

---

## Information and recommendations for first responders

---

- Exposed or intoxicated patients do not pose a significant risk of secondary contamination.
  - Ingestion of 10-15 ml methanol can cause severe systemic toxic effects, in particular irreversible blindness and central nervous system depression. Dosage of approximately 1 ml methanol/kg body weight may result in death.
  - Methanol is slightly irritating when it comes in contact with the eyes, skin, and upper respiratory tract causing redness and tearing of the eyes, coughing, and defatting and inflammation of the skin.
  - Inhalation exposure to a concentration above 1000 ppm and prolonged or extensive skin contact may result in significant systemic toxicity.
  - Methanol intoxication can be treated by the administration of ethanol. If conscious after ingestion of methanol, an adult patient should immediately drink alcoholic beverages, e.g. 150 ml of whiskey/brandy.
- 

### 1. Substance information

Methanol (CH<sub>3</sub>OH), CAS 67-56-1

Synonyms: carbinol, methyl alcohol, wood alcohol, wood spirit  
Methanol is, at room temperature, a clear, colorless, volatile and flammable liquid (boiling point 65°C, 116°F, respectively). Its mild alcohol odor can be perceived at a threshold concentration of 5 to 100 ppm.

Methanol is soluble in water.

Methanol is widely used as a solvent, as an antifreeze fluid, as a fuel and as an intermediate in the manufacture of formaldehyde, acetic acid and methyl esters.

### 2. Routes of exposure

#### *Inhalation*

**Inhalation is a relevant route of industrial exposures.** Methanol's odor and irritant properties generally provide adequate warning of hazardous concentrations. Methanol is slightly heavier than air and may cause asphyxiation in poorly ventilated, low-lying, or enclosed spaces.

#### *Skin/eye contact*

Methanol can cause slight irritation to the skin and the eyes. **Methanol is well absorbed through the intact skin.**

#### *Ingestion*

**Ingestion of methanol results in severe systemic intoxication.** The stage with severe signs or symptoms of intoxication may be preceded by an asymptomatic latent period.

### 3. Acute health effects

Ingestion of large amounts of methanol may result in nausea, vomiting, abdominal pain, and inebriation as in ethanol intoxication, but to a lesser degree. An asymptomatic latent period of 8 to 36 hours usually follows before the more serious symptoms develop: headache, dizziness, vomiting, severe abdominal pain, visual disturbances which may result in blindness, periodic respiration, and coma with respiratory failure eventually leading to death.

After inhalation exposure to concentrations above 1000 ppm or prolonged or extended skin exposure, similar systemic effects might result.

Methanol is slightly irritating when it comes in contact with the eyes, skin, and upper respiratory tract causing redness and lacrimation of the eyes, coughing and, defatting and inflammation of the skin.

## 4. Actions

### *First aid*

Patients exposed to methanol do not pose a significant risk of secondary contamination. Patients should be removed from the contaminated zone immediately. Patients who are unable to walk may be removed on backboards or stretchers; if these are not available, carefully remove/transport patients with appropriate action to a safe zone, taking into account your self-protection.

Immediate priorities must follow the "A, B, C's" of resuscitation:

- A) Airway** (make sure the airway is not blocked by the tongue or by a foreign body)
- B) Breathing** (check to see if the patient is breathing, provide ventilation with use of appropriate barrier devices, e.g. with a pocket face mask, if breathing is absent)
- C) Circulation** (start CPR in any unresponsive person with absent or abnormal breathing)

### *After ingestion*

**Do not induce emesis. Each potentially exposed person should seek immediate medical advice and treatment. If conscious, the adult patient should immediately drink alcoholic beverages containing about 0.7 g ethanol/kg body weight, e.g. 150 ml of whiskey/brandy.**

### *After inhalation or skin/eye contact*

Patients exposed only to methanol vapor who have no evidence of skin or eye irritation do not need decontamination. All others require decontamination.

Patients who are able and cooperative may assist with their own decontamination. If the exposure involved liquid methanol and if clothing is contaminated, remove and double-bag the clothing.

**Flush exposed skin and hair with plain water for at least 15 minutes.** Protect eyes during flushing of skin and hair. Continue other basic care during flushing.

**Irrigate exposed or irritated eyes with plain water or saline for at least 15 minutes.** Remove contact lenses if present and easily removable without additional trauma to the eye. Continue other basic care during flushing.

**Each person potentially exposed to a methanol concentration >1000 ppm or with eye or prolonged or extensive skin exposure should seek immediate medical advice and treatment.**

In this document BASF has made a diligent effort to ensure the accuracy and currency of the information presented but makes no claim that the document comprehensively addresses all possible situations related to this topic. This document is intended as an additional resource for first responders in assessing the condition and managing the treatment of patients exposed to methanol. It is not, however, a substitute for the judgement of a first responder and must be interpreted in the light of specific information regarding the patient available to such a first responder and in conjunction with other sources of authority.

**BASF SE**  
Corporate Health Management  
Carl-Bosch-Straße 38  
67056 Ludwigshafen  
Germany

**BASF Corporation**  
Medical Department  
100 Campus Drive, M/S F 221  
Florham Park, NJ 07932  
USA