

Carbon Disulfide - ToxFAQs™

What is carbon disulfide?

Carbon disulfide is a clear, colorless, or faintly yellow colored liquid. Pure carbon disulfide has a sweet, pleasing smell, whereas commercial and reagent grades have a foul “rotten-egg” smell. It easily evaporates at room temperature. In nature, small amounts of carbon disulfide are made through natural processes such as composting or volcanic and geothermal activity. Oceans, marshes, and coastal areas are sources of carbon disulfide.

Carbon disulfide is also manufactured and used in factories. It is mostly used to produce synthetic cloth fibers (rayon). It is also used in cellophane and certain types of man-made sponges.



What happens to carbon disulfide in the environment?

Small amounts of carbon disulfide can get into the environment from natural sources (volcanoes, oceans, marshes). It can also come from facilities that make or use this chemical. Levels of carbon disulfide in the environment are expected to be low. In the air, carbon disulfide breaks down rapidly and is not expected to travel far. About half of the chemical will be removed from the air in about five and a half days.

In water and soil, carbon disulfide will evaporate quickly into the air. It does not stick very well to the soil, so small amounts could move into the groundwater. Carbon disulfide is not expected to build up in plants or animals.

How can I be exposed to carbon disulfide?

Most people are not likely to be exposed to carbon disulfide. You may breathe low levels in the air if you live near a facility that manufactures or uses carbon disulfide, such as a rayon plant. Working in these types of industries may increase your exposure.

Carbon disulfide is also used to make certain pesticides (metam salts, dazomet, thiram) and may be released into the environment when these pesticides break down.

Most people are not likely to be exposed to harmful levels of carbon disulfide.

Individuals who produce or work with carbon disulfide, or live near these facilities, may be exposed to higher levels.

How can carbon disulfide affect my health?

Breathing in carbon disulfide for a long time can effect your nervous system. Changes in nerve function, tremors, decreased sensitivity to pain, and abnormal movements have been seen in workers exposed to carbon disulfide. Some workers also experienced increases in cardiovascular diseases, elevated cholesterol levels, damage to the retina of the eye, and impaired male sexual function from breathing in carbon disulfide for months or years.

After pregnant animals breathed in or ate carbon disulfide, some of the pups died or had birth defects. There is not enough evidence to know if these effects occur in humans.

Carbon Disulfide

Can carbon disulfide cause cancer?

The ability of carbon disulfide to cause cancer has not been well studied in people or animals.

The [U.S. Department of Health and Human Services \(DHHS\)](#) has not evaluated the ability of carbon disulfide to cause cancer in people.

The [U.S. Environmental Protection Agency \(EPA\)](#) has not evaluated the ability of carbon disulfide to cause cancer in people.

The [International Agency for Research on Cancer \(IARC\)](#) has not evaluated the ability of carbon disulfide to cause cancer in people.

Can I get a medical test to check for carbon disulfide?

There is a test that can measure the breakdown product of carbon disulfide in the urine called 2-thiothiazolidine-4-carboxylic acid (TTCA). However, TTCA is also seen in urine of people who eat a lot of cabbage or Brussels sprouts, so it may not accurately reflect your exposure. These tests cannot predict whether you will have health problems from the exposure. Doctor's offices do not routinely offer these tests.

If you think you have been exposed to this or any other chemical, talk to your doctor or nurse or call 1-800-222-1222 to be connected to your local poison control center.

How can I protect myself and my family from carbon disulfide?

Do not let your children play near facilities manufacturing or using carbon disulfide. If you work in one of these facilities, make sure you follow all safety guidelines.

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 Carbon Disulfide: <https://wwwn.cdc.gov/TSP/ToxProfiles/ToxProfiles.aspx?id=474&tid=84>

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

