



The Report on Carcinogens

What is the Report on Carcinogens?

The Report on Carcinogens is a scientific and public health document that identifies substances that pose a cancer hazard for people in the United States. It is intended to help people make informed decisions about their own health. It is a congressionally mandated document prepared by the National Toxicology Program (NTP) for the Secretary of the U.S. Department of Health and Human Services.

The Report on Carcinogens identifies many different types of chemicals; infectious agents, such as viruses; physical agents, such as X-rays and ultraviolet radiation; mixtures; and exposure scenarios, collectively called substances. All substances pose a potential cancer hazard. Having this information may help prevent some cancers.

How are substances listed?

A substance can be listed in the Report on Carcinogens either as known to be a human carcinogen or as reasonably anticipated to be a human carcinogen. See <https://ntp.niehs.nih.gov/go/15209> for specific listing criteria.

Known to be a human carcinogen

This category is used primarily when there is sufficient evidence from human studies showing a cause-and-effect relationship between exposure to the substance and human cancer. Occasionally, substances are listed in this category based on human studies showing that the substance causes biological effects known to lead to the development of cancer.

Key Points

- Scientific, public health document identifying substances that pose a cancer hazard.
- Lists a substance as either known to be a human carcinogen or reasonably anticipated to be a human carcinogen.
- Includes information on 256 listings, including eight newly reviewed listings.
- Prepared by the National Toxicology Program for the Secretary of the U.S. Department of Health and Human Services.



Reasonably anticipated to be a human carcinogen

This category includes substances where there is limited evidence of cancer in humans or sufficient evidence in experimental animals showing a cause-and-effect relationship between exposure to the substance and cancer. Additionally, a substance can be listed in this category if there is evidence that it is the member of a class of substances already listed in the Report on Carcinogens, or that it causes biological effects known to lead to the development of cancer.

Newly reviewed substances

Substance	Listing Status	Description
Chronic infection with <i>H. pylori</i>	Known to be a human carcinogen	Bacterium
Antimony trioxide	Reasonably anticipated to be a human carcinogen	Chemical compound
Bromochloroacetic acid (BCA)	Reasonably anticipated to be a human carcinogen	Water disinfection byproduct
Bromodichloroacetic acid (BDCA)	Reasonably anticipated to be a human carcinogen	Water disinfection byproduct
Chlorodibromoacetic acid (CDBA)	Reasonably anticipated to be a human carcinogen	Water disinfection byproduct
Dibromoacetic acid (DBA)	Reasonably anticipated to be a human carcinogen	Water disinfection byproduct
Dichloroacetic acid (DCA)	Reasonably anticipated to be a human carcinogen	Water disinfection byproduct
Tribromoacetic acid (TBA)	Reasonably anticipated to be a human carcinogen	Water disinfection byproduct





What's new in the Report on Carcinogens?

Chronic infection with *Helicobacter pylori* (*H. pylori*), a bacterium, is listed as a known human carcinogen. Antimony trioxide, a chemical compound, and six haloacetic acids (HAAs) found as water disinfection byproducts are listed as reasonably anticipated to be human carcinogens.

Chronic infection with *H. pylori*

H. pylori is a bacterium that colonizes in the stomach and can cause gastritis and peptic ulcers. Most people do not show symptoms. Chronic infection may lead to stomach cancer and a rare type of stomach lymphoma. Infection primarily occurs from person-to-person contact, especially in crowded housing conditions, and may occur by drinking well water contaminated with *H. pylori*. *H. pylori* infection, as well as stomach cancer, disproportionately affects people living in poverty and certain racial and ethnic groups. Treatment of infected people with stomach ulcers or other signs of infection can decrease the risk of cancer.

Antimony trioxide

Antimony trioxide is a component of flame retardants used in plastics, textiles, and other consumer products. The highest exposure to antimony trioxide occurs among workers who produce the chemical or use it to make flame retardants. Other people may be exposed to low levels of antimony trioxide from breathing contaminated outdoor air, especially those living near antimony facilities. Exposure can also occur through fine dust from the wear and tear of flame retardant-treated products, such as carpets and upholstery. State and federal agencies have regulations to limit exposure to antimony trioxide in the workplace and the environment.

Six HAAs found as water disinfection byproducts

Water treatment removes contaminants and disease-causing agents from drinking water. HAAs are formed during the disinfection of water from a reaction between the chlorine-based disinfection agents and organic matter in the source water. Approximately 250 million U.S. residents use community water systems and are potentially exposed to HAAs in disinfected water. Municipal water systems monitor some HAAs. Improvements in disinfection technology, such as filtration methods, can reduce HAAs in drinking water.

Who decides what substances should be included in the report?

Anyone can nominate a substance to NTP for consideration of its listing in, or removal from, the Report on Carcinogens. A formal evaluation is conducted for the nominated substances, and candidates are selected to proceed through the scientific review process.

How are the substances reviewed?

Systematic review methods guide the transparent process that leads to report development. Once candidate substances are selected, an extensive scientific review process begins, with multiple opportunities for public comments. The review process also includes input from external scientific experts and government scientists from federal health and regulatory agencies. Learn more about systematic review here: https://niehs.nih.gov/health/materials/systematic_review_508.pdf.

What does a listing in the Report mean?

A listing in the Report on Carcinogens means that the substance poses a potential hazard. However, it does not establish that a substance will cause cancer in an individual. Many factors, including the amount and duration of exposure and an individual's susceptibility to a substance, affect whether a person will or will not develop cancer. Consult with your physician or other appropriate specialist if you have questions concerning current or past exposure to any substance listed in the Report on Carcinogens.

What is in the full report? What information would be most useful to me?

The 15th Report on Carcinogens contains information on 256 substances — 63 known to be human carcinogens and 193 reasonably anticipated to be human carcinogens — including some classes of related chemicals or substances.

The Report on Carcinogens is a cumulative report. It includes information on the newly reviewed substances, as well as those listed in previous editions.

Where can I access the full report?

The 15th Report on Carcinogens is available on the NTP website at <https://ntp.niehs.nih.gov/go/roc15>.



National Toxicology Program
U.S. Department of Health and Human Services

The National Toxicology Program (NTP), established in 1978, is an interagency program within the Public Health Service of the U.S. Department of Health and Human Services. Its activities are executed through a partnership of the National Institute for Occupational Safety and Health (part of the Centers for Disease Control and Prevention), the Food and Drug Administration (primarily the National Center for Toxicological Research), and the National Institute of Environmental Health Sciences (part of the National Institutes of Health), where the program is administratively located.

For more information about NTP, visit <https://ntp.niehs.nih.gov>.

NIEHS supports research to discover how the environment affects people in order to promote healthier lives. For more information on environmental health topics, visit <https://niehs.nih.gov>.