

# Chemical Emergency Medical Guideline

Information and recommendations for first responders and patients

## Acetic acid

CAS No.: 64-19-7

GHS symbols:



**GHS05**  
Corrosive

**Signal word: Danger**

**Hazard statements:**

H314 Causes severe skin burns and serious eye damage.

### Overview

- A patient who is covered in liquid acetic acid or whose clothing is covered in liquid acetic acid may endanger other people through direct contact or through acetic acid vapors. There is no danger from contact with patients who have only been exposed to acetic acid vapors.
- Acetic acid has a strong corrosive effect on all tissues. Exposure to the eyes can cause severe burns and permanent damage to the eye. Skin contact can cause severe burns, which may occur with a delay. Vapors irritate the skin, eyes, nose, throat and respiratory tract, causing irritation, coughing, chest pain and breathing difficulties. Laryngeal spasm and fluid accumulation in the lungs (shortness of breath, blue discoloration of the skin and mucous membranes, sputum, coughing) may occur.
- There is no known specific antidote. Treatment depends on the extent of exposure and the symptoms.

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## 1. Information about the substance

Acetic acid (CH<sub>3</sub>-COOH), CAS 64-19-7

Synonyms: glacial acetic acid, ethanoic acid

At room temperature, acetic acid is a clear, colorless liquid with a characteristic sour odor. Acetic acid is the basic building block to produce acetic anhydride, cellulose acetate, acetylsalicylic acid and chloroacetic acid. It is also used in the production of plastics, pharmaceuticals, paints, insecticides and photographic chemicals, as a food additive, latex aid and in textile printing. Low-concentration solutions can be used in disinfection processes.

## 2. Exposition

### 2.1. Inhalation

Inhalation is a possible route of exposure. The odor of acetic acid and its irritating effects on the upper respiratory tract provide a clear warning of dangerous concentrations.

### 2.2. Skin/eye contact

Exposure to acetic acid occurs mainly through direct contact with the skin and eyes. Skin and eye contact causes severe burns, which may also occur with a delay.

### 2.3. Ingestion

Ingestion of acetic acid causes severe burns to the mucous membranes in the throat and esophagus. However, accidental ingestion of acetic acid rarely occurs in the workplace.

## 3. Acute health effects

In most cases, exposure to acetic acid poses a hazard after contact with the skin or eyes. Skin and eye contact causes severe burns, which may occur with a delay, accompanied by watery eyes, nasal irritation, throat irritation and coughing. Extensive exposure can cause severe breathing difficulties and ultimately lead to chemically induced lung damage and death.

Acetic acid usually causes irritation of the eyes and mucous membranes, throat irritation and coughing. This can quickly lead to breathing difficulties with chest pain, shortness of breath, laryngospasm and fluid accumulation in the lungs (shortness of breath, cyanosis, sputum, coughing). The symptoms may increase over several hours. Exposure to acetic acid can lead to respiratory failure. The irritant or corrosive effect of liquid or vapor is the main concern; systemic absorption (e.g. through ingestion) is of secondary importance.

Direct exposure of the skin and eyes to liquid acetic acid causes severe burns to the skin and mucous membranes, which can lead to scarring. Low vapor concentrations or mists can cause pain, redness, inflammation and blistering on the skin. Low vapor concentrations and mists cause burning, redness, tearing and eyelid closure in the eyes. Permanent damage to the eyes is possible.

Ingestion of acetic acid causes severe burns to the mucous membranes in the throat and esophagus.

A single, short-term exposure, from which the affected person recovers quickly, does not normally result in delayed or lasting damage to health. After inhaling relevant amounts of acetic acid, permanent respiratory disorders and a higher susceptibility to infection of the lungs have been described.

## 4. Measures

### 4.1. Self-protection of first aiders

If there is a suspicion that the area the helper must enter contains acetic acid, a self-contained breathing apparatus and a chemical protection suit must be worn. Contaminated equipment should not be used. A patient who is wet with liquid acetic acid or whose clothing is wet with liquid acetic acid may endanger other people through direct contact or through acetic acid vapors. There is no danger from contact with patients who have only been exposed to acetic acid vapors.

### 4.2. Rescue

Patients should be removed from the danger zone immediately. If they are unable to walk unaided, they should be removed from the danger zone quickly using appropriate means, taking care to protect yourself. The "A, B, C procedure" then takes absolute priority.

- A) Clear the airways** (check for blockages caused by the tongue or foreign objects)
- B) Ventilation** (check the patient's breathing, if necessary, begin ventilation with adequate self protection, e.g. breathing mask)
- C) Circulation** (begin resuscitation for any person who does not respond to verbal commands and is not breathing normally)

### 4.3. Cleaning

Patients who have only been exposed to acetic acid vapors and show no signs of skin or eye irritation do not require any special cleaning measures, unlike all others.

If possible, patients should assist with their own cleaning. If liquid acetic acid has been exposed and clothing is contaminated, it must be removed immediately and securely wrapped.

If the eyes have been exposed to acetic acid or if there is eye irritation, rinse with water or neutral saline solution for 15 minutes. Remove any contact lenses, if possible, without causing additional danger to the eye. Other important first aid measures must be continued during this time.

Rinse affected skin and hair with water for at least 15 minutes. Protect eyes while rinsing. Continue other important first aid measures during this time.

Do not induce vomiting after swallowing. The affected person should seek medical treatment immediately.

### 4.4. Further measures

Anyone who may have been exposed to acetic acid should seek medical attention immediately.

### 4.5. Instructions for further rules of conduct

Consult your family doctor or the emergency department of the nearest hospital if any abnormalities or symptoms occur within the next 24 hours, in particular:

- Coughing, wheezing or whistling breath
- Difficulty breathing or shortness of breath
- Increased pain or abnormalities in the affected skin areas or eyes
- Pain or tightness in the chest

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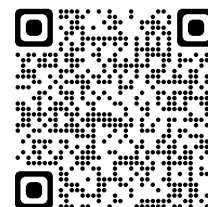
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**Administrative Information**

<b>Document Type</b>	Chemical Emergency Medical Guideline
<b>Number of Version</b>	DE.1.0.0
<b>Initial Publication</b>	01.01.2026
<b>Next Revision</b>	2029
<b>Responsible Unit (Author)</b>	ESG/CH ESG/AS
<b>Contact</b>	ESG/CH: Dr. M. Conzelmann, T. Schröck ESG/AS: Dr. D. Frambach

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



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