Section 1 - Product and Company Information

Product Name: TEREPHTHALOYL CHLORIDE, FLAKES, 99+%
Product Number: 120871
Brand: ALDRICH
Company: Sigma-Aldrich Canada, Ltd
Address: 2149 Winston Park Drive
          Oakville ON L6H 6J8 CA
Technical Phone: 9058299500
Fax: 9058299292
Emergency Phone: 800-424-9300

Section 2 - Composition/Information on Ingredient

Substance Name: TEREPHTHALOYL CHLORIDE
CAS #: 100-20-9
SARA 313: No

Formula: C8H4Cl2O2
Synonyms:
1,4-Benzenedicarbonyl chloride *
1,4-Benzenedicarbonyl dichloride *
p-Phenylenedicarbonyl dichloride *
p-Phthaloyl chloride *
p-Phthaloyl dichloride *
Terephthalic acid chloride *
Terephthalic acid dichloride *
Terephthalic dichloride *
Terephthaloyl dichloride

RTECS Number: WZ1797000

Section 3 - Hazards Identification

EMERGENCY OVERVIEW
Corrosive.
Causes burns.
Lachrymator.

HMIS RATING
HEALTH: 3
FLAMMABILITY: 0
REACTIVITY: 1

NFPA RATING
HEALTH: 3
FLAMMABILITY: 0
REACTIVITY: 1

For additional information on toxicity, please refer to Section 11.

Section 4 - First Aid Measures

ORAL EXPOSURE
If swallowed, wash out mouth with water provided person is conscious. Call a physician.

INHALATION EXPOSURE
If inhaled, remove to fresh air. If not breathing give artificial respiration. If breathing is difficult, give oxygen.

EYE EXPOSURE
Assure adequate flushing of the eyes by separating the eyelids with fingers.

Section 5 - Fire Fighting Measures

CONDITIONS OF FLAMMABILITY
Water hydrolyzes material liberating acidic gas which in contact with metal surfaces can generate flammable and/or explosive hydrogen gas.

FLASH POINT
356 °F  180 °C  Method: closed cup

AUTOIGNITION TEMP
N/A

FLAMMABILITY
N/A

EXTINGUISHING MEDIA
Suitable: Carbon dioxide. Dry chemical powder.
Unsuitable: Do not use water.

FIREFIGHTING
Protective Equipment: Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.
Specific Hazard(s): Emits toxic fumes under fire conditions.
Specific Method(s) of Fire Fighting: Use water spray to cool fire-exposed containers.

Section 6 - Accidental Release Measures

PROCEDURE TO BE FOLLOWED IN CASE OF LEAK OR SPILL
Evacuate area.

PROCEDURE(S) OF PERSONAL PRECAUTION(S)
Wear self-contained breathing apparatus, rubber boots, and heavy rubber gloves.

METHODS FOR CLEANING UP
Sweep up, place in a bag and hold for waste disposal. Ventilate area and wash spill site after material pickup is complete.

Section 7 - Handling and Storage

HANDLING
User Exposure: Do not breathe dust. Do not get in eyes, on skin, on clothing. Avoid prolonged or repeated exposure.

STORAGE
Suitable: Keep tightly closed.

Section 8 - Exposure Controls / PPE

ENGINEERING CONTROLS
Safety shower and eye bath. Use only in a chemical fume hood.

PERSONAL PROTECTIVE EQUIPMENT
Respiratory: Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU). Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator.

Hand: Compatible chemical-resistant gloves.

Eye: Chemical safety goggles.

GENERAL HYGIENE MEASURES
Wash contaminated clothing before reuse. Discard contaminated shoes. Wash thoroughly after handling.

Section 9 - Physical/Chemical Properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
<th>At Temperature or Pressure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Molecular Weight</td>
<td>203.02 AMU</td>
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<tr>
<td>pH</td>
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<tr>
<td>BP/BP Range</td>
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<td>760 mmHg</td>
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<td>MP/MP Range</td>
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<td>Freezing Point</td>
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<td>Vapor Pressure</td>
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<td>Vapor Density</td>
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<td>Saturated Vapor Conc.</td>
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<td>Bulk Density</td>
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<td>Odor Threshold</td>
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<td>Volatile%</td>
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<tr>
<td>VOC Content</td>
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<tr>
<td>Water Content</td>
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<td>Solvent Content</td>
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<td>Viscosity</td>
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<td>Surface Tension</td>
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<tr>
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<td>Decomposition Temp.</td>
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<td>Flash Point</td>
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<td>Method: closed cup</td>
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<tr>
<td>Explosion Limits</td>
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<td>Flammability</td>
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<td>Refractive Index</td>
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<td>Optical Rotation</td>
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<tr>
<td>Miscellaneous Data</td>
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<tr>
<td>Solubility</td>
<td>Solvent: Clear 0.1 g/ml diethyl ether</td>
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</tbody>
</table>

N/A = not available

Section 10 - Stability and Reactivity

STABILITY
Stable: Stable.
Conditions to Avoid: Moisture.
Materials to Avoid: Alcohols, Oxidizing agents, Strong bases.

HAZARDOUS DECOMPOSITION PRODUCTS
Hazardous Decomposition Products: Carbon monoxide, Carbon dioxide, Hydrogen chloride gas, Phosgene gas.
HAZARDOUS POLYMERIZATION
Hazardous Polymerization: Will not occur

Section 11 - Toxicological Information

ROUTE OF EXPOSURE
Skin Contact: Causes burns.
Skin Absorption: May be harmful if absorbed through the skin.
Eye Contact: Lachrymator. Causes burns.
Inhalation: May be harmful if inhaled. Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract.
Ingestion: May be harmful if swallowed.

SIGNS AND SYMPTOMS OF EXPOSURE
Inhalation may result in spasm, inflammation and edema of the larynx and bronchi, chemical pneumonitis, and pulmonary edema. Symptoms of exposure may include burning sensation, coughing, wheezing, laryngitis, shortness of breath, headache, nausea, and vomiting. Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin. To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

TOXICITY DATA

Oral
Rat
2500 mg/kg
LD50

Inhalation
Rat
700 mg/m3
LC50

Oral
Mouse
2140 mg/kg
LD50

Oral
Rabbit
950 mg/kg
LD50

CHRONIC EXPOSURE - REPRODUCTIVE HAZARD

Species: Rat
Dose: 4122 MG/KG
Route of Application: Oral
Exposure Time: (26W MALE)
Result: Paternal Effects: Spermatogenesis (including genetic material, sperm morphology, motility, and count).
Species: Rat  
Dose: 4122 MG/KG  
Route of Application: Oral  
Exposure Time: (26W PRE)  
Result: Maternal Effects: Menstrual cycle changes or disorders.

Section 12 - Ecological Information
No data available.

Section 13 - Disposal Considerations

APPROPRIATE METHOD OF DISPOSAL OF SUBSTANCE OR PREPARATION
Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber. Observe all federal, state, and local environmental regulations.

Section 14 - Transport Information

DOT
Proper Shipping Name: Corrosive solids, toxic, n.o.s.
UN#: 2923  
Class: 8  
Packing Group: Packing Group III  
Hazard Label: Corrosive  
Hazard Label: Toxic substances.  
PIH: Not PIH

IATA
Proper Shipping Name: Corrosive solid, toxic, n.o.s.
IATA UN Number: 2923  
Hazard Class: 8  
Packing Group: III

Section 15 - Regulatory Information

EU ADDITIONAL CLASSIFICATION
Symbol of Danger: C  
Indication of Danger: Corrosive.  
R: 34  
Risk Statements: Causes burns.  
S: 26-27-36/37/39-45  
Safety Statements: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Take off immediately all contaminated clothing. Wear suitable protective clothing, gloves, and eye/face protection. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

US CLASSIFICATION AND LABEL TEXT
Indication of Danger: Corrosive.  
Risk Statements: Causes burns.  
Safety Statements: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Take off immediately all contaminated clothing. Wear suitable protective clothing, gloves, and eye/face protection. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).  
US Statements: Lachrymator.
UNITED STATES REGULATORY INFORMATION
SARA LISTED: No
TSCA INVENTORY ITEM: Yes

CANADA REGULATORY INFORMATION
WHMIS Classification: This product has been classified in accordance with the hazard criteria of the CPR, and the MSDS contains all the information required by the CPR.
DSL: Yes
NDSL: No

Section 16 - Other Information

DISCLAIMER
For R&D use only. Not for drug, household or other uses.

WARRANTY
The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Inc. shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale.
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