AQUABOND Chemistry for Tomorrow SAFETY DATA SHEET

Citric Acid

SECTION 1: IDENTIFICATION

Product identifier used on a label:	**Citric Acid**
Product code:	1012
Recommended use of the chemical and restrictions on use:	Acidifying agent, antioxidant, preservative
Chemical family:	Organic acid.
Name, address and phone # of supplier:	Aqua Bond Inc. PO Box 63635 Toronto, ON, M1V 5K2 (416) 754-7211
24 Hr. Emergency phone #	**CANUTEC (613) 996-6666**

SECTION 2: HAZARDS IDENTIFICATION

Classification of the chemical: This material is classified as hazardous under U.S. OSHA regulations (29CFR 1910.1200) (Hazcom 2012) and Canadian WHMIS regulations (Hazardous Products Regulations) (WHMIS 2015).

Hazard classification: COMBUSTIBLE DUSTS: CATEGORY 1.
SERIOUS EYE DAMAGE/IRRITATION: CATEGORY 2.

Label elements:



Signal word: Warning

Hazard statements: May form combustible dust concentrations in air.
H319: Causes serious eye irritation.

Precautionary statements:

Prevention

P210: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P264: Wash hands thoroughly after handling.
P280: Wear protective gloves/protective clothing/eye protection/face protection.

Response

Eyes:
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.

Other hazards: None known.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Pure substance/ mixture: Pure substance

Ingredient name	**CAS Number**	**Concentration (wt. %)**
Citric Acid	77-92-9	>99.5%

SECTION 4: FIRST-AID MEASURES

Description of first aid measures:

Ingestion	DO NOT induce vomiting, rinse mouth. Administer water if patient is conscious. Immediately call a POISON CENTER or doctor/physician.
Inhalation	Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Immediately call a POISON CENTER or doctor/physician.
Skin contact	In case of contact, immediately flush skin with plenty of water. Remove contaminated clothing and shoes. Immediately call a POISON CENTER or doctor/physician.
Eye contact	Check for and remove any contact lenses. Immediately flush eyes with running water for at least 15 minutes, keeping eyelids open. Immediately call a POISON CENTER or doctor/physician.

Most important symptoms and effects, both acute and delayed:

Ingestion	No specific data.
Inhalation	No specific data.
Skin contact	Skin irritation. May cause redness and pain.
Eye contact	Severe eye irritation. Symptoms may include: stinging, tearing, redness, swelling and blurred vision.

Indication of any immediate medical attention and special treatment needed:
Provide general supportive measures and treat symptomatically. Keep victim under observation. Symptoms may be delayed.

Protection of first-aiders: First-Aid Providers:
No action shall be taken involving any personal risk or without suitable training. If it is suspected that mists are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

SECTION 5: FIRE-FIGHTING MEASURES

Extinguishing media:

Suitable	Water fog. Foam. Dry chemical powder. Carbon dioxide (CO_2).
Unsuitable	Do not use water jet, as this will spread the fire.
Flash point:	Not Available.
Autoignition Temperature:	Not Available.
Special hazards arising from the substance:	Not Available.
Hazardous thermal decomposition products:	Carbon oxides.
Specific hazards:	During fire, gases hazardous to health may be formed.
Special protective actions for fire-fighters:	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk

	or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.
Special protective equipment for fire-fighters:	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures:	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Do not breathe vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment. Wear chemical goggles, body-covering protective clothing, chemical resistant gloves, and rubber boots.
Environmental precautions:	Should not be released into environment. Prevent from reaching drains, sewer, or waterway.
Methods and materials for containment and cleaning up:	Wear protective eyewear, gloves, and clothing. Refer to Section 8. Always obey local regulations. Containerize for disposal. Refer to Section 13. If necessary use trained response staff or contractor. Evacuate personnel to safe areas. Keep in suitable closed containers for disposal. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Avoid dust generation. Do not dry sweep. Vacuum dust with equipment fitted with HEPA filter and place in closed, labeled waste container. Avoid creating dusty conditions and prevent wind dispersal. Dispose of via a licensed waste disposal contractor.
Special spill response procedures:	In case of transportation accident, contact CANUTEC (613) 996-6666.

SECTION 7: HANDLING AND STORAGE

Precautions for safe handling:	Put on appropriate personal protective equipment. Avoid exposure – obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Do not reuse container.
Conditions for safe storage:	Store in accordance with local regulations. Store in a segregated and approved area. Store protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials, food and drink. Store locked up. Keep originally sealed bags until ready for use. Do not taste or swallow. Wash thoroughly after handling. Containers

	that have been opened must be resealed and kept upright. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.
Incompatible materials:	Strong bases, strong oxidizing/reducing agents, Metals.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters:	
Exposure limits	No exposure limits noted for ingredients.
Appropriate engineering controls:	Good general ventilation 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. Provide eyewash station and safety shower.
Individual protection measures:	Eyes/face: Chemical splash goggles and face shield. Skin: Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. Respiratory: Wear appropriate respirator where spray mist occurs. Be sure to use a NIOSH approved dust and mist respirator or equivalent. Hygiene measures: Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product. When using, do not eat, drink or smoke.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	White solid.
Odor:	Odorless.
Odor threshold:	Not available.
pH:	2.2 @ 1%.
Melting/Freezing point:	153°C
Initial boiling point and boiling range:	Decomposes.
Flash point:	Not available.
Evaporation rate:	Not available.
Flammability:	Finely powdered citric acid anhydrous may form flammable or explosive mixtures with air at 500mg per litre.
Upper and lower flammability limits:	Not available.
Vapour pressure:	2.21×10^{-6} Pa.
Vapour density:	Not available.
Relative density:	1.67 g/cm^3
Solubility (in water):	Soluble

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VOC	47 g/L
Partition coefficient n-octanol/water:	Log Kow: -0.2 to -1.8.
Auto-ignition temperature:	1010 °C
Decomposition temperature:	175 °C.
Viscosity:	Not available.

SECTION 10: STABILITY AND REACTIVITY

Reactivity and chemical stability:	Stable under recommended storage conditions
Possibility of hazardous reactions and conditions to avoid:	Under normal conditions of storage and use, hazardous reactions will not occur.
Incompatible materials:	See Section 7.
Hazardous decomposition products:	Carbon oxides.
Hazardous polymerization:	Under normal conditions of storage and use, hazardous polymerization will not occur.

SECTION 11: TOXICOLOGICAL INFORMATION

Toxicity data:

77-92-9	LD50 Rat Oral: 3 g/kg Mild Irritation Rabbit Skin: 500 mg/24h Severe Irritation Rabbit Eye: 0.75 mg/24h
Information on the likely routes of exposure:	Skin and Eyes: yes Inhalation: yes Ingestion: yes
Potential health effects (acute):	EYE: Causes serious eye irritation. Adverse symptoms may include: stinging, tearing, redness, swelling and blurred vision. INHALATION: No specific data. SKIN: Causes skin irritation.Adverse symptoms may include redness and pain. INGESTION: Expected to be a low ingestion hazard.
Delayed and immediate effects, chronic effects from short and long term exposure:	None known.
Potential chronic health effects:	None known.
Carcinogenicity:	No applicable data.
Mutagenicity:	No known significant effects or critical hazards.
Teratogenicity:	No known significant effects or critical hazards.
Developmental effects:	No known significant effects or critical hazards.
Fertility effects:	No known significant effects or critical hazards.
Sensitization:	No known significant effects or critical hazards.
Toxicological effects:	No known significant effects or critical hazards.
Acute toxicity:	May be harmful in contact with skin.
Irritation/corrosion:	Causes skin irritation. Causes serious eye irritation.

Specific target organ toxicity single exposure: Not classified.

Specific target organ toxicity repeated exposure: Not classified.

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Aspiration hazard: Not available.

SECTION 12 ECOLOGICAL INFORMATION

Toxicity:

Citric Acid (77-92-9)	Fish:	LC50 Leuciscus idus melanotus: 440 mg/L/48h
	Daphnia:	LC50 Daphnia magna (Water flea): 1535 mg/L/24h

Persistence and degradability: This material is expected to biodegrade.
Bioaccumulative potential: No data available.
Mobility in soil: No data available.

SECTION 13: DISPOSAL CONSIDERATIONS

Disposal methods: The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and nonrecyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

SECTION 14: TRANSPORT INFORMATION

	TDG
UN Number:	Not regulated.
UN proper shipping name:	-
Transport hazard class:	-
Packing group:	-
Environmental hazard:	No data available.
Special precautions for user:	**Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident.

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SECTION 15: REGULATORY INFORMATION

United States

Toxic Substances Control Act (TSCA)	All components are listed.
Superfund Amendments and Reauthorization Acts	Section 311/312: Yes.

Canada

Canadian Domestic Substances List (DSL):	All components are listed.

SECTION 16: OTHER INFORMATION

Revision date: March 11, 2024

UN = United Nations

Disclaimer

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