

This fact sheet answers the most frequently asked health questions (FAQs) about 2-butoxyethanol and 2-butoxyethanol acetate. For more information, call the ATSDR Information Center at 1-888-422-8737. This fact sheet is one in a series of summaries about hazardous substances and their health effects. It's important you understand this information because this substance may harm you. The effects of exposure to any hazardous substance depend on the dose, the duration, how you are exposed, personal traits and habits, and whether other chemicals are present.

HIGHLIGHTS: Exposure to 2-butoxyethanol and 2-butoxyethanol acetate occurs mainly from breathing air or having skin contact with household products containing them. Breathing in large amounts of 2-butoxyethanol or 2-butoxyethanol acetate may result in irritation of the nose and eyes, headache, and vomiting. 2-Butoxyethanol has been found in at least 20 of the 1,430 National Priorities List sites identified by the Environmental Protection Agency.

What are 2-butoxyethanol and 2-butoxyethanol acetate?

(Pronounced 2-byōō/'tōk/sē ēth/'ə-nōl' and 2-byōō/'tōk/sē ēth/'ə-nōl' ās/'ī-tāt')

2-Butoxyethanol is a clear colorless liquid that smells like ether. It has many names including ethylene glycol monobutyl ether, ethylene glycol butyl ether, ethylene glycol n-butyl ether, Butyl Cellusolve, butyl glycol, and butyl Oxitol. It is used as a solvent in spray lacquers, enamels, varnishes, and latex paints and as an ingredient in paint thinners and strippers, varnish removers, and herbicides. It is also used in liquid soaps, cosmetics, industrial and household cleaners, and dry-cleaning compounds.

2-Butoxyethanol acetate is a colorless liquid with a fruity odor. It is also known as ethylene glycol monobutyl ether acetate, butoxyethyl acetate, butyl glycol acetate, ethylene glycol butyl ether acetate, and acetic acid 2-butoxyethyl ester. It is used as a solvent for lacquers, varnishes, enamels, and epoxy resins. It is also used in some ink and spot remover compounds.

What happens to 2-butoxyethanol and 2-butoxyethanol acetate when they enter the environment?

- 2-Butoxyethanol and 2-butoxyethanol acetate may be released into the air when they are used as solvents and in household products.
- In air, 2-butoxyethanol and 2-butoxyethanol acetate may be removed by rain, ice, or snow.
- 2-Butoxyethanol and 2-butoxyethanol acetate may break down in air into other compounds within a few days.
- Both compounds may pass into air from water and soil.
- 2-Butoxyethanol and 2-butoxyethanol acetate do not build up in plants and animals.

How might I be exposed to 2-butoxyethanol and 2-butoxyethanol acetate?

- Many people are exposed to small amounts of 2-butoxyethanol and 2-butoxyethanol acetate every day.
- Breathing air or having skin contact with household cleaners or other liquids that contain these compounds.
- Drinking contaminated water.

ToxFAQs Internet address via WWW is <http://www.atsdr.cdc.gov/toxfaq.html>

- Working in occupations such as silk-screening, printing, furniture production and finishing, spray-painting operations, and automobile repair shops that use materials containing 2-butoxyethanol and 2-butoxyethanol acetate.
- Living near a hazardous waste site where 2-butoxyethanol and 2-butoxyethanol acetate are disposed of.

How can 2-butoxyethanol and 2-butoxyethanol acetate affect my health?

People exposed to high levels of 2-butoxyethanol for several hours reported irritation of the nose and eyes, headache, a metallic taste in their mouths, and vomiting. No harmful effects were seen on their lungs or hearts. People who swallowed large amounts of cleaning agents containing 2-butoxyethanol have shown breathing problems, low blood pressure, low levels of hemoglobin (the substance in the blood that carries oxygen to organs of the body), acidic blood, and blood in the urine.

It is not known whether 2-butoxyethanol or 2-butoxyethanol acetate can affect reproduction or cause birth defects in people.

Animal studies have shown hemolysis (destruction of red blood cells that results in the release of hemoglobin) from exposure to 2-butoxyethanol and 2-butoxyethanol acetate. High doses of 2-butoxyethanol can also cause reproductive problems and minor birth defects in animals.

How likely are 2-butoxyethanol and 2-butoxyethanol acetate to cause cancer?

The Department of Health and Human Services, the International Agency for Research on Cancer, and Environmental Protection Agency have not classified 2-butoxyethanol and 2-butoxyethanol acetate as to their human carcinogenicity.

No carcinogenicity studies on 2-butoxyethanol and 2-butoxyethanol acetate are available in people or animals.

Is there a medical test to show whether I've been exposed to 2-butoxyethanol and 2-butoxyethanol acetate?

Breakdown products of 2-butoxyethanol can be measured in your blood and urine to see if you have been recently exposed to the chemical. These tests need to be done within a day after exposure because 2-butoxyethanol and its breakdown products leave your body within 24-48 hours. These tests cannot tell how much you have been exposed to or whether health effects will occur. Certain blood tests can tell if your red blood cells are damaged, but this effect is not specific to 2-butoxyethanol.

Has the federal government made recommendations to protect human health?

The Occupational Safety and Health Administration has set an exposure limit of 50 parts of 2-butoxyethanol per million parts of air (50 ppm) for an 8-hour workday, 40-hour workweek.

Glossary

Carcinogenicity: Ability to cause cancer.

CAS: Chemical Abstracts Service.

Herbicides: Substances used to stop plant growth.

Solvents: Chemicals that can dissolve other substances.

References

Agency for Toxic Substances and Disease Registry (ATSDR). 1998. Toxicological Profile for 2-butoxyethanol and 2-butoxyethanol acetate. Atlanta, GA: U.S. Department of Health and Human Services, Public Health Service.

Where can I get more information? For more information, contact the Agency for Toxic Substances and Disease Registry, Division of Toxicology, 1600 Clifton Road NE, Mailstop F-32, Atlanta, GA 30333. Phone: 1-888-422-8737, FAX: 770-488-4178. ToxFAQs Internet address via WWW is <http://www.atsdr.cdc.gov/toxfaq.html> ATSDR can tell you where to find occupational and environmental health clinics. Their specialists can recognize, evaluate, and treat illnesses resulting from exposure to hazardous substances. You can also contact your community or state health or environmental quality department if you have any more questions or concerns.

