SAFETY DATA SHEET

Oxalic Acid

SECTION 1: IDENTIFICATION

Product identifier used on a label:	Oxalic Acid
Product code:	1049
HS Code:	29171190
CAS-No.:	6153-56-6
Synonyms:	Oxalic Acid, Dihydrate, ethane diacid; ethanedioic acid; ethanedionic acid; dicarboxylic acid; acid of sugar; saccharine acid; acid of wood sorrel; dibasic acid
Recommended use of the chemical and restrictions on use:	Acidifying agent. Reducing agent. See document applications.
Chemical family:	Organic Acid
Chemical formula:	$C_2H_2O_4.2H_2O$
Name, address and phone # of supplier:	Aqua Bond Inc. PO Box 63635, Woodside Square Toronto, ON, M1V 5J8 (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: GHS Classification

Acute toxicity, Oral (Category 4), H302
Acute toxicity, Dermal (Category 4), H312
Serious eye damage (Category 1), H318

Label elements:



Signal word: DANGER

Hazard statements:
H302 + H312 Harmful if swallowed or in contact with skin.
H318 Causes serious eye damage.

Precautionary statements:
Prevention
P264 Wash skin thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.

P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

Response
P301 + P312 + P330 IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell. Rinse mouth.
P302 + P352 + P312 IF ON SKIN: Wash with plenty of water. Call a POISON CENTER/doctor if you feel unwell.
P305 + P351 + P338 + P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/doctor.
P362 + P364 Take off contaminated clothing and wash it before reuse.

Disposal
P501 Dispose of contents/ container to an approved waste disposal plant.

Other Hazards: Not available.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Ingredient name	Synonyms	CAS Number	Concentration (wt. %)
Oxalic acid	Oxalic Acid, Dihydrate, ethanedioic acid.	6153-56-6	≥ 99.5 %

SECTION 4: FIRST-AID MEASURES
Description of first aid measures:

Inhalation — Move casualty to fresh air and keep at rest. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Treat symptomatically. Get medical attention if symptoms occur.

Skin contact — Take off contaminated clothing and shoes immediately. Wash off with soap and plenty of water. Call a physician immediately.

Eye contact — After eye contact: rinse out with plenty of water. Get medical attention immediately.

Ingestion — Do Not Induce Vomiting. Never give anything by mouth to an unconscious person. If conscious, wash out mouth with water. Get medical attention immediately.

Most important symptoms and effects, both acute and delayed: No data available.
Indication of any immediate medical attention and special treatment needed: No data available.

SECTION 5: FIRE-FIGHTING MEASURES

Extinguishing media:	Use media appropriate for the surrounding fire.
Suitable:	Use foam, dry chemical, water, carbon dioxide.
Unsuitable:	Not data available.
Flash point:	Not data available.
Autoignition Temperature:	Not data available.
Specific hazards arising from the substance:	Carbon oxides
Hazardous thermal decomposition products:	Carbon oxides
Special protective equipment and precautions 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. Suppress (knock down) gases/vapors/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures:	Use personal protective equipment. Ensure adequate ventilation. Keep people away from and upwind of spill/leak. Avoid inhalation, ingestion and contact with skin and eyes. When workers are facing concentrations above the exposure limit they must use appropriate certified respirators. Ensure clean-up is conducted by trained personnel only.
Environmental precautions:	Do not allow contact with soil, surface or ground water.
Methods and materials for containment and cleaning up:	IN CASE OF SPILL: Eliminate sources of ignition. All equipment used when handling the product must be grounded. Sweep or scoop up and dispose as hazardous waste. Wear protective eyeware, gloves, and clothing. Refer to Section 8. Always obey local regulations. If necessary use trained response staff or contractor.
Special spill response procedures:	In case of transportation accident, contact CHEMTREC at 1-800-424-9300.

SECTION 7: HANDLING AND STORAGE

Precautions for safe handling:	Use personal protective equipment as required. Container must be kept tightly closed. Eliminate all sources of ignition. Avoid generation and spreading of dust. Avoid contact with skin and eyes. Avoid inhalation of vapour or mist. Do not ingest. Do not breathe vapors or spray mist.

Conditions for safe storage:	Keep container tightly closed in a dry and well-ventilated place. Moisture sensitive. Keep in a dry place. Storage class (TRGS 510): 13: Non Combustible Solids
Incompatible materials:	Strong oxidizing agents, strong bases
Hazardous decomposition products:	Decomposition may cause formation of carbon oxides

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Control Parameters

Ingredient	**Exposure limits**
Oxalic acid	STEL 2 mg/m^3 US. ACGIH Threshold Limit Values (03 2013) TWA 1 mg/m^3 US. ACGIH Threshold Limit Values (03 2013) REL 1 mg/m^3 US. NIOSH: Pocket Guide to Chemical Hazards (2010) STEL 2 mg/m^3 US. NIOSH: Pocket Guide to Chemical Hazards (2010) PEL 1 mg/m^3 US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006) STEL 2 mg/m^3 US. OSHA Table Z-1-A (29 CFR 1910.1000) (1989) TWA 1 mg/m^3 US. OSHA Table Z-1-A (29 CFR 1910.1000) (1989) STEL 2 mg/m^3 US. ACGIH Threshold Limit Values (03 2013) TWA 1 mg/m^3 US. ACGIH Threshold Limit Values (03 2013) REL 1 mg/m^3 US. NIOSH: Pocket Guide to Chemical Hazards (2010) STEL 2 mg/m^3 US. NIOSH: Pocket Guide to Chemical Hazards (2010) PEL 1 mg/m^3 US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006) STEL 2 mg/m^3 US. OSHA Table Z-1-A (29 CFR 1910.1000) (1989) TWA 1 mg/m^3 US. OSHA Table Z-1-A (29 CFR 1910.1000) (1989) TLV: Threshold Limit Value over 8 hours of work. STEL: Short Term Exposure Limit during x minutes.IDLH: Immediately Dangerous to Life or Health REL: Recommended Exposure Limit PEL: Permissible Exposure Limit

Engineering controls:	Ensure adequate ventilation, especially in confined areas. Maintain air concentrations below occupational exposure standards.
Individual protection measures:	Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Eye Protection: Use chemical safety goggles and / or a full face shield where splashing is possible. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Maintain eye wash fountain and quick-drench facilities in work area.

Skin Protection: Wear appropriate protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact. Handle with gloves. Gloves must be inspected prior to use.

Respiratory protection: When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.

Hygiene Measures: When using, do not eat, drink or smoke. Contaminated work clothing should not be allowed out of the workplace. Provide regular cleaning of equipment, work area and clothing. Avoid contact with skin, eyes and clothing. For environmental protection remove and wash all contaminated protective equipment before re-use. Wear suitable gloves and eye/face protection.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	White powder
Odour:	odourless
Odour threshold:	No data available
pH:	1.3 at 9 g/L
Melting point/Freezing point:	101.5 °C
Initial boiling point/boiling range:	149 - 160 °C
Flash point:	No data available
Evaporation rate:	No data available
Flammability (solid; gas) :	No data available
Lower flammable/explosive limit:	No data available
Upper flammable/explosive limit:	No data available
Vapour pressure:	No data available
Vapour density:	No data available
Density:	1.653 g/cm^3
Solubility:	Soluble in water
Partition coefficient (n-octanol/water) :	No data available
Auto-ignition temperature:	No data available.

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Decomposition temperature:	No data available.
Viscosity:	No data available.

SECTION 10: STABILITY AND REACTIVITY

Reactivity:	No data available.
Chemical stability:	Stable under recommended storage conditions.
Possibility of hazardous reactions:	No data available.
Conditions to avoid:	Incompatible products. Moisture.
Incompatible materials:	Strong oxidizing agents, Strong bases.
Hazardous decomposition products:	Fire may cause formation of carbon oxides.

SECTION 11: TOXICOLOGICAL INFORMATION

Toxicity data	
Acute toxicity:	No data available.
Information on the likely routes of exposure:	Skin, eye, inhalation, ingestion
Potential health effects (acute):	Eyes: Causes serious eye damage. Skin: Harmful in contact with skin. Causes severe skin burns. Ingestion: Harmful if swallowed. Causes digestive tract burns. Inhalation: May be harmful if inhaled. May cause nose, throat, and lung irritation.
Target organ effects:	No data available.
Carcinogenicity:	IARC: No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC. ACGIH: No ingredient of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.
Potential chronic health effects:	No data available.
Teratogenicity:	No data available.
Developmental effects:	No data available.
Fertility effects:	No data available.
Irritation/corrosion:	No data available.

SECTION 12: ECOLOGICAL INFORMATION

Toxicity : Oxalic Acid	
Toxicity to fish	No data available.
Toxicity to daphnia and other aquatic invertebrates	ethanedioic acid, dehydrate: 48 h EC50 Daphnia: 137 mg/l
Toxicity to microorganisms:	No data available.
Bioaccumulation:	No data available.
Biodegradation:	No data available.
Abiotic Degradation:	No data available.

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Mobility in soil, water:	No data available.
Other adverse effects:	No data available.
Persistence and degradability:	No data available.

SECTION 13: DISPOSAL CONSIDERATIONS

Disposal methods: The generation of waste should be avoided or minimized wherever possible. Dispose of surplus and nonrecyclable products via a licensed waste disposal contractor. 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. Do not flush to sewers.

Contaminated packaging: Empty containers should be taken to an approved waste handling site for recycling or disposal.

If not otherwise specified: Dispose of as unused product.

SECTION 14: TRANSPORT INFORMATION

Not regulated for US DOT transport.
Not regulated for IMDG transport.

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.

SECTION 15: REGULATORY INFORMATION

This product has been classified in accordance with the hazard criteria of the Hazardous Products Regulations (HPR) and the SDS contains all the information required by the HPR.

US federal regulations US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)
None present or none present in regulated quantities.
CERCLA Hazardous Substance List (40 CFR 302.4):
None present or none present in regulated quantities.
Superfund amendments and reauthorization act of 1986 (SARA)
Hazard categories: Not listed.
SARA 302 Extremely hazardous substance
None present or none present in regulated quantities.
SARA 304 Emergency release notification
None present or none present in regulated quantities.
SARA 311/312 Hazardous chemical
Oxalic Acid - Threshold Planning Quantity - 500 lbs
SARA 313 (TRI reporting)
None present or none present in regulated quantities.

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Clean Water Act Section 311 Hazardous Substances (40 CFR 117.3)
None present or none present in regulated quantities.
Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130):
None present or none present in regulated quantities.
US state regulations
US. California Proposition 65
No ingredient regulated by CA Prop 65 present.
US. New Jersey Worker and Community Right-to-Know Act
Oxalic Acid Listed
US. Massachusetts RTK - Substance List
Oxalic Acid Listed
US. Pennsylvania RTK - Hazardous Substances
Oxalic Acid Listed
US. Rhode Island RTK
No ingredient regulated by RI Right-to-Know Law present.

SECTION 16: OTHER INFORMATION

Revision date: September 8, 2023
UN = United Nations

Disclaimer

While the information and recommendations set forth are believed to be accurate as of data hereof, Aqua Bond Inc., makes no warranty with respect thereto and disclaims all liability from reliance thereon.