

Oxalic Acid: Material Safety Data Sheet

Section 1 :Product and Company Identification

Product Name	Oxalic Acid
Chemical Name	Oxalic Acid Dihydrate, Ethanedioic Acid Dihydrate
CAS Number	6153-56-6
Formula	(COOH) ₂ .2H ₂ O
Manufacturer / Supplier Data	Radiant Indus Chem Pvt. Ltd., F-15 MIDC Industrial Area, Chikalthana, Aurangabad(MS) India – 431006
Telephone	+91-240-2482450 / 2482950
Fax	+91-240-2485450

Section 2: Composition/Information on Ingredients

CAS Number	EINECS Number	Chemical Name	% by weight
6153-56-6	Unlisted	Oxalic Acid Dihydrate	99.5-100

Section 3 : Hazards Identification

Harmful in contact with skin, eyes and if swallowed. Keep out of reach of children

Section 4: First Aid Measures

Eyes:	Incase of contact, immediately flush eyes with plenty of water for atleast 15 minutes. Get medical aid immediately.
Skin:	Incase of contact, immediately flush skin with plenty of water for atleast 15 minutes while removing contaminated clothing and shoes. Get medical aid immediately. Wash clothing before reuse.
Ingestion:	If swallowed, do NOT induce vomiting. If conscious give water, milk or Milk of Magnesia. Never give anything by mouth to an unconscious person. Call a Doctor immediately.
Inhalation:	If inhaled, remove to fresh air. If not breathing give artificial respiration. If breathing is difficult give Oxygen. Get medical aid immediately.

Section 5: Fire Fighting Measures

Auto Ignition Temperature	N/A
Flash Point	N/A
Explosion Limits	N/A
Unusual Fire and Explosion Hazards	Oxalic Acid is combustibile below 101°C (215 °F). Decomposition products include carbon monoxide and formic acid which are toxic and flammable. Reacts explosively with strong oxidizing materials and some silver compounds.
Extinguishing Media	Use water spray, dry chemical, Carbon Di Oxide or alcohol foam. Foam or water on molten Oxalic Acid may cause frothing.
Special Information	Fire fighters should wear a full protective gear, with a self-contained breathing apparatus with full face piece operated in positive pressure mode. Move containers from fire area if it can be done without risk. Use water to keep fire-exposed containers cool.

Section 6: Accidental Release Measures

General Information: Remove all sources of ignition. Ventilate area of leak or spill. Utilize recommended protective clothing and equipment as specified in section 8.

Spills: Clean the spill 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 closed container. Spill area can be washed with water. Collect wash water for approved disposal. Water disposal should be in accordance with existing federal, state and local environmental regulations.

Section 7: Handling and Storage

Handling:	Wash thoroughly after handling. Do not ingest or inhale. Do not get in eyes, on skin or on clothing. Minimize dust generation and accumulation.
Storage:	Store in a cool, dry and well-ventilated area away from heat and incompatible substances (refer section 10). Keep container tightly closed.

Section 8: Exposure Controls /Personal Protection

Engineering Controls:

Facilities storing or utilizing the material should be equipped with an eyewash facility and a safety shower. Use adequate general or local exhaust ventilation to keep airborne concentration below the permissible limits.

Personal Protective Equipment:

Eyes:	Use chemical safety goggles or eyeglasses. A face shield may also be necessary. Maintain eye wash fountain and safety showers in the immediate work area.
Skin:	Wear impervious protective clothing including apron, boots and rubber gloves as appropriate.
Ventilation:	Use local ventilation if dusting is a problem, to maintain air levels below the recommended exposure limit.
Personal respirators:	Approved respirators should be used if airborne concentration exceeds recommended limit. 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.

Section 9: Physical and Chemical Properties

Physical State	Solid
Appearance	White crystalline powder
Odor	Odorless
Molecular Formula	$(\text{COOH})_2 \cdot 2\text{H}_2\text{O}$
Molecular Weight	126.07 (dihydrate) 90.03 (anhydrous)
pH	1.3 (0.1M solution in water)
Vapor pressure	Less than 0.001 mm Hg @ 20°C (68°F)
Vapor Density	4.4 (Air = 1)
Boiling Point	149-160°C (300-320°F)
Melting Point	101.5°C (215°F)
Sublimation Point	157 °C
Decomposition Temperature	189.5 °C

Solubility in water	14.3 g / 100 ml (25°C)
Solubility in Ethanol	23.7 g / 100 ml (15 °C)
Solubility in Diethyl Ether	1.37 g / 100 ml (15 °C)
Specific gravity (Water = 1)	1.90 g/cm ³ (anhydrous) 1.653 g/cm ³ (dihydrate)
Acidity	Strong Acid
Dissociation constant (pK _a)	pK ₁ = 1.23, pK ₂ = 4.19 (25 °C)
Crystal Structure	Rhombic (anhydrous), Monoclinic (dihydrate)

Section 10: Stability and Reactivity

Stability:	Stable under ordinary conditions of use and storage.
Incompatibilities:	Strong oxidizing agents (such as perchlorates, peroxides, permanganates, chlorates, nitrates, chlorine, bromine and fluorine); hypochlorite, Silver and its compounds, strong alkalis, chlorites and furfuryl alcohol – since violent reactions occur.
Conditions to avoid:	Heat, ignition sources and incompatibilities.
Hazardous Decomposition Products:	Carbon monoxide, Carbon dioxide, formic acid, acrid smoke and fumes.
Hazardous Polymerisation:	Has not been reported.

Section 11: Toxicological Information

SKIN AND EYE IRRITATION DATA:

Route/Organism	Dose	Effect
Skin-Rabbit	500 mg/24 hour	Mild
Eye-Rabbit	100 mg/4S rinse	Severe

ACUTE TOXICITY DATA:

Route/Organism	Dose	Effect
Oral-Rat	LD ₅₀ : 960mg/kg (male) LD ₅₀ : 880mg/kg (female)	N/R

CARCINOGENICITY:

Oxalic Acid Dihydrate Not Listed by ACGIH, IARC, NIOSH, NTP or OSHA.

Section 12: Ecological Information

Environmental Fate:

Biodegradation	Readily Biodegradable
BOD5	0.16 mg/l
COD	0.18 mg/l
BOD5/COD ratio	0.89

BCF	0.6
Bio-Accumulation	Non bio-accumulable

Ecotoxicity:

LC50	4000 mg/L, 24 hours, Fish (Bluegill), 1000 ppm, 0.5 hours, Fish (Gold Fish), 100 ppm, 0.3 hours, Fish (Trout) 5330 mg/L, 96 hours, Amphibian(Clawed Toad)
EC50	136.9 mg/L, 48 hours, Crustaceans(Water Flea) 1500 mg/L, 24 hours, Algae

Section 13: Disposal Considerations

Disposal should be done in accordance with local, state and federal regulations.

Section 14: Transport Information

Not dangerous cargo, irritating to skin and eyes. Keep separated from food stuffs.

Section 15: Regulatory Information

Classification and labeling information in accordance with EC directives

Classification	Xn; R21/22
Symbol	Xn: Harmful
Risk Phrases	R21/22 Harmful in contact with skin and if swallowed
Safety Phrases	S2 Keep out of reach of children S24/25 Avoid contact with skin and eyes

Section 16: Other Information

Disclaimer:

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