Material Safety Data Sheet

Potassium oxalate monohydrate

ACC# 19494

Section 1 - Chemical Product and Company Identification

MSDS Name: Potassium oxalate monohydrate
Catalog Numbers: AC207710000, AC207710250, AC207715000, AC424020000, AC424025000, NC9337009, NC9567156, P273-250, P273-500
Synonyms: Oxalic acid, dipotassium salt, monohydrate; Ethanedioic acid, dipotassium salt, monohydrate; Dipotassium oxalate monohydrate.
Company Identification:

Fisher Scientific
1 Reagent Lane
Fair Lawn, NJ 07410

For information, call: 201-796-7100
Emergency Number: 201-796-7100
For CHEMTREC assistance, call: 800-424-9300
For International CHEMTREC assistance, call: 703-527-3887

Section 2 - Composition, Information on Ingredients

CAS#	Chemical Name	Percent	EINECS/ELINCS
6487-48-5	Potassium oxalate monohydrate	> 99	unlisted

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Appearance: white crystals.
Warning! Harmful if swallowed. Causes eye, skin, and respiratory tract irritation. Harmful if absorbed through the skin. May cause kidney damage. Hygroscopic (absorbs moisture from the air).
Target Organs: Kidneys, heart, eyes, skin, brain, nerves, mucous membranes.

Potential Health Effects
Eye: Causes eye irritation.

Skin: Harmful if absorbed through the 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 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 a t 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.
Flash Point: Not applicable.
Autoignition Temperature: Not applicable.

Explosion Limits, Lower: Not available.
Upper: Not available.
NFPA Rating: (estimated) Health: 2; Flammability: 1; Instability: 0

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. Keep container tightly closed. Avoid breathing dust.
Storage: Store in a tightly closed container. Store in a cool, dry, well-ventilated area away from incompatible substances. Store protected from moisture. 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 - Final PELs
Potassium oxalate monohydrate	none listed	none listed	none listed
Potassium oxalate anhydrous	none listed	none listed	none listed

OSHA Vacated PELs: Potassium oxalate monohydrate: No OSHA Vacated PELs are listed for this chemical. Potassium oxalate anhydrous: 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 protective gloves to prevent skin exposure.
Clothing: Wear appropriate protective clothing to prevent skin exposure.
Respirators: A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements or European Standard EN 149 must be followed whenever workplace conditions warrant respirator use.

Section 9 - Physical and Chemical Properties

Physical State: Crystals
Appearance: white
Odor: odorless
pH: neutral in solution
Vapor Pressure: Negligible.
Vapor Density: Negligible.
Evaporation Rate: Negligible.
Viscosity: Not available.
Boiling Point: Not available.
Freezing/Melting Point:356 deg C
Decomposition Temperature: Not available.
Solubility: 364 g/L @ 20°C
Specific Gravity/Density:2.13
Molecular Formula:C2O4K2.H2O
Molecular Weight:184.24

Section 10 - Stability and Reactivity

Chemical Stability: Stable under normal temperatures and pressures.
Conditions to Avoid: Dust generation, moisture, excess heat, Oxalates slowly corrode steel..
Incompatibilities with Other Materials: Strong oxidizing agents.
Hazardous Decomposition Products: Carbon monoxide, carbon dioxide, formic acid, dipotassium oxide.
Hazardous Polymerization: Will not occur.

Section 11 - Toxicological Information

RTECS#:

CAS# 6487-48-5 unlisted.
CAS# 583-52-8: RO2885000
LD50/LC50:
Not available.
Not available.
CAS# 583-52-8: Woman LDLo - Oral: 1 gm/kg. Published data indicated arrythmias including changes in conduction), shock, and gastrointestinal changes. Mean lethal dose for oxalates in adults is estimated at 10-30 grams (143-428 mg/kg).
Carcinogenicity:
CAS# 6487-48-5: Not listed by ACGIH, IARC, NTP, or CA Prop 65.
CAS# 583-52-8: 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 Effects: 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.
Mutagenicity: No information found
Neurotoxicity: No information found
Other Studies:

Section 12 - Ecological Information

No information available.

Section 13 - Disposal Considerations

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.
RCRA P-Series: None listed.
RCRA U-Series: None listed.

Section 14 - Transport Information

	US DOT	Canada TDG
Shipping Name:	TOXIC SOLIDS, ORGANIC, N.O.S.	TOXIC SOLID, ORGANIC, NOS(Potassium oxal

Hazard Class:	6.1	6.1
UN Number:	UN2811	UN2811
Packing Group:	III	III

Section 15 - Regulatory Information

US FEDERAL

TSCA

CAS# 6487-48-5 is not on the TSCA Inventory because it is a hydrate. It is considered to be listed if the CAS number for the anhydrous form is on the inventory (40CFR720.3(u)(2)).

CAS# 583-52-8 is listed on the TSCA inventory.

Health & Safety Reporting List

None of the chemicals are on the Health & Safety Reporting List.

Chemical Test Rules

None of the chemicals in this product are under a Chemical Test Rule.

Section 12b

None of the chemicals are listed under TSCA Section 12b.

TSCA Significant New Use Rule

None of the chemicals in this material have a SNUR under TSCA.

CERCLA Hazardous Substances and corresponding RQs

None of the chemicals in this material have an RQ.

SARA Section 302 Extremely Hazardous Substances

None of the chemicals in this product have a TPQ.

SARA Codes

CAS # 6487-48-5: immediate, delayed.

CAS # 583-52-8: immediate, delayed.

Section 313 No chemicals are reportable under Section 313.

Clean Air Act:

This material does not contain any hazardous air pollutants.

This material does not contain any Class 1 Ozone depletors.

This material does not contain any Class 2 Ozone depletors.

Clean Water Act:

None of the chemicals in this product are listed as Hazardous Substances under the CWA.

None of the chemicals in this product are listed as Priority Pollutants under the CWA.

None of the chemicals in this product are listed as Toxic Pollutants under the CWA.

OSHA:

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

STATE

CAS# 6487-48-5 is not present on state lists from CA, PA, MN, MA, FL, or NJ.

CAS# 583-52-8 is not present on state lists from CA, PA, MN, MA, FL, or NJ.

California Prop 65

California No Significant Risk Level: None of the chemicals in this product are listed.

European/International Regulations

European Labeling in Accordance with EC Directives

Hazard Symbols:

XN

Risk Phrases:

R 21/22 Harmful in contact with skin and if swallowed.

Safety Phrases:

S 24/25 Avoid contact with skin and eyes.

WGK (Water Danger/Protection)

CAS# 6487-48-5: 1

CAS# 583-52-8: No information available.

Canada - DSL/NDSL

CAS# 583-52-8 is listed on Canada's DSL List.

Canada - WHMIS

This product has a WHMIS classification of D1B.

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all of the information required by those regulations.

Canadian Ingredient Disclosure List

Section 16 - Additional Information

MSDS Creation Date: 5/11/1998
Revision #5 Date: 2/15/2008