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## Information and recommendations for first responders

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- Before approaching the patient; the first responder must make sure that he does not risk exposing himself to chloroacetyl chloride.
  - Patients exposed only to chloroacetyl chloride gas do not pose a significant risk of secondary contamination. Patients whose clothing or skin is contaminated with liquid chloroacetyl chloride can secondarily contaminate rescue and medical personnel by direct contact or through off-gassing chloroacetyl chloride.
  - Chloroacetyl chloride is a lacrimator and irritates the lungs severely. Because of its hydrolysis in the alveoli, serious lung effects and, therefore, symptoms of toxicity may be delayed up to 24 hours. Signs of accumulation of fluid in the lungs (shortness of breath, cyanosis, expectoration, cough) may appear hours after toxic exposures.
  - There is no antidote to be administered to counteract the effects of chloroacetyl chloride. Treatment consists of supportive measures.
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### 1. Substance information

Chloroacetyl chloride (ClCH<sub>2</sub>COCl), CAS 79-04-9  
Synonyms: chloroacetic chloride, CAC  
Chloroacetyl chloride is a colorless, water-white liquid at room temperature with a melting point of -22 °C and a boiling point of 106°C. It has a sharp and pungent odor. Chloroacetyl chloride is hydrolyzed slowly by moisture to form chloroacetic acid and hydrochloric acid.

Chloroacetyl chlorides are used as an intermediate in the manufacture of many chemicals including adrenalin, diazepam, chloroacetophenone, chloroacetate esters and chloroacetic anhydride.

### 2. Routes of exposure

#### *Inhalation*

**Most exposures occur by inhalation or by skin/eye contact.** Chloroacetyl chloride's odor may provide insufficient warning of hazardous exposure that can occur even at low concentrations. Chloroacetyl chloride is heavier than air and may travel along the ground.

#### *Skin/eye contact*

Chloroacetyl chloride can cause irritation and burns of the skin and the eyes. Dermal absorption may occur.

#### *Ingestion*

Accidental ingestion of chloroacetyl chloride may occur and may cause irritation of the mouth, throat and stomach.

### 3. Acute health effects

Chloroacetyl chloride exposure usually causes eye, nose, throat, and lung irritation. **Irritating effects immediately after exposure might be severe and delayed lung damage may occur as late as 24 hours after exposure.** Chloroacetyl chloride poisoning may cause respiratory and cardiovascular failure.

Contact with chloroacetyl chloride can cause irritation and redness of the skin.

High gas concentrations may cause tearing and redness of the eye. Eye contact with liquid chloroacetyl chloride may result in clouding of the eye surface.

## 4. Actions

### *Rescuer self-protection*

**If the zone which has to be entered by the rescuer is suspected of containing chloroacetyl chloride, pressure-demand, self-contained breathing apparatus and chemical-protective clothing shall be worn; do not use equipment that is contaminated itself.**

Patients exposed only to chloroacetyl chloride gas do not pose a significant risk of secondary contamination. Patients whose clothing or skin is contaminated with liquid chloroacetyl chloride or solvents containing chloroacetyl chloride can secondarily contaminate other people by direct contact or through off-gassing chloroacetyl chloride.

### *Patient recovery*

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 ventilations 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)

### *Decontamination*

Patients exposed only to chloroacetyl chloride gas 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 chloroacetyl chloride or solvents containing chloroacetyl chloride and if clothing is contaminated, remove and double-bag the clothing.

**Flush exposed skin and hair with plain water for at least 20 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 20 minutes.** Remove contact lenses if present and easily removable without additional trauma to the eye. Continue other basic care during flushing.

### *Further actions*

**Each potentially exposed person should seek immediate medical advice and treatment.**

<p>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 chloroacetyl chloride. 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.</p>
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