<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>Flammable.</td>
<td>NO open flames, NO sparks, and NO smoking.</td>
<td>In case of fire in the surroundings: use appropriate extinguishing media.</td>
</tr>
<tr>
<td>EXPLOSION</td>
<td>Gas/air mixtures are explosive.</td>
<td>Closed system, ventilation, explosion-proof electrical equipment and lighting.</td>
<td>In case of fire: keep cylinder cool by spraying with water.</td>
</tr>
</tbody>
</table>

**EXPOSURE**

**Inhalation**
- Burning sensation. Cough. Laboured breathing. Shortness of breath. Sore throat. Symptoms may be delayed (see Notes).
- Ventilation, local exhaust, or breathing protection.
- Fresh air, rest. Half-upright position. Artificial respiration may be needed. Refer for medical attention.

**Skin**
- Redness. Skin burns. Pain. Blisters. ON CONTACT WITH LIQUID: FROSTBITE.
- Cold-insulating gloves. Protective clothing.
- ON FROSTBITE: rinse with plenty of water, do NOT remove clothes. Refer for medical attention.

**Eyes**
- Face shield or eye protection in combination with breathing protection.
- First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then take to a doctor.

**Ingestion**

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**SPILLAGE DISPOSAL**


**PACKAGING & LABELLING**

T Symbol
N Symbol
R: 10-23-34-50
S: (1/2-9)-16-26-36/37/39-45-61
UN Hazard Class: 2.3
UN Subsidiary Risks: 8

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**EMERGENCY RESPONSE**

Transport Emergency Card: TEC (R)-20S1005 or 20G2TC
NFPA Code: H3; F1; R0

**SAFE STORAGE**

### IMPORTANT DATA

<table>
<thead>
<tr>
<th>Physical State: Appearance</th>
<th>Routes of exposure</th>
</tr>
</thead>
<tbody>
<tr>
<td>COLOURLESS COMPRESSED LIQUEFIED GAS, WITH PUNGENT ODOUR.</td>
<td>The substance can be absorbed into the body by inhalation.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Physical dangers</th>
<th>Inhalation risk</th>
</tr>
</thead>
<tbody>
<tr>
<td>The gas is lighter than air.</td>
<td>A harmful concentration of this gas in the air will be reached very quickly on loss of containment.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Chemical dangers</th>
<th>Effects of short-term exposure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shock-sensitive compounds are formed with mercury, silver and gold oxides. The substance is a strong base, it reacts violently with acid and is corrosive. Reacts violently with strong oxidants and halogens. Attacks copper, aluminum, zinc and their alloys. Dissolves in water evolving heat.</td>
<td>The substance is corrosive 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.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Occupational exposure limits</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>TLV: 25 ppm as TWA; 35 ppm as STEL; (ACGIH 2004).</td>
<td>MAK: 20 ppm, 14 mg/m³; Peak limitation category: I(2); Pregnancy risk group: C; (DFG 2004).</td>
<td></td>
</tr>
</tbody>
</table>

### PHYSICAL PROPERTIES

- Boiling point: -33°C
- Melting point: -78°C
- Relative density (water = 1): 0.7 at -33°C
- Solubility in water, g/100 ml at 20°C: 54
- Vapour pressure, kPa at 26°C: 1013
- Relative vapour density (air = 1): 0.59
- Auto-ignition temperature: 651°C
- Explosive limits, vol% in air: 15-28

### ENVIRONMENTAL DATA

The substance is very toxic to aquatic organisms.

### NOTES

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.

Card has been partly updated in October 2005. See sections Occupational Exposure Limits, Emergency Response.

### ADDITIONAL INFORMATION

Legal Notice: 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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