



Material Safety Data Sheet Ammonium Oxalate Monohydrate

Section 1 - Chemical Product and Company Identification

MSDS Name:

Ammonium Oxalate Monohydrate

Catalog Numbers:

LC11270

Synonyms:

Diammonium oxalate, monohydrate; Ethanedioic acid, diammonium salt monohydrate; Oxalic acid, diammonium salt monohydrate.

Company Identification:

LabChem Inc
200 William Pitt Way
Pittsburgh, PA 15238

Company Phone Number:

(412) 826-5230

Emergency Phone Number:

(800) 424-9300

CHEMTREC Phone Number:

(800) 424-9300

Section 2 – Composition, Information on Ingredients

CAS#	Chemical Name:	Percent
6009-70-7	Ammonium oxalate monohydrate	100

Section 3 - Hazards Identification

Emergency Overview

Appearance: White crystalline powder**Warning!** Harmful if swallowed. Causes eye, skin, and respiratory tract irritation. May cause kidney damage.**Target Organs:** Kidneys, heart, eyes, skin, brain, nerves, mucous membranes.

Potential Health Effects

Eye:

Causes eye irritation.

Skin:

Oxalate is an irritant and may cause dermatitis. Skin lesions begin with epithelial cracking and the formation of slow-healing ulcers. The fingers may appear cyanotic.

Ingestion:

Ulcerations of the mouth, vomiting of blood, and rapid appearance of shock, convulsions, twitching, tetany, and cardiovascular collapse may occur following ingestion of oxalic acid or its soluble salts. Systemic effects may be due to formation of calcium oxalate which is insoluble at physiological pH and can be deposited in the brain and kidney tubules. Resultant hypocalcemia might disturb the



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function of the heart and nerves. Mean lethal dose for oxalates in adults is estimated at 10 - 30 grams (143 - 428 mg/kg).

Inhalation:

Inhalation of oxalic acid dust or vapor produces irritation of the respiratory tract, protein in the urine, nosebleed, ulceration of the mucous membranes, headache, nervousness, cough, vomiting, emaciation, back pain (due to kidney injury), and weakness.

Chronic:

Inhalation of oxalic acid dust or mist over a long period of time might result in weight loss and respiratory tract inflammation. Rats administered oxalic acid at 2.5 and 5% in the diet for 70 days developed depressed thyroid function and weight loss. A study of railroad car cleaners in Norway who were heavily exposed to oxalic acid solutions and vapors revealed a 53% prevalence of urolithiasis (the formation of urinary stones), compared to a rate of 12% among unexposed workers from the same company.

Section 4 - First Aid Measures

Eyes:

In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical aid.

Skin:

In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical aid immediately. Wash clothing before reuse.

Ingestion:

If swallowed, do NOT induce vomiting. Get medical aid immediately. If victim is fully conscious, give a cupful of water. Never give anything by mouth to an unconscious person.

Inhalation:

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

Notes to Physician:

Treat symptomatically and supportively.

Antidote:

Intravenous administration of calcium gluconate or calcium chloride may be required if hypocalcemia or hypocalcemic tetany occur.

Section 5 - Fire Fighting Measures

General Information:

As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Use water spray to keep fire-exposed containers cool.

Extinguishing Media:

Use water spray, dry chemical, carbon dioxide, or appropriate foam.

Autoignition Temperature:

Not applicable.

Flash Point:

Not applicable.



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NFPA Rating:

Not available.

Explosion Limits:

Lower: n/a Upper: n/a

Section 6 - Accidental Release Measures

General Information:

Use proper personal protective equipment as indicated in Section 8.

Spills/Leaks:

Vacuum or sweep up material and place into a suitable disposal container. Clean up spills immediately, observing precautions in the Protective Equipment section. Avoid generating dusty conditions. Provide ventilation.

Section 7 - Handling and Storage

Handling:

Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Use with adequate ventilation. Minimize dust generation and accumulation. Avoid contact with eyes, skin, and clothing. Avoid breathing dust.

Storage:

Store in a cool, dry, well-ventilated area away from incompatible substances. Oxalates slowly corrode steel.

Section 8 - Exposure Controls, Personal Protection

Engineering Controls:

Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate ventilation to keep airborne concentrations low.

Exposure Limits:

Chemical Name:	ACGIH	NIOSH	OSHA
Ammonium oxalate monohydrate	none listed	none listed	none listed

OSHA Vacated PELs:

Ammonium oxalate monohydrate: No OSHA Vacated PELs are listed for this chemical.

Personal Protective Equipment

Eyes:

Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Skin:

Wear appropriate gloves to prevent skin exposure.

Clothing:

Wear appropriate protective clothing to prevent skin exposure.

Respirators:

Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.



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Section 9 - Physical and Chemical Properties

Physical State:	Powder
Color:	White
Odor:	Odorless
pH:	6.4 (0.1 M soln)
Vapor Pressure:	Not applicable
Vapor Density:	Not available
Evaporation Rate:	Not applicable
Viscosity:	Not available
Boiling Point:	Decomposes
Freezing/Melting Point:	70 C
Decomposition Temperature:	70 C
Solubility in water:	Soluble
Specific Gravity/Density:	1.5
Molecular Formula:	C ₂ H ₈ N ₂ O ₄ .H ₂ O
Molecular Weight:	142.11

Section 10 - Stability and Reactivity

Chemical Stability:

Stable under normal temperatures and pressures.

Conditions to Avoid:

Dust generation, excess heat. Oxalates slowly corrode steel.

Incompatibilities with Other Materials:

Strong oxidizing agents.

Hazardous Decomposition Products:

Nitrogen oxides, carbon monoxide, carbon dioxide, formic acid, ammonia.

Hazardous Polymerization:

Has not been reported.

Section 11 - Toxicological Information

RTECS:

CAS# 6009-70-7 unlisted.

LD50/LC50:

Not available.

Carcinogenicity:

CAS# 6009-70-7: Not listed by ACGIH, IARC, NTP, or CA Prop 65.

Epidemiology:

A study of railroad car cleaners in Norway who were heavily exposed to oxalic acid solutions and vapors revealed a 53% prevalence of urolithiasis (the formation of urinary stones), compared to a rate of 12% among unexposed workers from the same company.

Teratogenicity:

No information found

Reproductive:

Oxalic acid caused kidney damage in fetal sheep and rats and disturbed the estrus cycle in rats. Increased sperm abnormalities were seen in the second generation of mice administered 0.2% oxalic acid in the drinking water.



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Mutagenicity:

No information found

Neurotoxicity:

No information found

Section 12 - Ecological Information

No information available.

Section 13 - Disposal Considerations

Dispose of in accordance with Federal, State, and local regulations.

Section 14 - Transport Information

US DOT

Shipping Name: Toxic solids, inorganic, nos.

Hazard Class: 6.1

UN Number: UN2811

Packing Group: PGIII

Section 15 - Regulatory Information

US Federal

TSCA:

CAS# 6009-70-7 is not on the TSCA Inventory because it is a hydrate. It is considered to be listed because the CAS number for the anhydrous form is on the inventory (40CFR720.3(u)(2)).

SARA Reportable Quantities (RQ):

CAS# 6009-70-7: 5000 lb. final RQ (listed under Ammonium oxalate); 2270 kg final RQ

CERCLA/SARA Section 313:

No chemicals are reportable under Section 313.

OSHA - Highly Hazardous:

None of the chemicals in this product are considered highly hazardous by OSHA.

US State

State Right to Know:

CAS# 6009-70-7 can be found on the following state right to know lists: California, New Jersey, Pennsylvania, Massachusetts.

California Regulations:

None.

European/International Regulations

Canadian DSL/NDSL:

CAS# 6009-70-7 is not listed on Canada's DSL List.

Canada Ingredient Disclosure List:

CAS# 6009-70-7 is not listed on the Canadian Ingredient Disclosure List.



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Section 16 - Other Information

MSDS Creation Date: October 5, 2007

Revision Date: None

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