CARBONYL FLUORIDE

CAS No: 353-50-4
RTECS No: FG6125000
UN No: 2417

Carbon oxyfluoride
Carbon difluoride oxide
Difluoroformaldehyde
Fluorophosgene (cylinder)
COF₂
Molecular mass: 66.0

<table>
<thead>
<tr>
<th>TYPES OF HAZARD/EXPOSURE</th>
<th>ACUTE HAZARDS/SYMPTOMS</th>
<th>PREVENTION</th>
<th>FIRST AID/FIRE FIGHTING</th>
</tr>
</thead>
<tbody>
<tr>
<td>FIRE</td>
<td>Not combustible. Gives off irritating or toxic fumes (or gases) in a fire.</td>
<td>In case of fire in the surroundings: NO hydrous agents.</td>
<td>In case of fire: cool cylinder by spraying with water but avoid contact of the substance with water. Combat fire from a sheltered position.</td>
</tr>
<tr>
<td>EXPLOSION</td>
<td></td>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>EXPOSURE</th>
<th>STRICT HYGIENE!</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inhalation</td>
<td>Burning sensation. Sore throat. Cough. Laboured breathing. Shortness of breath. Symptoms may be delayed (see Notes).</td>
</tr>
<tr>
<td>Skin</td>
<td>ON CONTACT WITH LIQUID: FROSTBITE. Redness. Pain.</td>
</tr>
<tr>
<td>Eyes</td>
<td>ON CONTACT WITH LIQUID: Redness. Pain. Blurred vision. Severe deep burns.</td>
</tr>
</tbody>
</table>

Ingestion

<table>
<thead>
<tr>
<th>SPILLAGE DISPOSAL</th>
<th>PACKAGING &amp; LABELLING</th>
</tr>
</thead>
<tbody>
<tr>
<td>Evacuate danger area! Consult an expert! Ventilation. NEVER direct water jet on liquid. Gas-tight chemical protection suit including self-contained breathing apparatus.</td>
<td>UN Hazard Class: 2.3 UN Subsidiary Risks: 8</td>
</tr>
</tbody>
</table>

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<tr>
<th>EMERGENCY RESPONSE</th>
<th>STORAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transport Emergency Card: TEC (R)-20G1TC NFPA Code: H4; F0; R; 0</td>
<td>Fireproof if in building. Cool.</td>
</tr>
</tbody>
</table>
## IMPORTANT DATA

### Physical State; Appearance
COLOURLESS HYDROSCOPIC COMPRESSED LIQUEFIED GAS, WITH PUNGENT ODOUR.

### Physical dangers
The gas is heavier than air.

### Chemical dangers
The substance decomposes on heating at 450-490°C producing toxic gases. Reacts with water and moist air to produce toxic and corrosive gases (hydrogen fluoride, see ICSC 0283).

### Occupational exposure limits
TLV: 2 ppm as TWA; 5 ppm as STEL; (ACGIH 2003).

### Routes of exposure
The substance can be absorbed into the body by inhalation of the gas.

### Inhalation risk
A harmful concentration of this gas in the air will be reached very quickly on loss of containment.

### Effects of short-term exposure
The substance is irritating to the eyes, the skin and the respiratory tract. Inhalation of high concentrations may cause lung oedema (see Notes). Rapid evaporation of the liquid may cause frostbite. The effects may be delayed. Medical observation is indicated. See Notes.

## PHYSICAL PROPERTIES

- Boiling point: -83°C
- Melting point: -114°C
- Relative density (water = 1): 1.39 (at -190°C)
- Density: 2.89 g/l (gas)
- Solubility in water: reaction
- Relative vapour density (air = 1): 2.3

## ENVIRONMENTAL DATA

## NOTES
The compound decomposes in the body to hydrogen fluoride, see ICSC 0283 Hydrogen fluoride. Depending on the degree of exposure, periodic medical examination is suggested. The symptoms of lung oedema often do not become manifest until a few hours have passed and they are aggravated by physical effort. Rest and medical observation is therefore essential. Immediate administration of an appropriate inhalation therapy by a doctor or a person authorized by him/her, should be considered. Turn leaking cylinder with the leak up to prevent escape of gas in liquid state.

## ADDITIONAL INFORMATION

Neither the EC nor the IPCS nor any person acting on behalf of the EC or the IPCS is responsible for the use which might be made of this information.

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