



CARBON TETRACHLORIDE

What is carbon tetrachloride?

Carbon tetrachloride is a man-made clear liquid with a strong, sweet odor that smells like chloroform. As a volatile organic compound (VOC), carbon tetrachloride easily vaporizes.

Where can carbon tetrachloride be found and how is it used?

Carbon tetrachloride is used for producing other chemicals. Carbon tetrachloride has been used to make refrigerants, propellant for aerosols, and as a degreaser and pesticide. Most of carbon tetrachloride's historical uses have ended due to the harmful effects of this agent. In the United States, carbon tetrachloride is limited to industrial and laboratory uses. Factories release carbon tetrachloride as a gas into the air and as a liquid into the water or soil. The liquid form can also be released into soil or water from careless waste disposal. Since carbon tetrachloride vaporizes easily, most of this chemical exists in the air as a gas, where it can remain for several years before it breaks down. This chemical does not adhere to soil or water particles and instead either vaporizes or seeps into groundwater. Carbon tetrachloride does not build up in fish.

How can people be exposed to carbon tetrachloride?

You could be exposed to carbon tetrachloride through:

- **Breathing** vapors if you work where carbon tetrachloride is used or made. You can also be exposed by breathing outside air containing carbon tetrachloride.
- **Drinking** water containing carbon tetrachloride.
- **Touching** soil that is contaminated with it, and swimming or bathing in contaminated water.

How does carbon tetrachloride work and how can it affect my health?

Short-term exposure to high levels of carbon tetrachloride in drinking water damages the liver and kidneys. Symptoms of ingesting carbon tetrachloride are headache, dizziness, tiredness, weakness, and blurred vision.

Breathing high doses of carbon tetrachloride causes lung damage, vomiting, stomach pain, or death. Breathing it at any level may seriously damage the liver and kidneys. Symptoms of breathing carbon tetrachloride are headache, dizziness, tiredness, and lightheadedness. Some people breathing carbon tetrachloride seem dazed.

Carbon tetrachloride is proven to cause cancer in animals. Human data is limited or does not exist, but we know that breathing it over many years is linked with liver cancer.

Poison Control Center 24/7 Emergency Contact Number: 1-800-222-1222

DPH 24/7 Contact Number: 1-888-295-5156

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Frequently Asked Questions

How is carbon tetrachloride poisoning treated?

Treatment depends on the type of exposure. Managing patients with acute carbon tetrachloride poisoning may include supportive measures, the use of antioxidants (such as methionine, cysteine, and N-acetylcysteine) and hyperbaric oxygen intervention.

What should I do if exposed to carbon tetrachloride?

Because of its limited use, it is unlikely that people will be exposed to carbon tetrachloride outside of places that make or use it.

- **If carbon tetrachloride gets on your skin**, remove contaminated clothing and wash skin thoroughly with soap and water. Get medical attention.
- **If you get carbon tetrachloride in your eyes**, flush eyes with large amounts of water for 15 minutes. Get medical help right away.
- **If you swallow carbon tetrachloride**, get medical help right away. Do not induce vomiting as volatile chemicals have a high risk of being aspirated into the lungs. If the victim is conscious and not convulsing, give one or two glasses of water to dilute the chemical.
- **If you breathe carbon tetrachloride**, move to fresh air. Get medical help right away.

What factors limit use or exposure to carbon tetrachloride?

At work, reduce exposure by following health and safety rules. Use respirators and other personal protective equipment. The general population should avoid places that make or use carbon tetrachloride or waste sites contaminated with it.

Is there a medical test to show whether I've been exposed to carbon tetrachloride?

Testing blood, fat, or other body tissues can prove exposure to carbon tetrachloride but they cannot reliably determine long-term adverse health effects.

Technical information for carbon tetrachloride

CAS Number: 56-23-5

Chemical Formula: CCl₄

Carcinogenicity (EPA): B2 – Probable human carcinogen.

MCL (Drinking Water): 5 ppb

OSHA Standards: 10 ppm (8-hour time weighted average)

NIOSH Standards: 2 ppm (12.6 mg/m³) Short Term Exposure Limit (60-minute limit)

ACGIH: TLV 5 ppm; 8-hour Time Weighted Average (TWA)

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Resources

Agency for Toxic Substances and Disease Registry (ATSDR). 2005. *Toxicological Profile for Carbon Tetrachloride*.

<https://wwwn.cdc.gov/TSP/ToxProfiles/ToxProfiles.aspx?id=196&tid=35>

Agency for Toxic Substances and Disease Registry (ATSDR). 2005. *ToxFAQs for Carbon Tetrachloride*.

<https://wwwn.cdc.gov/TSP/ToxFAQs/ToxFAQsDetails.aspx?faqid=195&toxid=35>

National Institute for Occupational Safety and Health. *NIOSH Pocket Guide to Chemical Hazards*, www.cdc.gov/niosh/npg