1,3-BUTADIENE

What is 1,3-BUTADIENE?

1,3-Butadiene is a gas that has no color and a mild, gasoline-like odor. 1,3-Butadiene is made in nature and by human activity.

Where can 1,3-Butadiene be found and how is it used?

1,3-Butadiene is used to make petroleum products, such as man-made rubber for tires, and plastics. 1,3-Butadiene is found in gasoline and vehicle exhaust. It is also found in smoke from cigarettes and wood fires. 1,3-Butadiene is found at low levels in air near cities but sunlight removes it quickly. Since it is difficult to measure, there is not enough information to know how it acts in soil and water.

How can people be exposed to 1,3-Butadiene?

You could be exposed to 1,3-Butadiene through:

Breathing vapors if you work where 1,3-Butadiene is used or made, or if you live near a plant producing or using it. Other people can be exposed through tobacco smoke, car exhaust or gasoline fumes.

Drinking water or ***eating*** food containing 1,3-Butadiene. However, this is an uncommon way of being exposed.

How does 1,3-Butadiene work and how can it affect my health?

Workers breathing large amounts of 1,3-Butadiene causes short-term symptoms including eye, nose and throat irritation. Long-term effects are dizziness, sleepiness, lightheadedness, or feeling confused. Unconsciousness and death are possible. Long-term exposure to 1,3-Butadiene can result in heart, lung and blood diseases. In humans, a link has been seen between 1,3-Butadiene and leukemia, a disease of the bone marrow. In groups of rubber workers, a more limited link was seen between 1,3-Butadiene and lymphosarcoma and reticulosarcoma, which are cancers. 1,3-Butadiene has been named as a probable cancer-causing substance.

Skin contact with liquid 1,3-Butadiene can cause irritation and frostbite. There is no information on health effects from eating food or drinking water containing 1,3-Butadiene.

How is 1,3-Butadiene poisoning treated?

The exposed person should be removed from the source. Medical personnel should then be contacted for treatment advice.

What should I do if exposed to 1,3-Butadiene?

Anyone exposed to high levels of 1,3-Butadiene should be removed from the source immediately. Seek medical attention immediately.

What factors limit use or exposure to 1,3-Butadiene?

Most of the population is exposed to very low levels of 1,3-Butadiene in the air we breathe. Exposure to higher levels of 1,3-Butadiene is very unlikely for anyone outside of the specific industries that use this chemical.

Is there a medical test to show whether I've been exposed to 1,3-Butadiene?

There is currently no reliable medical test for 1,3-Butadiene in the body.

Technical information for 1,3-Butadiene

CAS Number: 106-99-0

Chemical Formula: C_4H_6

Carcinogenicity (EPA): B2—Possible human carcinogen.

MCL (Drinking Water): None

OSHA Standards: 1 ppm (2.2 mg/m^3) TWA; 5 ppm (11 mg/m^3) 15 min. Short Term Exposure Limit

NIOSH Standards: Lowest feasible concentration

ACGIH: 2 ppm (4.2 mg/m^3), 8 hr Time Weighted Avg (TWA)

References and Sources

Agency for Toxic Substances and Disease Registry (ATSDR). 1993. *Toxicological Profile for 1,3-Butadiene.* Atlanta, GA: U.S. Department of Health and Human Services.

Hazardous Substances Data Bank. On-line version:1,3-butadiene http://toxnet.nlm.nih.gov/cgi-bin/sis/search/f?./temp/~hdPXlc:1 (accessed 9/28/09)

New Jersey Department of Health and Senior Services. *Right to Know Hazardous Substances Fact Sheets.* http://nj.gov/health/eoh/rtkweb/documents/fs/0272.pdf, Revised July 2007 (accessed 9/28/09)