
Section 01 Identification

Product Identifier	Oxalic Acid Oxalic acid dihydrate
Other Means of Identification	Ethanedioic acid, Wood bleach, Crab acid, CAS: 6153-56-6
Product Use and Restrictions on Use	Metal cleaning, textile cleaning, anti-corrosion coating, chemical intermediate, catalyst, flameproofing, fabric dyeing, pH control.
Initial Supplier Identifier	ClearTech Industries Inc. 1500 Quebec Avenue Saskatoon, SK. Canada S7K 1V7 Phone: 800.387.7503 Fax: 888.281.8109 www.cleartech.ca
Prepared By	ClearTech Industries Inc. technical writer
24-Hour Emergency Phone	306.664.2522

Section 02 Hazard Identification

Physical Hazards

This product does not qualify for any physical hazard class under WHMIS 2015

Health Hazards

Acute toxicity - oral	Category 4
Acute toxicity - dermal	Category 4
Serious eye damage / eye irritation	Category 1

Signal Word

Danger

Hazard Statements

- H302 Harmful if swallowed.
- H312 Harmful in contact with skin.
- H318 Causes serious eye damage.

Pictograms



Precautionary Statements

Prevention

- P264 Wash affected body parts 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: Rinse mouth. Call a POISON CENTER or doctor if you feel unwell.
P303 P352 P362 IF ON SKIN (or hair): Wash with plenty of water. Take off contaminated clothing and wash it before reuse. Call a POISON CENTER or doctor if you feel unwell.
P305 P351 P338 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 or doctor.

Disposal

- P501 Dispose of contents / container in accordance with all federal, provincial and / or local regulations including the Canadian Environmental Protection Act.

Hazards Not Otherwise Classified

Not available

Supplemental Information

Not available

Section 03 Composition / Information on Ingredients

Hazardous Ingredients:

Chemical name	Common name(s)	CAS number	Concentration (w/w%)
Ethanedioic acid dihydrate	Oxalic acid hydrate	6153-56-6	≥99.6
Ethanedioic acid	Oxalic acid	144-62-7	71.1%-71.4%

Section 04 First-Aid Measures

Description of necessary first-aid measures

- Inhalation** Get medical advice / attention if you feel unwell or are concerned.
Ingestion Call a POISON CENTER or doctor if you feel unwell. Rinse mouth.
Skin contact Avoid direct contact. Wear chemical protective clothing, if necessary. 5 minutes or until product is removed.
Eye contact Remove source of exposure or move person to fresh air. Rinse eyes cautiously with lukewarm, gently flowing water for several minutes, while holding the eyelids open. Remove contact lenses, if present and easy to do. Continue rinsing for 30 minutes. Take care not to rinse contaminated water into the unaffected eye or onto the face. Immediately call a POISON CENTER or doctor.

Most important symptoms and effects, both acute and delayed

- Inhalation** May cause respiratory irritation.
Ingestion Harmful if swallowed.
Skin contact May cause redness and irritation.
Eye contact Causes serious eye damage.
Further information For further information see Section 11 Toxicological Information.

Section 05 Fire Fighting Measures

Suitable extinguishing media	Extinguish fire using extinguishing agents suitable for the surrounding fire.
Unsuitable extinguishing media	Water jets are not recommended in fires involving chemicals.
Specific hazards arising from the chemical	In the event of a fire oxides of carbon and formic acid may be released.
Special protective equipment for fire-fighters	Wear NIOSH-approved self-contained breathing apparatus and chemical-protective clothing.

Section 06 Accidental Release Measures

Personal Precautions / Protective Equipment / Emergency Procedures	Wear appropriate personal protective equipment (See Section 08 Exposure Controls and Personal Protection). Stay upwind, ventilate area.
Environmental Precautions	Prevent material from entering waterways, sewers or confined spaces. Notify local health and wildlife officials. Notify operators of nearby water intakes.
Methods and Materials for Containment and Cleaning Up	Dry sweeping is not recommended. Pre-dampening the material or use of a vacuum is preferred. Shovel into clean, dry, labeled containers and cover. Flush area with water.

Section 07 Handling and Storage

Precautions for Safe Handling	Use proper equipment for lifting and transporting all containers. Use sensible industrial hygiene and housekeeping practices. Wash thoroughly after handling. Avoid all situations that could lead to harmful exposure. Inspect containers for damage or leaks before handling. If the original label is damaged or missing replace with a workplace label. Have suitable emergency equipment for fires, spills and leaks readily available.
Conditions for Safe Storage	Store in a cool, dry, well-ventilated area, away from heat sources and incompatible materials. Always store in original labeled container. Keep containers tightly closed when not in use and when empty. Empty containers may contain hazardous residues. Protect label and keep it visible.
Incompatibilities	Bases, such as potassium hydroxide, sodium hydroxide, calcium hydroxide (slaked lime), ammonia, carbonates. Oxidizing agents, such as oxygen, hydrogen peroxide, sulphuric and nitric acids, hypochlorites and permanganates.

Section 08 Exposure Controls and Personal Protection

Exposure limits

Component	Regulation	Type of listing	Value
Oxalic acid	ACGIH	TWA	1 mg/m ³
		STEL / ceiling	2 mg/m ³

Engineering controls

Ventilation Requirements	Mechanical ventilation (dilution or local exhaust), process or personnel enclosure and control of process conditions should be provided in accordance with all fire codes and regulatory requirements. Supply sufficient replacement air to make up for air removed by exhaust systems.
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Other A soak hose and eyewash station or emergency shower and eyewash station should be available, tested, and be in close proximity to the product being handled in accordance with provincial regulations.

Protective equipment

The following are recommendations only. It is the responsibility of the employer / user to conduct a hazard assessment of the process in which this product being used and determine the proper engineering controls and PPE for their process. Additional regulatory and safety information should be sought from local authorities and, if needed, a professional industrial hygienist.

Eye and face protection Where there is potential eye or face exposure, tightly fitting safety goggles and a face shield or a full face respirator or similar protective equipment which protects the wearer's face and eyes are recommended. Contact lenses are not recommended; they may contribute to severe eye injury.

Hand and body protection Disposable latex or nitrile gloves are recommended to prevent incidental contact. Butyl rubber, neoprene, or PVC skin protection is recommended for extended contact. Leather gloves are not recommended for chemical protection. Refer to manufacturer's specifications for breakthrough times and permeability information; note that breakthrough times and permeability vary with temperature, application and age of material. Continued use of contaminated safety gear or clothing is not recommended; wash before reuse or discard.

Respiratory protection In case of insufficient ventilation wear suitable respiratory equipment.

Thermal hazards Not available

Section 09 Physical and Chemical Properties

Appearance

Physical state Solid
Colour White
Odour Odourless
Odour threshold Not available

Property

pH Acidic
Melting point / freezing point 101 °C
Initial boiling point and boiling range Not available
Flash point Not applicable
Evaporation rate Not available
Flammability Non flammable
Upper flammable limit Not available
Lower flammable limit Not available
Vapour pressure Not available
Vapour density Not available
Relative density 0.813 g/cm³
Solubility 151 g/L in water @ 20 °C
Partition coefficient: n-octanol/water Log(Kow) = -1.7 @ 23 °C
Auto-ignition temperature 400 °C
Decomposition temperature Not available

Viscosity	Not applicable
Specific gravity	Not applicable
Particle characteristics	Particle size: Not available Particle shape: Free flowing crystals and powder
Formula	$C_2H_2O_4 \cdot 2H_2O$
Molecular weight	90.034 g/mol (anhydrous) 126.065 g/mol (dihydrate)

Section 10 Stability and Reactivity

Reactivity	Reacts violently with bases.
Stability	This product is stable if stored according to the recommendations in Section 07.
Possibility of hazardous reactions	Hazardous polymerization is not known to occur.
Conditions to avoid	Avoid contact with incompatible materials.
Incompatible materials	Bases, such as potassium hydroxide, sodium hydroxide, calcium hydroxide (slaked lime), ammonia, carbonates. Oxidizing agents, such as oxygen, hydrogen peroxide, sulphuric and nitric acids, hypochlorites and permanganates.
Hazardous decomposition products	Thermal decomposition may produce oxides of carbon and formic acid.

Section 11 Toxicological Information

Acute Toxicity (LD50 / LC50 values)

Component	Route	Species	Value	Exposure time
Oxalic acid	Oral	Rat	375 mg/kg bw	

Toxic Health Effect Summary

Chemical characteristics	No known effects
Skin	May cause redness and irritation.
Ingestion	Harmful if swallowed.
Inhalation	May cause respiratory irritation.
Eye contact	Causes serious eye damage.
Sensitization	This product and its components at their listed concentration have no known sensitizing effects.
Mutagenicity	This product and its components at their listed concentration have no known mutagenic effects.
Carcinogenicity	This product and its components at their listed concentration have no known carcinogenic effects.
Reproductive toxicity	This product and its components at their listed concentration have no known reproductive effects.
Specific organ toxicity	This product and its components at their listed concentration have no known effects on specific organs.
Aspiration hazard	Not available
Synergistic materials	Not available

Section 12 Ecological Information

Ecotoxicity

Safety Data Sheet

Oxalic Acid
ClearTech Industries Inc

Component	Type	Species	Value	Exposure Time
Oxalic acid	LC50	Freshwater fish	160 mg/L	96 hours
	EC50	Aquatic invertebrates	162.2 mg/L	48 hours
	EC50	Algae	19.14 mg/L	72 hours

Biodegradability	The domestic substance list categorizes oxalic acid as non-persistent.
Bioaccumulation	The domestic substance list categorizes oxalic acid as non-bioaccumulative.
Mobility	This product is water soluble, but is expected to adsorb to soil and is not expected to contaminate ground water.
Other adverse effects	Not available

Section 13 Disposal Considerations

Waste From Residues / Unused Products	Dispose in accordance with all federal, provincial, and local regulations including the Canadian Environmental Protection Act.
Contaminated Packaging	Do not remove label, follow label warnings even after the container is empty. Empty containers should be recycled or disposed of at an approved waste handling facility.

Section 14 Transport Information

UN number	This product does not meet the definition of dangerous goods per Part 2 of Transport of Dangerous Goods Regulations
UN proper shipping name and description	Not available
Transport hazard class(es)	Not available
Packing group	Not available
Excepted quantities	Not available
Environmental hazards	Not listed as a marine pollutant under Canadian TDG Regulations, schedule III.
Special precautions	No special precautions
Transport in bulk	ERAP index: not available
Additional information	MARPOL 73/78 and IBC Code: This product is not listed in Chapter 17 of the IBC Code. Secure containers (full or empty) during shipment and ensure all caps, valves, or closures are secured in the closed position.

TDG PRODUCT CLASSIFICATION: This product has been classified on the preparation date specified at section 16 of this SDS, for transportation in accordance with the requirements of part 2 of the Transportation of Dangerous Goods Regulations. If applicable, testing and published test data regarding the classification of this product are listed in the references at section 16 of this SDS.

Section 15 Regulatory Information.

NOTE: THE PRODUCT LISTED ON THIS SAFETY DATA SHEET HAS BEEN CLASSIFIED IN ACCORDANCE WITH THE HAZARD CRITERIA OF THE CANADIAN HAZARDOUS PRODUCTS REGULATIONS. THIS SAFETY DATA SHEET CONTAINS ALL INFORMATION REQUIRED BY THOSE REGULATIONS.

All components of this product appear on the domestic substance list.

Section 16 Other Information

Date of latest revision: June 30, 2023

Note: The responsibility to provide a safe workplace remains with the buyer / user. The buyer / user should consider the health hazards and safety information contained herein as a guide and should take those precautions required in an individual operation to instruct employees and develop work practice procedures for a safe work environment. The information contained herein is, to the best of our knowledge and belief, accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by the use of this material. It is the responsibility of the buyer / user to comply with all applicable laws and regulations regarding handling, using, reselling and shipping this product.

Attention: Receiver of the chemical goods / SDS coordinator

As part of our commitment to the RDC Responsible Distribution® initiative, ClearTech Industries Inc. and its associated companies require, as a condition of sale, that you forward the attached Safety Data Sheet(s) to all affected employees, customers, and end-users. ClearTech will send any available supplementary handling, health, and safety information to you at your request.

If you have any questions or concerns please call our customer service center.

References:

- 1) *NIOSH Pocket Guide to Chemical Hazards*; U.S. Department of Health and Human Services, <https://www.cdc.gov/niosh/npg/default.html>
- 2) *WorkSafe BC E-Limit*; Workers' Compensation Foard of British Columbia, <https://elimit.online.worksafebc.com/>
- 3) *ECHA - Registered Substance Dossier*; European Chemicals Agency, <https://echa.europa.eu/registration-dossier/-/registered-dossier/14786>
- 4) *Transportation of Dangerous Goods Regulations*; Transport Canada, <https://laws-lois.justice.gc.ca/eng/regulations/SOR-2001-286/index.html>
- 5) Globally Harmonized System of Classification and Labeling of Chemicals (GHS) *Seventh revised edition*
- 6) International Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk (IBC Code) 2007 Edition
- 7) The ACS Style Guide