

Material Safety Data Sheet

Revision Issued: 2/24/2009 Supercedes: 8/23/2000 First Issued: 10/14/98

Section I - Chemical Product And Company Identification

Product Name: Oxalic Acid

CAS Number: 144-62-7

HBCC MSDS No. CO02000



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Section II - Composition/Information On Ingredients

			Exposure Limits (TWAs) in Air		
Chemical Name	CAS Number	%	ACGIH TLV	OSHA PEL	STEL
Oxalic Acid	144-62-7	99-100	1 mg/m ³	1 mg/m ³	2 mg/m ³

Section III - Hazard Identification

Routes of Exposure: Inhalation, Ingestion, Skin, Eyes

Summary of Acute Health Hazards: Oxalic Acid is corrosive to tissue. When ingested, oxalic acid removes calcium from the blood. Kidney damage can be expected as the calcium is removed from the blood in the form of calcium oxalate. The calcium oxalate then obstructs the kidney tubules.

Ingestion: Toxic! Poisonous if swallowed, may cause burns, nausea, severe gastroenteritis and vomiting, shock and convulsions. May cause renal damage, as evidenced by bloody urine. Estimate fatal dose is 5 to 15 grams.

Inhalation: Toxic inhalation of dust is poisonous, can cause severe irritation of nose, throat, and respiratory tract.

Skin: Can cause severe irritation, possible skin burns, may be absorbed through the skin.

Eyes: May cause corneal damage

Summary of Chronic Health Hazards: May cause inflammation of the upper respiratory tract. Prolonged skin contact can cause dermatitis, cyanosis of the fingers and possible ulceration, and may affect kidneys.

Signs and Symptoms of Exposure: N/A

Effects of Overexposure: N/A

Medical Conditions Generally Aggravated by Exposure: Persons with pre-existing skin disorders or eye problems, or impaired kidney or respiratory function may be more susceptible to the effects of the substance.

Note to Physicians: Treat symptomatically. Neutralize with sodium bicarbonate.

Section IV - First Aid Measures

Ingestion: DO NOT INDUCE VOMITING! Give large quantities of limewater to drink. Never give anything by mouth to an unconscious person. Call a physician immediately.

Inhalation: Remove to fresh air, administer artificial respiration. If breathing is difficult, give oxygen. Call a physician immediately.

Skin: In case of contact, wipe off excess from skin then immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Call a physician immediately.

Eyes: Immediately flush eyes with gentle but large stream of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Call an ophthalmologist immediately.

Section V - Fire Fighting Measures

Flash Point: N/A

Autoignition Temperature: N/A

Lower Explosive Limit: N/A

Upper Explosive Limit: N/A

Unusual Fire and Explosion Hazards: Oxalic Acid is a combustible below 101°C; (215°F). Decomposition products include carbon monoxide & Formic Acid which are toxic and flammable. Reacts explosively with strong oxidizing materials and some silver compounds.

Extinguishing Media: Water spray, dry chemical, alcohol foam, or carbon dioxide. Foam or water on molten oxalic acid may cause frothing. Water spray may be used to keep fire exposed containers cool.

Special Firefighting Procedures: In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full facepiece operated in the pressure demand or positive pressure mode.

Section VI - Accidental Release Measures

Remove all sources of ignition. Ventilate area of leak or spill. Wear appropriate personal protective equipment.

Spills: Clean up spills in a manner that does not disperse dust into the air. Use non-sparking tools and equipment. Pick up spill for recovery or disposal and place in a closed container. Remove unnecessary people. If material comes in contact with water, neutralize liquid with alkaline material (soda ash, lime), then absorb with an inert material (e.g. vermiculite, dry sand, earth) and place in a chemical waste container. Do not use combustible materials, such as saw dust. Do not flush to sewer.

Section VII - Handling and Storage

Keep in a tightly closed container. Protect from physical damage. Store in a cool, dry, ventilated area away from sources of heat, moisture and incompatibilities. Containers of this material may be hazardous when empty since they retain product residues (dust, solids); observe all warnings and precautions listed for the product. Wear rubber gloves and safety goggles. Do not eat or smoke in area.

Section VIII - Exposure Controls/Personal Protection

Respiratory Protection: If the exposure limit is exceeded, a half-face respirator with an organic vapor cartridge and dust/mist filter may be worn for up to ten times the exposure limit or the maximum use concentration specified by the appropriate regulatory agency or respirator supplier, whichever is lowest. A full-face piece respirator with an organic vapor cartridge and dust/mist filter may be worn up to 50 times the exposure limit, or the maximum use concentration specified by the appropriate regulatory agency or respirator supplier, whichever is lowest. For emergencies or instances where the exposure levels are not known, use a full-face piece positive-pressure, air-supplied respirator. **WARNING:** Air-purifying respirators do not protect workers in oxygen-deficient atmospheres.

Ventilation: A system of local and/or general exhaust is recommended to **keep** employee exposures below the Airborne Exposure Limits. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. Please refer to the ACGIH document, *Industrial Ventilation, A Manual of Recommended Practices*, most recent edition, for details.

Protective Clothing: Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact.

Eye Protection: Use chemical safety goggles and/or full face shield where dusting or splashing of solutions is possible. Maintain eye wash fountain and quick-drench facilities in work area.

Other Protective Clothing or Equipment: N/A

Work/Hygienic Practices: Wash hands thoroughly with soap and water before eating, drinking, smoking or using toilet facilities. Do NOT place food, coffee or other drinks in the area where dusting or splashing of solutions is possible.

Section IX - Physical and Chemical Properties

Physical State: Solid

pH: N/A

Melting Point/Range: 101.5°C (216°F)

Boiling Point/Range: 149-160°C (300-320°F)
Sublimes

Appearance/Color/Odor: Transparent, colorless crystals, odorless

Solubility in Water: ca. 1g/7mL of water

Vapor Pressure(mmHg): < 0.001 @ 20°C; 68°F

Specific Gravity(Water=1): 1.653

Molecular Weight: 126.07

Vapor Density(Air=1): 4.4

% Volatiles (by Volume @ 21°C (70°F): 0

How to detect this compound : Chemical analysis

Section X - Stability and Reactivity

Stability: Stable, heat will contribute to instability.

Hazardous Polymerization: Will not occur

Conditions to Avoid: Heat, ignition sources, moisture (hygroscopic), dusting

Materials to Avoid: Alkalis, chlorites, hypochlorites, oxidizing agents, furfuryl alcohol and silver compounds.

Hazardous Decomposition Products: Formic Acid, Carbon Dioxide, Carbon Monoxide

Section XI - Toxicological Information

N/A

Section XII - Ecological Information

N/A

Section XIII - Disposal Considerations

Dispose of in accordance with federal, state and local regulations. Whatever cannot be saved for recovery or recycling should be managed in an appropriate and approved waste facility. Although not a listed RCRA hazardous waste, this material may exhibit one or more characteristics of a hazardous waste and require appropriate analysis to determine specific disposal requirements. Processing, use or contamination of this product may change the waste management options. State and local disposal regulations may differ from federal disposal regulations. Dispose of

container and unused contents in accordance with federal, state and local requirements.

Section XIV - Transport Information

DOT Proper Shipping Name: Corrosive Solid, Acidic, Organic, n.o.s. (Oxalic Acid)
DOT Hazard Class/ I.D. No.: 8, UN3261, III

Section XV - Regulatory Information

Reportable Quantity: N/A

NFPA Rating: Health - 3; Flammability - 1; Instability - 0

0=Insignificant 1=Slight 2=Moderate 3=High 4=Extreme

Carcinogenicity Lists: No **NTP:** No **IARC Monograph:** No **OSHA Regulated:** No

Section XVI - Other Information

Synonyms/Common Names: Dicarboxylic Acid, Ethanedioic Acid, Dihydrate

Chemical Family/Type: Organic Acid

Sections Changed since last revision: IX, X, XV, XVI

IMPORTANT! Read this MSDS before use or disposal of this product. Pass along the information to employees and any other persons who could be exposed to the product to be sure that they are aware of the information before use or other exposure. This MSDS has been prepared according to the OSHA Hazard Communication Standard [29 CFR 1910.1200]. The MSDS information is based on sources believed to be reliable. However, since data, safety standards, and government regulations are subject to change and the conditions of handling and use, or misuse are beyond our control, **Hill Brothers Chemical Company** makes no warranty, either expressed or implied, with respect to the completeness or continuing accuracy of the information contained herein and disclaims all liability for reliance thereon. Also, additional information may be necessary or helpful for specific conditions and circumstances of use. It is the user's responsibility to determine the suitability of this product and to evaluate risks prior to use, and then to exercise appropriate precautions for protection of employees and others.