

Carcinogens

A Cause of Cancer

What are carcinogens?

A carcinogen is any substance that causes cancer. Carcinogens can be found in nature (such as ultraviolet rays from sunlight and certain viruses) or made by humans (such as diesel exhaust and tobacco). Most carcinogens work by combining with a cell's DNA to cause mutations (genetic changes). Coming in contact with a carcinogen does not mean that you will get cancer. Many factors help determine whether a person will develop cancer, including how much carcinogen someone is exposed to, how long someone is exposed to the carcinogen, and personal genetic traits.

What are known or probable human carcinogens?

The National Toxicology Program of the U.S. Department of Health and Human Services has found 256 substances (63 known and 193 reasonably anticipated) to cause cancer in humans.

The International Agency for Research on Cancer (IARC), the cancer agency of the World Health Organization, has also evaluated more than 1,000 agents. Of these, 127 have been identified as human carcinogens, 95 as probable human carcinogens, and 323 as possible human carcinogens.

Some well-known examples of substances that are known human carcinogens are benzene, beryllium, asbestos, vinyl chloride, arsenic, and radon. Some substances are known to cause cancer in animals, but they have not been proven to cause cancer in humans. These substances, such as chloroform, DDT (dichlorodiphenyltrichloroethane), and polychlorinated biphenyls (PCBs), are reasonably anticipated (likely) to cause cancer in humans.

How can I reduce my exposure to carcinogens?

Take these steps to reduce your cancer risk:

- Don't use tobacco/nicotine products and avoid secondhand smoke.
- Protect yourself from the sun's rays, especially if you burn easily. Use sunscreen and wear protective clothing.
- Be aware of the chemicals in the products you buy for use around your home. Wear a mask, gloves, or other protective clothing to reduce your exposure to household chemicals.
- Store household chemicals such as cleaners, paints/finishes, degreasers, and strippers safely and prevent chemicals from spilling or leaking. Make sure to keep them away from children and pets.
- Use chemicals in well-ventilated/open rooms or outside.
- Check your home for high levels of radon. Ohio homeowners can order free test kits at ohio.radon.com.
- Be aware of chemicals you are exposed to on the job. Wear personal protective equipment as required.

Resources

American Cancer Society / Known and Probable Human Carcinogens:

<https://www.cancer.org/cancer/risk-prevention/understanding-cancer-risk/known-and-probable-human-carcinogens.html>

National Toxicology Program / 15th Report on Carcinogens:

<https://ntp.niehs.nih.gov/whatwestudy/assessments/cancer/roc>

International Agency for Research on Cancer:

<https://monographs.iarc.who.int/agents-classified-by-the-iarc/>

Ohio Department of Health / Health Assessment Section:

<https://odh.ohio.gov/know-our-programs/health-assessment-section/Health-Assessment-Section>