

# 1,1-Dichloroethene - ToxFAQs™



## What is 1,1-dichloroethene?

1,1-Dichloroethene is an industrial chemical that is not found naturally in the environment. It is a colorless liquid with a mild, sweet smell. It is also called vinylidene chloride.

1,1-Dichloroethene is used to make certain plastics, such as flexible films like food wrap, and in packaging materials. It is also used to make flame-retardant coatings for fiber and carpet backings, as a coating for steel pipes, and in piping and adhesives.

## What happens to 1,1-dichloroethene in the environment?

1,1-Dichloroethene has been detected in air, surface water, groundwater, and soil. 1,1-Dichloroethene in air rapidly breaks down in days. Most of the 1,1-dichloroethene in water will evaporate into the air; the remainder will very slowly break down. In soil, 1,1-dichloroethene will either evaporate into the air or will go down through soil and enter groundwater.

## How can I be exposed to 1,1-dichloroethene?

Food in plastic wrap may contain very low levels of 1,1-dichloroethene. The Food and Drug Administration (FDA) controls these levels to prevent harm to your health.

A small percentage (3%) of the drinking water supplies may contain very low levels of 1,1-dichloroethene; these levels are typically lower than levels that can cause health problems.

You can be exposed to 1,1-dichloroethene in air because it evaporates from contaminated water and soil.

Workers in industries that make or use 1,1-dichloroethene may be exposed to higher levels of 1,1-dichloroethene.

Air near factories that make or use 1,1-dichloroethene and air near hazardous waste sites may contain low levels of it.

## How can 1,1-dichloroethene affect my health?

Breathing high levels of 1,1-dichloroethene mainly affects the central nervous system. Some people fainted after inhaling very high levels of 1,1-dichloroethene.

One way to learn about whether 1,1-dichloroethene will harm people is to do studies in laboratory animals. Animals that inhaled (breathed in) or ingested (ate) large amounts of 1,1-dichloroethene had damaged livers, kidneys, and lungs. The offspring of some animals that inhaled high levels of 1,1-dichloroethene had higher numbers of birth defects.

Spilling 1,1-dichloroethene on your skin or in your eyes can cause irritation.

**The levels of 1,1-dichloroethene typically found in the environment are lower than levels known to cause health problems.**

# 1,1-Dichloroethene

## Can 1,1-dichloroethene cause cancer?

The [U.S. Department of Health and Human Services \(DHHS\)](#) has not evaluated the carcinogenicity of 1,1-dichloroethene.

The [U.S. Environmental Protection Agency \(EPA\)](#) has classified 1,1-dichloroethene as having “*suggestive evidence* of carcinogenicity but not sufficient evidence to assess human carcinogenic potential” based on inhalation exposure studies of rodents. EPA also noted “the data for 1,1-dichloroethene are *inadequate* for an assessment of human carcinogenic potential by the oral route.”

The [International Agency for Research on Cancer \(IARC\)](#) determined that there is sufficient evidence of carcinogenicity in laboratory animals and no data or inadequate evidence in humans.

## Can I get a medical test to check for 1,1-dichloroethene?

Tests are available to measure levels of 1,1-dichloroethene in blood, breath, and urine. These tests are not usually available in the doctor’s office. However, a blood sample taken in the doctor’s office can be sent to a special laboratory. Because 1,1-dichloroethene leaves the body rather quickly, these tests are useful only for a few days following exposure. These tests can’t predict if you will have health problems from exposure to 1,1-dichloroethene. If you think you have been exposed, call your doctor, nurse, clinic, or poison control center.

## How can I protect myself and my family from 1,1-dichloroethene?

Workers involved in the production or use of 1,1-dichloroethene should take precautions to limit inhalation and dermal (skin) exposure to 1,1-dichloroethene.

People living near facilities that produce or use 1,1-dichloroethene or areas where it is stored could be at greater risk of exposure than the general population. Do not let children play near these areas.

The most likely sources of 1,1-dichloroethene exposure to the general population is from food wraps and other consumer products. However, there is no evidence that exposure at these levels would cause health problems.

## For more information:



Call **CDC-INFO** at 1-800-232-4636, or submit your question online at <https://wwwn.cdc.gov/dcs/ContactUs/Form>

Go to ATSDR’s Toxicological Profile for 1,1-Dichloroethene: <https://wwwn.cdc.gov/TSP/ToxProfiles/ToxProfiles.aspx?id=722&tid=130>

Go to ATSDR’s Toxic Substances Portal: <https://wwwn.cdc.gov/TSP/index.aspx>

Find & contact your ATSDR Regional Representative at [http://www.atsdr.cdc.gov/DRO/dro\\_org.html](http://www.atsdr.cdc.gov/DRO/dro_org.html)