# International Chemical Safety Cards

## CHLORODIFLUOROMETHANE

**ICSC: 0049**

**CHLORODIFLUOROMETHANE**  
Monochlorodifluoromethane  
R 22  
(cylinder)  
CHClF₂  
Molecular mass: 86.5

**CAS # 75-45-6**  
**RTECS # PA6390000**  
**ICSC # 0049**  
**UN # 1018**

### TYPES OF HAZARD/EXPOSURE

<table>
<thead>
<tr>
<th>HAZARD/EXPOSURE</th>
<th>ACUTE HAZARDS/SYMPOTMS</th>
<th>PREVENTION</th>
<th>FIRST AID/FIRE FIGHTING</th>
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</thead>
<tbody>
<tr>
<td>FIRE</td>
<td>Not combustible. Gives off irritating or toxic fumes (or gases) in a fire.</td>
<td></td>
<td>In case of fire in the surroundings: all extinguishing agents allowed.</td>
</tr>
<tr>
<td>EXPLOSION</td>
<td>Risk of fire and explosion (see Chemical Dangers).</td>
<td></td>
<td>In case of fire: keep cylinder cool by spraying with water.</td>
</tr>
</tbody>
</table>

### EXPOSURE

- **INHALATION**
  - Confusion. Drowsiness.  
  - Unconsciousness.  
  - Ventilation, local exhaust, or breathing protection.  
  - Fresh air, rest. Artificial respiration if indicated. Refer for medical attention.

- **SKIN**
  - ON CONTACT WITH LIQUID: FROSTBITE.  
  - Cold-insulating gloves.  
  - ON FROSTBITE: rinse with plenty of water, do NOT remove clothes. Refer for medical attention.

- **EYES**
  - Redness. Pain.  
  - Safety goggles.  
  - First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then take to a doctor.

### SPILLAGE DISPOSAL

- Ventilation. NEVER direct water jet on liquid.

### STORAGE

- Separated from powdered metals such as aluminium and zinc. Cool. Ventilation along the floor.

### PACKAGING & LABELLING

- Special insulated cylinder.  
- UN Hazard Class: 2.2

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**SEE IMPORTANT INFORMATION ON BACK**

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Prepared in the context of cooperation between the International Programme on Chemical Safety & the Commission of the European Communities © IPCS CEC 1993
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CHLORODIFLUOROMETHANE

PHYSICAL STATE; APPEARANCE:
COLOURLESS COMPRESSED LIQUEFIED GAS, WITH CHARACTERISTIC ODOUR.

PHYSICAL DANGERS:
The gas is heavier than air and may accumulate in low ceiling spaces causing deficiency of oxygen.

CHEMICAL DANGERS:
On contact with hot surfaces or flames this substance decomposes forming corrosive and very toxic fumes (hydrogen chloride, ICSC # 0163; phosgene, ICSC # 0007; chlorine, ICSC # 0126; hydrogen fluoride, ICSC # 0283). Reacts violently with powdered metals such as aluminium and zinc, causing fire and explosion hazard. Attacks magnesium and its alloys.

OCCUPATIONAL EXPOSURE LIMITS (OELs):
TLV (as TWA): 1000 ppm; 3540 mg/m³ (ACGIH 1992-1993).

MAK: 500 ppm; 1800 mg/m³; IV, C (1992).

PHYSICAL PROPERTIES
Boiling point: -41°C
Melting point: -146°C
Relative density (water = 1): 1.21
Solubility in water, g/100 ml at 25°C: 0.3

Vapour pressure, kPa at 20°C: 908
Relative vapour density (air = 1): 3.0
Octanol/water partition coefficient as log Pow: 1.08

ENVIRONMENTAL DATA
This substance may be hazardous to the environment; special attention should be given to the air.

NOTES
To physicians: adrenergic agents are contraindicated. High concentrations in the air cause a deficiency of oxygen with the risk of unconsciousness or death. Check oxygen content before entering area. The odour warning when the exposure limit value is exceeded is insufficient. Do NOT use in the vicinity of a fire or a hot surface, or during welding. Turn leaking cylinder with the leak up to prevent escape of gas in liquid state. Freon 22, Frigen 22, Halon 22 are trade names.

Transport Emergency Card: TEC (R)-20G08

ADDITIONAL INFORMATION
IMPORTANT LEGAL NOTICE:

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