# International Chemical Safety Cards

## MONOMETHYLAMINE

**ICSC: 0178**

**MONOMETHYLAMINE**
- Methylamine
- Methanamine
- Aminomethane (cylinder)
- CH₃NH₂

**Molecular mass: 31.1**

**CAS # 74-89-5**
**RTECS # PF6300000**
**ICSC # 0178**
**UN # 1061 (anhydrous)**
**EC # 612-001-00-9**

### TYPES OF HAZARD/EXPOSURE

<table>
<thead>
<tr>
<th>FIRE</th>
<th>ACUTE HAZARDS/SYMPTOMS</th>
<th>PREVENTION</th>
<th>FIRST AID/FIRE FIGHTING</th>
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</thead>
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<tr>
<td></td>
<td>Extremely flammable. Gives off irritating or toxic fumes (or gases) in a fire.</td>
<td>NO open flames, NO sparks, and NO smoking.</td>
<td>Shut off supply; if not possible and no risk to surroundings, let the fire burn itself out; in other cases extinguish with powder, carbon dioxide.</td>
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<tr>
<td>EXPLOSION</td>
<td>Gas/air mixtures are explosive.</td>
<td>Closed system, ventilation, explosion-proof electrical equipment and lighting. Do NOT use compressed air for filling, discharging, or handling. Use non-sparking handtools.</td>
<td>In case of fire: keep cylinder cool by spraying with water.</td>
</tr>
</tbody>
</table>

### EXPOSURE

- **INHALATION**
  - Ventilation, local exhaust, or breathing protection.
  - Fresh air, rest. Half-upright position. Artificial respiration if indicated. Refer for medical attention.

- **SKIN**
  - Redness. Pain.
  - Protective gloves. Protective clothing.
  - Remove contaminated clothes. Rinse skin with plenty of water or shower. Refer for medical attention.

- **EYES**
  - Redness. Pain.
  - 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.
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**INFORMATION ON USE AND HANDLING**

- **INGESTION**
  Abdominal cramps (further see Inhalation).
  Do not eat, drink, or smoke during work.
  Rinse mouth. Do NOT induce vomiting. Give plenty of water to drink. Refer for medical attention.

**INFORMATION ON HYGIENE AND SHELVING**

- **SPILLAGE DISPOSAL**
  Evacuate danger area! Consult an expert! Ventilation. Do NOT wash away into sewer. Remove with fine water spray (extra personal protection: complete protective clothing including self-contained breathing apparatus).

- **STORAGE**
  Fireproof. Separated from incompatible materials (see Chemical Dangers). Cool.

- **PACKAGING & LABELLING**
  F symbol
  Xi symbol
  R: 13-36/37
  S: 16-26-29
  Note: C
  UN Haz Class: 2.1

**SEE IMPORTANT INFORMATION ON BACK**

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**PHYSICAL STATE; APPEARANCE:**

COLOURLESS COMPRESSED LIQUEFIED GAS, WITH CHARACTERISTIC ODOUR.

**PHYSICAL DANGERS:**
The gas is heavier than air and may travel along the ground; distant ignition possible.

**CHEMICAL DANGERS:**
The substance decomposes on burning producing toxic fumes (nitrogen oxides).
The substance is a medium strong base. Reacts violently with mercury causing fire and explosion hazard. Reacts violently with strong oxidants, such as chlorine.

**OCCUPATIONAL EXPOSURE LIMITS (OELs):**

TLV (as TWA): 10 ppm; 13 mg/m³ (ACGIH 1992-1993).

MAK: 10 ppm; 12 mg/m³; (1992).

**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 irritates the eyes, the skin and the respiratory tract. Inhalation of the substance may cause lung oedema (see Notes).

**EFFECTS OF LONG-TERM OR REPEATED EXPOSURE:**
Repeated or prolonged contact with skin may cause dermatitis.

**PHYSICAL PROPERTIES**

- Boiling point: -6°C
- Melting point: -94°C
- Relative density (water = 1): 0.66
- Relative vapour density (air = 1): 1.07
- Flash point: Flammable Gas
- Auto-ignition temperature: 430°C
Solubility in water, g/100 ml at 20°C: 108
Vapour pressure, kPa at 20°C: 290
Explosive limits, vol% in air: 4.9-20.7
Octanol/water partition coefficient as log Pow: -0.71

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

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 are therefore essential. Immediate administration of an appropriate spray, by a doctor or a person authorized by him/her, should be considered. The odour warning when the exposure limit value is exceeded is insufficient. Turn leaking cylinder with the leak up to prevent escape of gas in liquid state.

Transport Emergency Card: TEC (R)-20G12
NFPA Code: H 3; F 4; R 0;

ADDITIONAL INFORMATION

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