Material Safety Data Sheet
Oxalyl Chloride, 98%

Section 1 - Chemical Product and Company Identification

**MSDS Name:** Oxalyl Chloride, 98%
**Synonyms:** Ethanedioyl Dichloride

Section 2 - Composition, Information on Ingredients

<table>
<thead>
<tr>
<th>CAS#</th>
<th>Chemical Name</th>
<th>Percent</th>
<th>EINECS/ELINCS</th>
</tr>
</thead>
<tbody>
<tr>
<td>79-37-8</td>
<td>Oxalyl Chloride</td>
<td>98%</td>
<td>201-200-2</td>
</tr>
</tbody>
</table>

Section 3 - Hazards Identification

**EMERGENCY OVERVIEW**

Appearance: clear, colorless liquid.

**Danger!** Toxic. Water-reactive. Reacts violently and/or explosively with water, steam or moisture. Corrosive. Causes eye and skin burns. Harmful if inhaled. May ignite or explode on contact with moist air. May cause severe respiratory tract irritation with possible burns. May cause severe digestive tract irritation with possible burns.

**Target Organs:** No data found.

**Potential Health Effects**

**Eye:** Causes eye burns. Lachrymator (substance which increases the flow of tears). When substance becomes wet or comes in contact with moisture of the mucous membranes, it will cause irritation. May cause chemical conjunctivitis and corneal damage.

**Skin:** Contact with skin causes irritation and possible burns, especially if the skin is wet or moist. May cause skin rash (in milder cases), and cold and clammy skin with cyanosis or pale color.

**Ingestion:** May cause severe and permanent damage to the digestive tract. Causes gastrointestinal tract burns. May cause perforation of the digestive tract. May be harmful if swallowed. May cause systemic effects.

**Inhalation:** Harmful if inhaled. Causes chemical burns to the respiratory tract. May cause severe irritation of the respiratory tract with possible burns. Aspiration may lead to pulmonary edema. May cause systemic effects.

**Chronic:** Effects may be delayed.

Section 4 - First Aid Measures

**Eyes:** Get medical aid immediately. Do NOT allow victim to rub eyes or keep eyes closed. Extensive irrigation with water is required (at least 30 minutes).

**Skin:** Get medical aid immediately. Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Destroy contaminated shoes. If water-reactive products are embedded in the skin, no water should be applied. The embedded products should be covered with a light oil.

**Ingestion:** Do not induce vomiting. If victim is conscious and alert, give 2-4 cupfuls of milk or water. Never give anything by mouth to an unconscious person. Get medical aid immediately.
**Inhalation:** Get medical aid immediately. Remove from exposure and move to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Do NOT use mouth-to-mouth resuscitation. If breathing has ceased apply artificial respiration using oxygen and a suitable mechanical device such as a bag and a mask.

**Notes to Physician:** Treat symptomatically and supportively.

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**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. Reacts violently with water giving off flammable gas which may explode. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Water Reactive. Material will react with water and may release a flammable and/or toxic gas. Use water spray to keep fire-exposed containers cool. Vapors may be heavier than air. They can spread along the ground and collect in low or confined areas. May ignite or explode on contact with steam or moist air. Containers may explode when heated. May re-ignite after fire is extinguished.

**Extinguishing Media:** Use dry sand or earth to smother fire. Use foam, dry chemical, or carbon dioxide. DO NOT USE WATER! Do NOT get water inside containers. Contact professional fire-fighters immediately. Cool containers with flooding quantities of water until well after fire is out.

**Flash Point:** Not applicable.

**Autoignition Temperature:** Not applicable.

**Explosion Limits, Lower:** Not available.

**Upper:** Not available.

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**Section 6 - Accidental Release Measures**

**General Information:** Use proper personal protective equipment as indicated in Section 8.

**Spills/Leaks:** Avoid runoff into storm sewers and ditches which lead to waterways. Clean up spills immediately, observing precautions in the Protective Equipment section. Avoid generating dusty conditions. Absorb spill using an absorbent, non-combustible material such as earth, sand, or vermiculite. Do not use combustible materials such as sawdust. Provide ventilation. Do not expose spill to water.

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**Section 7 - Handling and Storage**

**Handling:** Remove contaminated clothing and wash before reuse. Use only in a well-ventilated area. Do not allow water to get into the container because of violent reaction. Do not breathe dust, vapor, mist, or gas. Do not get in eyes, on skin, or on clothing. Keep container tightly closed. Do not ingest or inhale. Do not allow contact with water. Discard contaminated shoes. Keep from contact with moist air and steam.

**Storage:** Store in a cool, dry place. Store in a tightly closed container. Keep under a nitrogen blanket. Keep away from water.

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**Section 8 - Exposure Controls, Personal Protection**

**Engineering Controls:** Use explosion-proof ventilation equipment. 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**

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>ACGIH</th>
<th>NIOSH</th>
<th>OSHA - Final PELs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oxalyl Chloride</td>
<td>none listed</td>
<td>none listed</td>
<td>none listed</td>
</tr>
</tbody>
</table>
OSHA Vacated PELs: Oxalyl Chloride: 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: Liquid
Appearance: clear, colorless
Odor: Pungent odor
pH: Not available.
Vapor Pressure: 890 hPa @ 50 deg C
Vapor Density: 4.4
Evaporation Rate: Not available.
Viscosity: Not available.
Boiling Point: 63 - 64 deg C @ 763.00mm Hg
Freezing/Melting Point: -12 deg C
Decomposition Temperature: Not available.
Solubility: reacts
Specific Gravity/Density: 1.4550g/cm3
Molecular Formula: C2Cl2O2
Molecular Weight: 126.93

Section 10 - Stability and Reactivity

Chemical Stability: Combines vigorously or explosively with water.
Conditions to Avoid: Exposure to moist air or water.
Incompatibilities with Other Materials: Oxidizing agents, bases, alcohols, amines, steel, potassium, sodium potassium, water.
Hazardous Decomposition Products: Hydrogen chloride, phosgene, carbon monoxide, carbon dioxide.
Hazardous Polymerization: Has not been reported.

Section 11 - Toxicological Information

RTECS#: CAS# 79-37-8: KI2950000
LD50/LC50: CAS# 79-37-8:
- Inhalation, rat: LC50 = 1840 ppm/1H; LC 50 (rat) - 1840 ppm/1
Carcinogenicity: CAS# 79-37-8: Not listed by ACGIH, IARC, NTP, or CA Prop 65.
Epidemiology: No information found
Teratogenicity: No information found

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.

Section 14 - Transport Information

<table>
<thead>
<tr>
<th>US DOT</th>
<th>Canada TDG</th>
</tr>
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<tbody>
<tr>
<td>Shipping Name:</td>
<td>CORROSIVE LIQUIDS, TOXIC, N.O.S.</td>
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<tr>
<td>Hazard Class:</td>
<td>8</td>
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<tr>
<td>UN Number:</td>
<td>UN2922</td>
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<tr>
<td>Packing Group:</td>
<td>II</td>
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</tbody>
</table>

Section 15 - Regulatory Information

Hazard Symbols:
- T

Risk Phrases:
- R 14 Reacts violently with water.
- R 23/24/25 Toxic by inhalation, in contact with skin and if swallowed.
- R 34 Causes burns.

Safety Phrases:
- S 36/37/39 Wear suitable protective clothing, gloves and eye/face protection.
- S 38 In case of insufficient ventilation, wear suitable respiratory equipment.
- S 45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
- S 28A After contact with skin, wash immediately with plenty of water.

Section 16 - Additional Information

MSDS Creation Date: 9/15/1999
Revision #8 Date: 10/03/2006

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