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School Materials Safety Manual:

No. 307 Sodium Oxalate Issued 2/92

◆ SECTION 1 INTRODUCTION

Material Sodium Oxalate, reagent grades 88%, 99%

Synonyms ethanedioic acid, disodium salt; oxalic acid, disodium salt

Chemical Formula $\text{Na}_2\text{C}_2\text{O}_4$

CAS Number 62-76-0

DOT Classification Not listed as a Hazardous Material for Transportation (49 CFR 172.101)

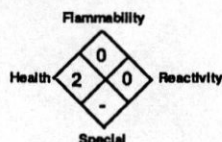
EPA Classification Not listed as a RCRA Hazardous Waste (40 CFR 261.33), a CERCLA Hazardous Substance (40 CFR 302.4), a SARA Extremely Hazardous Substance (40 CFR 355), or a SARA Toxic Chemical (40 CFR 372.65)

OSHA Classification Not listed as an Air Contaminant (29 CFR 1910.1000, Table Z-1-A)

NFPA Hazard Rating Not found

Genium Hazard Rating

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



HMS

H 2
F 0
R 0

Description White, crystalline powder, odorless. Used in textile finishing, tanning and finishing leather, pyrotechnics, blueprinting; as a reagent; and for standardizing potassium permanganate solution.

Overview Sodium oxalate is toxic by ingestion and is a skin and eye irritant. It is most likely used in the chem lab as a reagent. Wear gloves and goggles when handling this material. Practice good personal hygiene and housekeeping procedures in the lab.

Manufacturer Always request an up-to-date MSDS from your chemical supplier. That sheet should include the manufacturer and their emergency phone numbers. This *Manual's* Resources/Manufacturers Index lists some larger manufacturers and available emergency phone numbers.

◆ SECTION 2 USE AND STORAGE DATA

Preliminary Planning Considerations Plan and provide for safe disposal of all school-generated chemical waste. Check applicable regulations prior to use. Provide adequate ventilation or restrict use to fume hood, especially if heating because thermal decomposition of sodium oxalate produces toxic fumes of sodium oxide (Na_2O). Contact lens use when handling chemical materials is controversial. In some cases, soft lenses can actually protect eyes from chemicals. In other cases, chemical entrapment is presumed a possible hazard. Particles adhering to contact lens surfaces can cause corneal damage. For safety, always wear safety glasses or goggles. Wear rubber gloves to minimize skin contact. Employees and students should know the location of eyewash and shower facilities near chemical use areas. Check that eyewash stations and safety showers are working properly.

Usage Precautions and Procedure Before using, read this material's container label and follow all precautions. Do not smoke in usage or storage areas. Practice good housekeeping to avoid unintentionally mixing incompatibles. Do not allow chemical residue or dust buildup in lab or work areas. Wear safety glasses or goggles and appropriate protective clothing to

work with sodium oxalate. Keep this material away from notebooks, textbooks, and personal belongings to avoid transporting chemical residues from the lab/work area. After working with chemical materials, and before eating, drinking, or smoking, always wash hands and face. Remove and launder contaminated clothing before reusing.

Additional Data Sodium oxalate is stable at room temperature under normal handling and storage conditions. It does not polymerize.

Preferred Storage Location and Methods Store in tightly closed containers in cool, dry, well-ventilated area out of direct sunlight and away from incompatibles. To separate incompatible chemicals, store by chemical family, not by alphabetical name. Protect all chemical containers from physical damage. Prohibit smoking in chemical storage areas. Purchase amounts sufficient for one year's use or less.

◆ SECTION 3 SPILL/DISPOSAL PROCEDURES

If Spilled Ventilate spill area. Promptly and thoroughly clean up spilled material. Cleanup personnel should protect against dust inhalation and skin or eye contact. For liquid (solution) spills, cover with an inert solid absorbent (vermiculite, dry sand, etc.) and scoop into appropriate containers (with secure lid) for disposal in accordance with existing regulations. As needed, dike spill area with inert absorbent material to contain spill. For dry spills, carefully collect spilled material and scoop into secure disposal or reclamation containers. Avoid creating airborne dust conditions. Vacuum (with appropriate filter) or wet mop to minimize dust dispersion.

Disposal of Small Quantities Handle emptied containers carefully since residues may remain. Always check regulations before disposal. Investigate recycling or reclamation rather than landfill disposal. If these methods are not practical, feasible, or in accord with existing regulations, contact your supplier or a licensed disposal contractor for specific treatment/disposal procedures.

Disposal of Larger Amounts Contact your supplier or a licensed disposal company.

Follow all applicable local, state, and Federal regulations for all waste disposal.

◆ SECTION 4 HEALTH HAZARDS

Sodium oxalate is a skin and eye irritant. It may cause skin, corneal, and mucous membrane burns, depending on the concentration and duration of exposure. Ingestion of concentrated solutions may cause severe gastrointestinal (GI) irritation, cardiac and central nervous system (CNS) depression, and death.

1991-92 ACGIH TLV 8-hr TWA: None established

1990 NIOSH REL 10-hr TWA: None established

1990 OSHA PEL 8-hr TWA: None established

1985-6 Toxicity Data Human, intravenous, LD_{50} : 17 mg/kg; human systemic effects by intravenous route include coma, arrhythmias (irregular heart beat), and anuria (decreased urine volume).

Carcinogenicity Not listed by the IARC, NTP, or OSHA

Acute Effects Skin or eye contact causes irritation. Inhalation or ingestion causes throat, esophagus, and stomach pain, vomiting (bloody), muscular twitching, weak pulse, cardiovascular collapse, and kidney damage.

Chronic Effects Chronic ingestion of sodium oxalate may cause hypocalcemia (a deficiency of calcium in the blood), tetany (continuous muscle tissue contraction due to deficient calcium), and urinary calculi (urinary tract stones).

♦ SECTION 5 FIRST AID PROCEDURES

Eye Contact Promptly flush eyes with plenty of running water for at least 15 min, including under eyelids. Get prompt medical attention.

Skin Contact Remove heavily contaminated clothing. After flushing with large amounts of water, wash exposed areas with soap and water. For reddened or blistered skin, get prompt medical attention.

Inhalation Remove victim from exposure to fresh air and support breathing as necessary.

Ingestion Get *prompt* medical attention. Never give anything by mouth to an unconscious or convulsing person. If ingested, have that *conscious and alert* person drink one or two glasses of milk or water to dilute. *Do not induce vomiting!*

Get proper in-school, paramedic, or community medical attention and support.

♦ SECTION 6 FIRE PROCEDURES AND DATA

Fire Hazards For major fires, or for fires involving large quantities, firefighters should wear appropriate protective clothing and respirators. Because fire may produce toxic thermal decomposition products, a self-contained breathing apparatus (SCBA) is recommended.

Flash Point and Method Not flammable

Autoignition Temperature Not flammable

Flammability Limits in Air (vol. %) Not flammable

Hazardous Decomposition Products Thermal oxidative decomposition of sodium oxalate produces toxic fumes of sodium oxide (Na_2O).

Extinguishing Media Use water fog, carbon dioxide (CO_2), dry chemical, foam, or other media appropriate to surrounding fire conditions.

♦ SECTION 7 PHYSICAL DATA

Melting Point 482-518 °F (250-270 °C); decomposes

Solubility in Water Soluble in 27 parts water, 16 parts boiling water; sodium oxalate sinks in water and slowly mixes

Other Solubilities Insoluble in alcohol

pH of Aqueous Solution Practically neutral

Molecular Weight 134.01

Specific Gravity ($\text{H}_2\text{O} = 1$) 2.27 at 68 °F (20 °C)

References 101, 124, 126, 127, 132, 136, 166

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