Material Safety Data Sheet – Oxalic Acid

SECTION I · PRODUCT IDENTIFICATION

Manufacturers Address: 916 West Lathrop Avenue
Savannah, Georgia 31415

Date Prepared: 24 Sept 08
Preparer: F. Spaeth

CHEMTREC – 24HR Emergency Telephone 1-800-424-9300

Information Phone: (912) 443-6702

Synonym: Ethanedioic Acid
Chemical Family: Organic Acid

SECTION II · HAZARDOUS INGREDIENTS

<table>
<thead>
<tr>
<th>CHEMICAL NAME</th>
<th>CAS Number</th>
<th>%WT</th>
<th>TLV</th>
<th>PEL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oxalic Acid</td>
<td>144-62-7</td>
<td>100</td>
<td>1 mg/m³</td>
<td>2 mg/m³</td>
</tr>
</tbody>
</table>

SECTION III · HAZARDOUS IDENTIFICATION

Potential Acute Health Effects: **Corrosive.** Causes severe irritation and burns to every area of contact.

Potential Chronic Health Effects: **Poison.** May be fatal if swallowed. May cause kidney damage.

SECTION IV · PHYSICAL and CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boiling Point Range</td>
<td>300-316°F</td>
</tr>
<tr>
<td>pH</td>
<td>No data.</td>
</tr>
<tr>
<td>Solubility In Water</td>
<td>Slightly</td>
</tr>
<tr>
<td>Appearance/Odor</td>
<td>Transparent colorless crystals with no odor.</td>
</tr>
<tr>
<td>Melting Point/Freezing Point</td>
<td>216 °F</td>
</tr>
<tr>
<td>Vapor Density (Air=1)</td>
<td>4.4</td>
</tr>
<tr>
<td>Vapor Pressure (mmHg)</td>
<td>&lt; 0.001</td>
</tr>
<tr>
<td>VOC %</td>
<td>0</td>
</tr>
<tr>
<td>Specific Gravity (H₂O=1)</td>
<td>1.65</td>
</tr>
</tbody>
</table>

SECTION V · FIRE FIGHTING MEASURES

Flash Point: Oxalic is a combustible solid below 215 °F

Auto Ignition: No Data found.

Extinguishing Media: Use any means suitable for extinguishing surrounding fire.

Flammable Limits: Lower: N/E Upper: N/E

Fire Fighting Procedures: Cool fire-exposed containers with water spray to prevent container weakening and possible rupture. Do not enter Fire Zone without self-contained breathing apparatus (SCBA) with full-face shield operated in positive pressure demand mode and structural firefighter’s protective clothing.

Fire and Explosion Hazards: Reacts explosively with strong oxidizers.

SECTION VI · STABILITY AND REACTIVITY

Stability: Stable under normal use and storage conditions.

Conditions to Avoid: This material should be stored away from oxidizing materials and high heat.

Incompatibility: Avoid contact with oxidizing/reducing agents.

Hazardous Decomposition Products: Oxides of Carbon and may form formic acid.

Hazardous Polymerization: Will not occur.
SECTION VII · STORAGE AND HANDLING

Precautions To Be Taken In Handling and Storage: Always store in tightly sealed, properly labeled, original container! Protect from physical damage. Prevent water from entering the container! Store in a cool, dry, well-ventilated area.
Other Precautions: Isolate from heat moisture and incompatibles.

SECTION VIII · HEALTH AND FIRST AID

Skin: Causes severe irritation and skin burns.
Eyes: Causes irritation or burns with possible eye damage.
Inhalation: Harmful. Causes severe respiratory tract irritation.
Ingestion: Toxic. Causes irritation or burns of the digestive tract, with vomiting, convulsions and shock.

FIRST AID PROCEDURES:
Eyes: Flush with large amounts of cool running water for at least 15 minutes. Get immediate medical attention.
Skin: Flush off excess. Wash skin with soap and water. Get immediate medical attention.
Inhalation: For excessive inhalation remove to fresh air. Get immediate medical attention.
Ingestion: DO NOT induce vomiting. Drink large amounts of milk or water. Get immediate medical attention.

SECTION IX · EXPOSURE CONTROLS / PERSONAL PROTECTION

Eye Protection: Eye Protection where dusting or splashing of solutions is possible. Goggles, safety glasses with side shields or full-face shield are recommended.
Respiratory Protection: Where adequate ventilation is not available a NIOSH approved organic dust respirator must be worn. In confined areas, use a self-contained breathing apparatus.
Skin Protection: Wear gloves, clothing and footwear that cannot be penetrated by chemicals or oil.
Ventilation: General Mechanical ventilation to prevent TLV from exceeding control limits.
Protective Clothing: Selection of protective clothing depends on potential exposure conditions and may include gloves, boots, suits and other protective items.
Other Equipment: Eye wash station and drench shower in close proximity to use are advised

SECTION X · ACCIDENTAL RELEASE MEASURES

Small Spill: Stop source of spill. Prevent dusting. Sweep or shovel up as much as possible and collect into suitable container.
Large Spill: Shut off or plug source of spill. Salvage as much material as possible into a suitable container. Sweep up residual and collect into suitable container. Prevent dust accumulation.
Personal Protection in Case of Large Spill: Full Suit. Boots. Gloves. A self-contained breathing apparatus should be used to avoid inhalation of the dust from this product.

SECTION XI · DISPOSAL CONSIDERATIONS

Waste Disposal Method: Whatever cannot be salvaged or recycled should be handled a hazardous waste and sent to a RCRA approved incinerator or disposed in a RCRA approver waste facility. Avoid contaminating ground and surface water with whatever cannot be saved or recycled. Follow local, state and federal regulations for disposal.
SECTION XII · TRANSPORTATION

Proper Shipping Name: Oxalic Acid, Dihydrate, Corrosive Solid
Hazard Class: 8
UN Number: 3261
Packaging Group: III

SECTION XIII · TOXICOLOGY

Carcinogenicity: Not listed by any agency.
Mutagenicity: No data available.
Reproductive: No data available.
Sensitization: Not considered a sensitizer

SECTION XIV · REGULATORY

RMP/PSM: Not listed.
CERCLA-RQ: Not established.
EPCRA 311/312: Yes, see Section III.
EPCRA 313: No
FIFRA: No documented information found.
RCRA-CODE: No Hazardous Waste Identification.
TSCA: Listed on inventory

SECTION XV · OTHER INFORMATION

The information contained on this Material Safety Data Sheet is considered accurate as of the date of publication. It is not necessarily all inclusive nor fully adequate in every circumstance. The suggestions should not be confused with, nor followed in violation of applicable laws, regulations, rules or insurance requirements. No warranty, express or implied, of merchantability, fitness, accuracy of data, or the results to be obtained from the use thereof is made. The vendor assumes no responsibility for injury or damages resulting from the inappropriate use of this product.