



## ACETONE

### What is acetone?

Acetone is a colorless, highly flammable liquid chemical that can be natural or man-made. Acetone has a strong taste and smell, which is commonly associated with nail polish remover. Acetone evaporates easily, meaning that it changes into a vapor. Acetone catches fire easily and burns rapidly. Acetone will dissolve in water.

### Where is acetone found and how is it used?

Acetone is found in plants, trees, gas from volcanoes, and forest fires. Your body produces acetone when it breaks down fat. Babies, pregnant women, diabetics, and people who exercise, diet, have physical trauma, or drink alcohol can have higher amounts of acetone in their bodies. Acetone is found in exhaust from cars and trucks, tobacco smoke, and landfills. Factories release acetone into the air. Acetone is used to make plastic, fibers, drugs, and chemicals. It is often used as a solvent, which helps other substances dissolve.

### How can people be exposed to acetone?

You could be exposed to acetone through:

- **Breathing** acetone from the environment. This can happen if there are low levels of acetone in the outside air. Acetone can also be in the air where you work. At home, you can breathe it when using nail polish, nail polish remover, or some paints. Tobacco smoke contains acetone, so smokers inhale acetone whenever they light up, and people breathe acetone if they inhale second-hand smoke.
- **Drinking** water or foods contaminated with acetone.
- **Touching** products with acetone in them.
- **Eye contact** by splashing a product with acetone in it in your eyes.

### How does acetone work?

Acetone enters the body through the lungs, mouth, or the skin. It can also be in the body from the breakdown of fat. Your blood carries acetone to all your body organs. Small amounts of acetone in your body usually will not hurt you because your liver breaks the acetone down into other harmless chemicals.

**Poison Control Center 24/7 Emergency Contact Number: 1-800-222-1222**  
**DPH 24/7 Contact Number: 1-888-295-5156**



## **How can acetone affect my health?**

Small amounts of acetone will not hurt you. Breathing moderate to high amounts of acetone for a short amount of time can irritate your nose, throat, lungs, and eyes. It can also cause headaches, dizziness, confusion, a faster pulse, nausea, vomiting, effects on the blood, passing out and possible coma, and a shorter menstrual cycle in women.

Swallowing a high level of acetone might cause you to pass out. It can also damage the skin in your mouth. Skin contact can damage your skin. The smell of acetone and the irritation it can cause are good warning signs. They can help you avoid breathing higher levels of acetone that could hurt you.

Studies on animals determined that long-term exposure to acetone damages the kidneys, liver, and nerves. Birth defects and male reproductive problems were other results. It is not known if these same health problems would occur in humans. Studies have not determined whether acetone can cause cancer.

## **How is acetone poisoning treated?**

Do not force the person to vomit. Seek medical attention. Stomach pumping and giving oxygen are common treatments. The chances for recovery are good.

## **What should I do if I am exposed to acetone?**

- **If you breathe acetone**, move to a place with fresh air. If the person exposed has trouble breathing, get medical help immediately.
- **If acetone is on your skin**, wash with soap and water for at least 15 minutes. Take off any clothes or shoes with acetone on them. If your symptoms are very bad, get medical help.
- **If you get acetone in your eyes**, flush your eyes with water for at least 15 minutes. Get medical attention promptly.
- **If you drink acetone**, get medical attention immediately.

## **What factors limit use or exposure to acetone?**

At work, it is best to have good ventilation. To prevent accidental acetone splashes, wear goggles, a face shield or protective mask, gloves, a lab coat, apron, or coveralls. Workplaces should have an eye wash fountain or quick-drench system.

At home, limit exposure by staying away from cigarette smoke. Avoid solvents such as nail polish remover, paints, and cleaning products containing acetone.

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## Is there a medical test to show if I've been exposed to acetone?

Tests can show the amount of acetone in your breath, blood, and urine. They cannot tell you if you will have any health effects from the acetone. Testing must be done within two to three days after exposure. Your doctor will take blood and urine samples and send them to a testing lab.

## Technical information for acetone

CAS Number: 67-64-1

Chemical Formula: C<sub>3</sub>H<sub>6</sub>O

Carcinogenicity (EPA): A4 — Not classifiable as a human carcinogen.

MCL (Drinking Water): There is no MCL for acetone

OSHA Standards: PEL 2400 mg/m<sup>3</sup> (1,000 ppm)

NIOSH Standards: IDHL 590 mg/m<sup>3</sup> (250 ppm)

## Resources

American Conference of Governmental Industrial Hygienists (ACGIH). 2003. *Guide to Occupational Exposure Values*. Cincinnati, OH.

<https://www.acgih.org/publications/digital-pubs/>

NIOSH *Pocket Guide to Chemical Hazards*. 2003. Atlanta, GA: U.S. Department of Health and Human Services. <https://www.cdc.gov/niosh/npg/>

*Toxicological Profile for Acetone*. June 2022.

<http://www.atsdr.cdc.gov/toxprofiles/tp21.pdf>