bar at 122 F), or 130 kPa at 55 C (1.3 bar at 131 F) are authorized. N6 - Battery fluid packaged with electric storage batteries, wet or dry, must conform to the packaging provisions of 173.159 (g) or (h) of this subchapter. N34 - Aluminum construction materials are not authorized for any part of a packaging which is normally in contact with the hazardous material. T8 - 4 178.274(d)(2) Normal..... Prohibited TP2 - a. The maximum degree of filling must not exceed the degree of filling determined by the following: (image) Where: tr is the maximum mean bulk temperature during transport, tf is the temperature in degrees celsius of the liquid during filling, and a is the mean coefficient of cubical expansion of the liquid between the mean temperature of the liquid during filling (tf) and the maximum mean bulk temperature during transportation (tr) both in degrees celsius. b. For liquids transported under ambient conditions may be calculated using the formula: (image) Where: d15 and d50 are the densities (in units of mass per unit volume) of the liquid at 15 C (59 F) and 50 C (122 F), respectively. TP12 - This material is considered highly corrosive to steel.
DOT Packaging Exceptions (49 CFR 173.xxx)	:	154
DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27)	:	1 L
DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75)	:	30 L
DOT Vessel Stowage Location	:	B - (i) The material may be stowed ‘‘on deck’’ or ‘‘under deck’’ on a cargo vessel and on a passenger vessel carrying a number of passengers limited to not more than the larger of 25 passengers, or one passenger per each 3 m of overall vessel length; and (ii) ‘‘On deck only’’ on passenger vessels in which the number of passengers specified in paragraph (k)(2)(i) of this section is exceeded.
Other information	:	No supplementary information available.

SECTION 15: REGULATORY INFORMATION

15.1 Safety, Health and Environmental Regulations and Associated Hazards for the Mixture

15.1.1 Regulations

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

Chemicals(s) subject to the reporting requirements of Section 313 or Title III of the Superfund Amendments and Reauthorization Act (SARA) of 1986 and 40 CFR Part 372

Sulfuric acid	CAS-No 7664-93-9	5.0-7.0%

Sulfuric acid (7664-93-9)	
RQ (Reportable Quantity, section 304 of EPa’s lists of lists)	1000lb
SARA Section 302 Threshold Planning Quantity (TPQ)	1000lb
SARA Section 311/312 Hazard Classes	Health hazard – Skin corrosion or irritation Health hazard – Serious eye damage or eye irritation

15.2 International regulations

CANADA
No additional information available

EU-Regulations
No additional information available

National regulations

Sulfuric acid (7664-93-9)
Listed on IARC (International Agency of Research on Cancer) Listed as carcinogen on NTP (National Toxicology Program)

15.3 US State Regulations
No additional information

SECTION 16: OTHER INFORMATION

Hazard Statements and Precautionary Statements: Corrosive

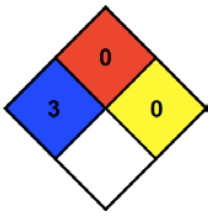
Full text of H-phrases: see section 16:

H314	Causes severe skin burns and eye damage
H318	Causes serious eye damage

NFPA health hazard : 3 - Materials that, under emergency conditions, can cause serious or permanent injury.

NFPA fire hazard : 0 - material that will burn under typical fire conditions, including intrinsically noncombustible material such as concrete stone, and sand

NFPA reactivity : 0 - material that in themselves are normally stable, even under fire conditions.



Hazard Rating

Health : 3 slight Hazard - Major injury likely unless prompt action is taken and medical treatment is given

Flammability : 0 Minimal Hazard – materials that will not burn

Physical : 0 Minimal Hazard – Materials that are normally stable, even under fire conditions, and will NOT react with water, polymerize, decompose, condense, or self-react. Non-Explosives.

Personal protection : H
H – Splash goggles, Gloves, Synthetic apron, Vapor respirator

Additional Information: Replaces all previous editions.

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

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

Creation Date **December 1, 2021**
Revision Date **June 20, 2022**
Print Date **June 20, 2022**

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