NJ Health New Jersey Department of Health

Right to Know Hazardous Substance Fact Sheet

Emergency Responders Quick Reference

Common Name: **OXALIC ACID**

Synonyms: Oxalic Acid Dihydrate; Ethanedionic Acid
CAS No: 144-62-7
Molecular Formula: $C_2H_2O_4$
RTK Substance No: 1445
Description: Colorless to white, odorless powder or crystalline solid

HAZARD DATA

Hazard Rating	Firefighting	Reactivity
3 - Health **1 - Fire** **0 - Reactivity** **DOT#:** UN 3261 **ERG Guide #:** 154 **Hazard Class:** 8 (Corrosive)	**Oxalic Acid** is a COMBUSTIBLE SOLID. Use dry chemical, CO_2, water spray or alcohol-resistant foam as extinguishing agents. POISONOUS GASES ARE PRODUCED IN FIRE, including *Formic Acid*. Use water spray to keep fire-exposed containers cool. Use water spray to prevent dust/air mixtures from igniting or exploding.	**Oxalic Acid** reacts violently with OXIDIZING AGENTS (such as PERCHLORATES, PEROXIDES, PERMANGANATES, CHLORATES, NITRATES, CHLORINE, BROMINE and FLUORINE); FURFURYL ALCOHOL; and CHLORITES to cause fires and explosions. **Oxalic Acid** will react with SILVER and SILVER COMPOUNDS to form explosive *Silver Oxalate*. **Oxalic Acid** is not compatible with STRONG ACIDS (such as HYDROCHLORIC, SULFURIC and NITRIC); STRONG BASES (such as SODIUM HYDROXIDE and POTASSIUM HYDROXIDE); ALKALI METALS (such as LITHIUM, SODIUM and POTASSIUM); and ACID CHLORIDES.

SPILL/LEAKS

Isolation Distance:

Spill: 25 meters (75 feet)

Fire: 800 meters (1/2 mile)

Moisten spilled material first or use a HEPA-filter vacuum for clean-up and place into sealed containers for disposal.

Neutralize liquid spills with lime or soda ash.

Oxalic Acid may be dangerous to aquatic life at high concentrations.

PHYSICAL PROPERTIES

Odor Threshold:	Odorless
Flash Point:	Combustible
Vapor Density:	4.3 (air = 1)
Vapor Pressure:	<0.001 mm Hg at 68°F (20°C)
Specific Gravity:	1.9 (water = 1)
Water Solubility:	Soluble
Boiling Point:	Sublimes (goes from a solid directly to a gas)
Melting Point:	215°F (101.5°C) (Decomposes)
Molecular Weight:	90.04
pH:	1.3 (in solution)

EXPOSURE LIMITS

OSHA:	1 mg/m^3, 8-hr TWA
NIOSH:	1 mg/m^3, 10-hr TWA; 2 mg/m^3, STEL
ACGIH:	1 mg/m^3, 8-hr TWA; 2 mg/m^3, STEL
IDLH:	500 mg/m^3

The Protective Action Criteria values are:
PAC-1 = 2 mg/m^3 PAC-2 = 40 mg/m^3 PAC-3 = 500 mg/m^3

PROTECTIVE EQUIPMENT

Gloves:	Butyl, Neoprene, Silver Shield®/4H® and Viton (>8-hr breakthrough for **Oxalic Acid** *in solution*)
Coveralls:	Tychem® BR, Responder® and TK (>8-hr breakthrough for **Oxalic Acid** *in solution*)
Respirator:	>1 mg/m^3 - full facepiece APR with *High efficiency filters* >50 mg/m^3 - Supplied air or SCBA

HEALTH EFFECTS

Eyes:	Severe irritation and burns and possible eye damage
Skin:	Severe irritation and burns
Inhalation:	Nose, throat and lung irritation with coughing, wheezing and shortness of breath Headache, dizziness, convulsions, coma and even death

FIRST AID AND DECONTAMINATION

Remove the person from exposure.

Flush eyes with large amounts of water for at least 30 minutes. Remove contact lenses if worn. Seek medical attention immediately.

Quickly remove contaminated clothing and wash contaminated skin with large amounts of soap and water. Seek medical attention.

Begin artificial respiration if breathing has stopped and CPR if necessary.

Transfer promptly to a medical facility.