



LABORATORY CHEMICALS AND CONSUMABLES

MATERIAL SAFETY DATA SHEET

OXALIC ACID DIHYDRATE

1. Chemical Product and Company information.

Product name: Oxalic Acid Dihydrate

Contact Information:

Radchem cc
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Brackendowns
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2. Hazard Identification

Very hazardous in case of skin contact (irritant), of eye contact (irritant), of ingestion, of inhalation. Hazardous in case of skin contact (permeator), of eye contact (corrosive). Slightly hazardous in case of skin contact (corrosive). The amount of tissue damage depends on length of contact. Eye contact can result in corneal damage or blindness. Skin contact can produce inflammation and blistering. Inhalation of dust will produce irritation to gastro-intestinal or respiratory tract, characterized by burning, sneezing and coughing. Severe over-exposure can produce lung damage, choking, unconsciousness or death. Inflammation of the eye is characterized by redness, watering, and itching. Skin inflammation is characterized by itching, scaling, reddening, or, occasionally, blistering.

3. Composition / information on ingredients

CAS #: 6153-56-6

Synonym: Ethanedioic Acid, dihydrate

Chemical Name: Oxalic Acid, dihydrate

Chemical Formula: (COOH)₂·2H₂O

4. First Aid Measures

Eye Contact: Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Cold water may be used. Get medical attention immediately.

Skin Contact: In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Cover the irritated skin with an emollient. Cold water may be used. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention immediately.



Serious Skin Contact: Wash with a disinfectant soap and cover the contaminated skin with an anti-bacterial cream. Seek immediate medical attention.

Inhalation: If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

Serious Inhalation: Evacuate the victim to a safe area as soon as possible. Loosen tight clothing such as a collar, tie, belt or waistband. If breathing is difficult, administer oxygen. If the victim is not breathing, perform mouth-to-mouth resuscitation. **WARNING:** It may be hazardous to the person providing aid to give mouth-to-mouth resuscitation when the inhaled material is toxic, infectious or corrosive. Seek immediate medical attention.

Ingestion: Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If large quantities of this material are swallowed, call a physician immediately. Loosen tight clothing such as a collar, tie, belt or waistband.

Serious Ingestion: Not available.

5. Fire-fighting measures

Flammability of the Product: May be combustible at high temperature

Fire Hazards in Presence of Various Substances: Slightly flammable to flammable in presence of heat. Non-flammable in presence of shocks.

Explosion Hazards in Presence of Various Substances: Slightly explosive in presence of open flames and sparks. Non-explosive in presence of shocks.

Fire Fighting Media and Instructions: SMALL FIRE: Use DRY chemical powder. LARGE FIRE: Use water spray, fog or foam. Do not use water jet.

Special Remarks on Fire Hazards: As with most organic solids, fire is possible at elevated temperatures

Special Remarks on Explosion Hazards: Fine dust dispersed in air in sufficient concentrations, and in the presences of an ignition source is a potential dust explosion hazard.

6. Accidental release measures

Small Spill: Use appropriate tools to put the spilled solid in a convenient waste disposal container. If necessary: Neutralize the residue with a dilute solution of sodium carbonate.

Large Spill: Corrosive solid. Stop leak if without risk. Do not get water inside container. Do not touch spilled material. Use water spray to reduce vapours. Prevent entry into sewers, basements or confined areas; dike if needed. Eliminate all ignition sources. Call for assistance on disposal. Neutralize the residue with a dilute solution of sodium carbonate. Be careful that the product is not present at a concentration level above TLV. Check TLV on the MSDS and with local authorities.

7. Handling and storage

Precautions: Keep container dry. Keep away from heat. Keep away from sources of ignition. Empty containers pose a fire risk, evaporate the residue under a fume hood. Ground all equipment containing material. Do not ingest. Do not breathe dust. Never add water to this product. In case of insufficient ventilation, wear suitable respiratory equipment. If ingested, seek medical advice immediately and show the container or the label. Avoid contact with skin and eyes. Keep away from incompatibles such as oxidizing agents, metals, alkalis.

Storage: Keep container tightly closed. Keep container in a cool, well-ventilated area.



8. Exposure controls/personal protection

Engineering Controls: Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.

Personal Protection: Splash goggles. Synthetic apron. Vapour and dust respirator. Be sure to use an approved/certified respirator or equivalent. Gloves.

Personal Protection in Case of a Large Spill: Splash goggles. Full suit. Vapour and dust respirator. Boots. Gloves. A self contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

9. Physical and chemical properties

Physical state and appearance: Solid (Crystalline solid)

Odour: Odourless

Taste: Not available

Colour: Colourless. White

Boiling Point: Not available

Melting Point: 101.5°C

Critical Temperature: Not available

Specific Gravity: Density: 1.653 @ 18.5 e.g. C (Water = 1)

Vapour Density: 4.4 (Air = 1)

Volatility: Not available

Odour Threshold: Not available

Ionicity (in Water): Not available.

Dispersion Properties: See solubility in water, diethyl ether

Solubility: Soluble in cold water, diethyl ether. Soluble in alcohol, glycerol. Insoluble in benzene, petroleum ether. Solubility in cold water: 1g/7ml. Solubility in hot water: 1g/2ml

10. Stability and reactivity

Stability: The product is stable.

Instability Temperature: Not available.

Conditions of Instability: Excess heat, incompatible materials, dust generation.

Incompatibility with various substances: Reactive with oxidizing agents, metals, alkalis

Corrosivity: Non-corrosive in presence of glass

Special Remarks on Reactivity: Incompatible with chlorites, hypochlorite's, silver and silver compounds, furfural alcohol. Hygroscopic; keep container tightly closed.

Special Remarks on Corrosivity: Not available

Polymerization: Will not occur.



11. Toxicological information

Routes of Entry: Absorbed through skin. Dermal contact. Inhalation. Ingestion

Toxicity to Animals: LD50: Not available. LC50: Not available

Chronic Effects on Humans: May cause damage to the following organs: kidneys, the nervous system, mucous membranes, heart, brain, skin, eyes.

Other Toxic Effects on Humans: Very hazardous in case of skin contact (irritant), of ingestion, of inhalation. Hazardous in case of skin contact (permeator), of eye contact (corrosive). Slightly hazardous in case of skin contact (corrosive).

Special Remarks on Toxicity to Animals: LD50 data for Oxalic acid, anhydrous (CAS no. 144-62-7): LD50[rat] - Route: oral; Dose: 7500 mg/kg

Special Remarks on Chronic Effects on Humans: May cause adverse reproductive effects based on animal test data. No human data found.

Special Remarks on other Toxic Effects on Humans: Acute Potential Health Effects: Skin: Causes skin irritation. Rare chemical burns may occur. Harmful if absorbed through the skin. Eyes: Causes severe eye irritation with possible burns. It may result in corneal damage and conjunctivitis. Inhalation: Causes irritation of the respiratory tract, ulceration of the mucous membranes. Inhalation of oxalic acid may also cause digestive disturbances such as nausea and vomiting as well as affecting the nerves and urinary system and causing headache, muscular irritability, weakness, and albuminuria. Ingestion: Harmful if swallowed. Causes severe digestive tract irritation and possible burns. It may affect the cardiovascular system, and urinary system. Symptoms may include vomiting (often bloody or with coffee-ground appearance), diarrhoea, bloody stool, hyper motility, abdominal pain, intense burning pain in the throat, oesophagus, stomach, ulceration/burning of the mouth, oesophagus, and stomach, severe purging, weak pulse, hypotension, cardiac irregularities, cardiovascular collapse. Other symptoms may include convulsions, headache, twitching, tetany, stupor, coma, tingling of fingers and toes, muscular irritability. Renal damage, as evidenced by oliguria, albuminuria, hematuria, may occur because Oxalic acid can bind calcium to form calcium oxalate which is insoluble at physiological pH. The calcium oxalate formed might precipitate in the kidney tubules. Hypocalcaemia may also occur, which is what may affect the function of the heart and nerves and cause the above cardiovascular and nervous system effects. Chronic Potential Health Effects: Skin: Prolonged or repeated exposure may cause localized pain and cyanosis of the fingers

12. Ecological information

Ecotoxicity: Ecotoxicity in water (LC50): 4000 mg/l 24 hours [Fish (Bluegill)]. 1000 ppm 0.5 hours [Fish (Goldfish)]. 100 ppm 0.3 hours [Fish (Trout)].

BOD5 and COD: Not available

Products of Biodegradation: Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.

Toxicity of the Products of Biodegradation: The products of degradation are less toxic than the product itself.

Special Remarks on the Products of Biodegradation: Not available

13. Disposal considerations

Waste Disposal: Waste must be disposed of in accordance with federal, state and local environmental control regulations.



14. Transport information

DOT Classification: Class 8: Corrosive material

Identification: : Corrosive Solid, Acidic, Organic, n.o.s. (Oxalic Acid, Dihydrate) UNNA: 3261 PG: III

Special Provisions for Transport: Not applicable

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