Material Safety Data Sheet
Oxalyl chloride

Section 1 - Chemical Product and Company Identification
MSDS Name: Oxalyl chloride
Catalog Numbers: 12961-0000, 12961-0010, 12961-0250, 12961-1000
Synonyms: Ethanedioyl dichloride

Company Identification: Acros Organics BVBA
Janssen Pharmaceuticaan 3a
2440 Geel, Belgium

Company Identification: (USA)
Acros Organics
One Reagent Lane
Fair Lawn, NJ 07410

For information in the US, call: 800-ACROS-01
For information in Europe, call: +32 14 57 52 11
Emergency Number, Europe: +32 14 57 52 99
Emergency Number US: 201-796-7100
CHEMTREC Phone Number, US: 800-424-9300
CHEMTREC Phone Number, Europe: 703-527-3887

Section 2 - Composition, Information on Ingredients

<table>
<thead>
<tr>
<th>CAS#</th>
<th>Chemical Name</th>
<th>% EINECS#</th>
<th>Hazard Symbols</th>
<th>Risk Phrases</th>
</tr>
</thead>
<tbody>
<tr>
<td>75-44-5</td>
<td>Phosgene</td>
<td>&lt;1% 200-870-3</td>
<td>T+</td>
<td>26 34</td>
</tr>
<tr>
<td>76-02-8</td>
<td>Trichloroacetylchloride</td>
<td>&lt;1% 200-926-7</td>
<td>T+</td>
<td>22 26 35</td>
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<tr>
<td>79-37-8</td>
<td>Oxalyl chloride</td>
<td>98% 201-200-2</td>
<td>T</td>
<td>14 23/24/25 29 34</td>
</tr>
</tbody>
</table>

Text for R-phrases: see Section 16
Hazard Symbols: T

Section 3 - Hazards Identification

EMERGENCY OVERVIEW
Reacts violently with water. Toxic by inhalation, in contact with skin and if swallowed.
Contact with water liberates toxic gas. Causes burns.
Potential Health Effects

Eye: Causes eye burns. Lachrymator (substance which increases the flow of tears). May cause visual impairment.

Skin: Contact with liquid is corrosive and causes severe burns and ulceration. Toxic in contact with skin.

Ingestion: Causes gastrointestinal tract burns. Toxic if swallowed.

Inhalation: Causes chemical burns to the respiratory tract. Inhalation may be fatal as a result of spasm, inflammation, edema of the larynx and bronchi, chemical pneumonitis and pulmonary edema. Toxic if inhaled.

Chronic:

Section 4 - First Aid Measures

**Eyes:** Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid immediately.

**Skin:** Get medical aid immediately. 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. Get medical aid immediately. Wash mouth out with water.

**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.

Notes to Physician: Treat symptomatically and supportively.

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.

**Extinguishing Media:** Water Reactive. Material will react with water and may release a flammable and/or toxic gas.

**Use water spray to cool fire-exposed containers. Use foam, dry chemical, or carbon dioxide. DO NOT USE WATER!**

Section 6 - Accidental Release Measures

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

**Spills/Leaks:** Absorb spill with inert material (e.g. vermiculite, sand or earth), then place in suitable container.

Section 7 - Handling and Storage

**Handling:** Do not allow water to get into the container because of violent reaction. Contents may develop pressure upon prolonged storage. Do not breathe dust, vapor, mist, or gas. Do not get in eyes, on skin, or on clothing. Handle under exclusion of atmospheric pressure. Use only in a chemical fume hood.

**Storage:** Store in a tightly closed container. Store in a dry area. Keep under a nitrogen
blanket. Keep refrigerated. (Store below 4°C/39°F.)

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

CAS# 75-44-5:
United Kingdom, WEL - TWA: 0.02 ppm TWA; 0.08 mg/m³ TWA
United Kingdom, WEL - STEL: 0.06 ppm STEL; 0.25 mg/m³ STEL
United States OSHA: 0.1 ppm TWA; 0.4 mg/m³ TWA
Belgium - TWA: 0.02 ppm VLE; 0.08 mg/m³ VLE Belgium - STEL: 0.1 ppm VLE; 0.4 mg/m³ VLE
France - VME: 0.02 ppm VME; 0.08 mg/m³ VME France - VLE: 0.1 ppm VLE; 0.4 mg/m³ VLE
Germany: 0.02 ppm TWA; 0.082 mg/m³ TWA
Japan: 0.1 ppm OEL; 0.4 mg/m³ OEL
Malaysia: 0.1 ppm TWA; 0.40 mg/m³ TWA
Netherlands: 0.1 ppm STEL; 0.4 mg/m³ STEL Netherlands: 0.02 ppm MAC; 0.08 mg/m³ MAC
Spain: 0.02 ppm VLA-EC; 0.08 mg/m³ VLA-EC Spain: 0.1 ppm VLA-EC; 0.4 mg/m³ VLA-EC

CAS# 76-02-8:

CAS# 79-37-8:
Personal Protective Equipment

Eyes: Wear chemical splash goggles.
Skin: Wear appropriate protective gloves to prevent skin exposure.
Clothing: Wear appropriate protective clothing to prevent skin exposure.

Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

Section 9 - Physical and Chemical Properties

Physical State: Clear liquid
Color: colorless to pale yellow
Odor: pungent odor
pH: Not available
Vapor Pressure: 232hPa @ 19 deg C
Viscosity: Not available
Boiling Point: 63 - 64 deg C @ 763mmHg
Freezing/Melting Point: -12 deg C (10.40°F)
Autoignition Temperature: Not available
Flash Point: > 100 deg C (> 212.00 deg F)
Explosion Limits: Lower: Not available
Explosion Limits: Upper: Not available
Decomposition Temperature:
Solubility in water: Reacts
Specific Gravity/Density: 1.478
Molecular Formula: C2Cl2O2
Molecular Weight: 126.93

Section 10 - Stability and Reactivity

Chemical Stability: Reacts violently with water. Moisture sensitive.
Conditions to Avoid: Incompatible materials, light, exposure to moist air or water.
Incompatibilities with Other Materials
Water, oxidizing agents, bases, alcohols, amines, steel, dimethyl formamide.

Hazardous Decomposition Products
Hydrogen chloride, phosgene, carbon monoxide, carbon dioxide.

Hazardous Polymerization
Will not occur.

Section 11 - Toxicological Information

RTECS#: 
CAS# 75-44-5: SY5600000
CAS# 76-02-8: AO7140000
CAS# 79-37-8: KI2950000

RTECS: Not available. RTECS:
CAS# 76-02-8: Inhalation, mouse: LC50 = 445 mg/m3;
Inhalation, rat: LC50 = 475 mg/m3/4H;
Oral, rat: LD50 = 600 mg/kg;

CAS# 79-37-8: Inhalation, rat: LC50 = 1840 ppm/1H;

LD50/LC50: 

RTECS: 

CAS# 76-02-8: Inhalation, rat: LC50 = 1840 ppm/1H;

Other:
Phosgene - Not listed as a carcinogen by ACGIH, IARC, NTP, or CA Prop 65.
Trichloroacetylchloride - Not listed as a carcinogen by ACGIH, IARC, NTP, or CA Prop 65.
Oxalyl chloride - Not listed as a carcinogen by ACGIH, IARC, NTP, or CA Prop 65.

Other:
The toxicological properties have not been fully investigated. See actual entry in RTECS for complete information.

Section 12 - Ecological Information

Other:
Avoid entering into waters or underground water. Do not empty into drains.

Section 13 - Disposal Considerations
Dispose of in a manner consistent with federal, state, and local regulations.

Section 14 - Transport Information

<table>
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<tr>
<th>IATA</th>
<th>IMO</th>
<th>RID/ADR</th>
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<tbody>
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<td>2927</td>
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</tbody>
</table>
Packing Group: II II II

USA RQ: CAS# 75-44-5: 10 lb final RQ; 4.54 kg final RQ

Section 15 - Regulatory Information

European/International Regulations

European Labeling in Accordance with EC Directives

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 29 Contact with water liberates toxic gas.
   R 34 Causes burns.
Safety Phrases:
   S 8 Keep container dry.
   S 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
   S 36/37/39 Wear suitable protective clothing, gloves and eye/face protection.
   S 45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

WGK (Water Danger/Protection)

   CAS# 75-44-5: 2
   CAS# 76-02-8: 2
   CAS# 79-37-8: 2

Canada

   CAS# 75-44-5 is listed on Canada's DSL List
   CAS# 76-02-8 is listed on Canada's DSL List
   CAS# 79-37-8 is listed on Canada's DSL List

US Federal

TSCA

   CAS# 75-44-5 is listed on the TSCA Inventory.
   CAS# 76-02-8 is listed on the TSCA Inventory.
   CAS# 79-37-8 is listed on the TSCA Inventory.

Section 16 - Other Information

Text for R-phrases from Section 2

   R 14 Reacts violently with water.
R 22 Harmful if swallowed.
R 23/24/25 Toxic by inhalation, in contact with skin and if swallowed.
R 26 Very toxic by inhalation.
R 29 Contact with water liberates toxic gas.
R 34 Causes burns.
R 35 Causes severe burns.

MSDS Creation Date: 9/12/1996
Revision #2 Date 4/21/2004
Revisions were made in Sections: General revision.

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