



Aqua Chemical Supply, Inc.

183 Moore Street – Millersburg – PA – 17061
Office 717-692-7369 / 1-866-375-2782 Fax 717-692-3280

1. PRODUCT AND COMPANY IDENTIFICATION

Product identifier Metal Free
Other means of identification Not available
Recommended use Deactivates iron, copper, and other trace metals. Prevents stains and water discoloration.
Recommended restrictions None known.
Manufacturer/Supplier/Distributor:
Natural Chemistry L.P.
40 Richards Ave.
Norwalk, CT 06854 US
Emergency telephone number: For emergency assistance involving chemicals call CHEMTREC day or night at: 1-800-424-9300

2. HAZARDS IDENTIFICATION

Physical hazards Not classified.
Health hazards Not classified.
Environmental hazards Not classified.
OSHA defined hazards Not classified.
Label elements
Hazard symbol None.
Signal word None.
Hazard statement The mixture does not meet the criteria for classification.
Precautionary statement
Prevention Observe good industrial hygiene practices.
Response Wash hands after handling.
Storage Store away from incompatible materials.
Disposal Dispose of waste and residues in accordance with local authority requirements.
Hazard(s) not otherwise classified (HNOC) None known.
Supplemental information Not applicable.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Mixture
Chemical name Common name and synonyms CAS number %
Citric Acid 77-92-9 1
Composition comments: All concentrations are in percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

4. FIRST AID MEASURES

Inhalation If breathing is difficult, remove to fresh air and keep at rest in a position comfortable for breathing. Call a physician if symptoms develop or persist.
Skin contact Rinse skin with water/shower. Get medical attention if irritation develops and persists.
Eye contact Rinse with water. Get medical attention if irritation develops and persists.
Ingestion Rinse mouth. If ingestion of a large amount does occur, call a poison control center immediately.
Most important symptoms/effects, acute and delayed Irritant effects.
Indication of immediate medical attention and special treatment needed Treat symptomatically.
General information Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves

5. FIRE FIGHTING MEASURES

Suitable extinguishing media Water fog. Foam. Dry chemical powder. Carbon dioxide (CO₂).
Unsuitable extinguishing media None known.
Specific hazards arising from the chemical During fire, gases hazardous to health may be formed.
Special protective equipment and precautions for firefighters Self-contained breathing apparatus and full protective clothing must be worn in case of fire. Move containers from fire area if you can do so without risk.

Fire-fighting equipment/instructions	
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.
General fire hazards	No unusual fire or explosion hazards noted.
Hazardous combustion products	Oxides of carbon.
Explosion data	
Sensitivity to mechanical impact	Not available.
Sensitivity to static discharge	Not available.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. For personal protection, see section 8 of the SDS.
Methods and materials for containment and cleaning up	Stop the flow of material, if this is without risk.
Large Spills:	Dike the spilled material, where this is possible. Cover with plastic sheet to prevent spreading. Absorb in vermiculite, dry sand or earth and place into containers. Prevent entry into waterways, sewer, basements or confined areas. Following product recovery, flush area with water.
Small Spills:	Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.
Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.	
Environmental precautions	Avoid discharge into drains, water courses or onto the ground

7. HANDLING AND STORAGE

Precautions for safe handling	Use care in handling/storage.
Conditions for safe storage, including any incompatibilities	Store in original tightly closed container. Store away from incompatible materials (see Section 10 of the SDS).

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Occupational exposure limits	No exposure limits noted for ingredient(s).
Biological limit values	No biological exposure limits noted for the ingredient(s).
Appropriate engineering controls	Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level
Individual protection measures, such as personal protective equipment	
Eye/face protection	Safety glasses if eye contact is possible. Skin protection
Hand protection	If there is constant skin contact, rubber gloves are recommended.
Other	Wear suitable protective clothing.
Respiratory protection	No personal respiratory protective equipment normally required.
Thermal hazards	Not applicable.
General hygiene considerations	Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Clear
Physical state	Liquid.
Form	Liquid.
Color	Colorless
Odor	None
Odor threshold	Not available.
pH	5.9 - 6.5
Melting point/freezing point	Not available.
Initial boiling point and boiling range	Not available.
Pour point	Not available.
Specific gravity	1.08 - 1.14
Partition coefficient (n-octanol/water)	Not available.
Flash point	None
Evaporation rate	Not available.
Flammability (solid, gas)	Not applicable
Upper/lower flammability or explosive limits	

Flammability limit – lower (%)	Not available
Flammability limit – upper (%)	Not applicable
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	Not available.
Vapor density	Not available.
Relative density	9 - 9.5 lb/gal
Solubility(ies)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	Not available

10. STABILITY AND REACTIVITY

Reactivity	None known.
Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.
Chemical stability	Material is stable under normal conditions. Conditions to avoid
Contact with incompatible materials.	Incompatible materials Strong oxidizing agents.
Hazardous decomposition products	Oxides of carbon.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure		
Ingestion	Expected to be a low ingestion hazard.	
Inhalation	No adverse effects due to inhalation are expected.	
Skin contact	May be irritating to the skin.	
Eye contact	May be irritating to eyes.	
Symptoms related to the physical, chemical and toxicological characteristics Irritant effects.		
Information on toxicological effects		
Acute toxicity		
Components	Species	
Citric Acid (CAS 77-92-9)		
Acute Dermal LD50	Not available	
Inhalation LC50	Not available	
Test Results		
Components	Species	Test Results
Oral		
LD50	Mouse	5040 mg/kg
	Rat	3000 mg/kg
Skin corrosion/irritation Prolonged skin contact may cause temporary irritation.		
Exposure minutes	Not available.	
Erythema value	Not available.	
Oedema value	Not available.	
Serious eye damage/eye irritation	May cause irritation.	
Corneal opacity value	Not available.	
Iris lesion value	Not available.	
Conjunctival reddening value	Not available.	
Conjunctival oedema value	Not available.	
Recover days	Not available.	
Respiratory or skin sensitization		
Respiratory sensitization	Not classified.	
Skin sensitization	This product is not expected to cause skin sensitization.	
Germ cell mutagenicity	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.	
Mutagenicity	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.	
Carcinogenicity	This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.	
Reproductive toxicity	This product is not expected to cause reproductive or developmental effects.	
Teratogenicity	Not classified.	

Specific target organ toxicity - single exposure	Not classified.
Specific target organ toxicity - repeated exposure	Not classified.
Aspiration hazard	Not classified.
Chronic effects	Not classified.
Further information	Not available.
Name of Toxicologically Synergistic Products	Not available

12. ECOLOGICAL INFORMATION

Ecotoxicity The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Components	Species	Test Results
Citric Acid (CAS 77-92-9)		
Acute		
Crustacea	EC50	Daphnia magna 120 mg/l, 72 hr

Aquatic		
Acute		
Fish	LC50	Bluegill (Lepomis macrochirus) 1516 mg/l, 96 hr

Persistence and degradability	No data is available on the degradability of this product.
Bioaccumulative potential	No data available.
Mobility in soil	No data available.
Mobility in general	Not available.
Other adverse effects	No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. DISPOSAL CONSIDERATION

Disposal instructions	Collect and reclaim or dispose in sealed containers at licensed waste disposal site.
Local disposal regulations	Dispose in accordance with all applicable regulations
Hazardous waste code	The waste code should be assigned in discussion between the user, the producer and the waste disposal company.
Waste from residues / unused products	
Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).	
Contaminated packaging	Empty containers should be taken to an approved waste handling site for recycling or disposal.
Since emptied containers may retain product residue, follow label warnings even after container is emptied.	

14. TRANSPORT INFORMATION

U.S. Department of Transportation (DOT)	Not regulated as dangerous goods.
Transportation of Dangerous Goods (TDG - Canada)	Not regulated as dangerous goods

15. REGULATORY INFORMATION

16. OTHER INFORMATION

Notice

Aqua Chemical Supply, Inc. expressly disclaims all express or implied warranties of merchantability and fitness for a particular purpose, with respect to the product or information provided herein, and shall under no circumstances be liable for incidental or consequential damages.

Do not use ingredient information and/or ingredient percentages in this SDS as a product specification. For product specification information refer to a product specification sheet and/or a certificate of analysis. These can be obtained from your local Aqua Chemical Supply, Inc. sales office.

All information appearing herein is based upon data obtained from the manufacturer and/or recognized technical sources. While the information is believed to be accurate, Aqua Chemical Supply, Inc. makes no representations as to its accuracy or sufficiency. Conditions of use are beyond Aqua Chemical Supply, Inc.'s control and therefore users are responsible to verify this data under their own operating conditions to determine whether the product is suitable for their particular purposes and they assume all risks of their use, handling, and disposal of the product, or from the publication or use of, or reliance upon, information contained herein.

This information relates only to the product designated herein, and does not relate to its use in combination with any other material or in any other process.