DELAWARE HEALTH AND SOCIAL SERVICES
Division of Public Health

Frequently Asked Questions

1,2-DICHLOROETHANE

What is 1,2-DICHLOROETHANE?

1,2-Dichloroethane is a clear, colorless liquid with a sweet odor. 1,2-Dichloroethane vaporizes easily.

Where can 1,2-Dichloroethane be found and how is it used?

1,2-Dichloroethane can be found in air, water and in soil, when it is produced by volcanoes and forest fires. 1,2-Dichloroethane is also found in crude oil and gasoline, and then sent into the air through car exhaust. It is sent into the water and soil from leaking underground storage tanks containing fuel. Liquid 1,2-Dichloroethane can enter water or soil from spills or factory releases. In indoor air, tobacco smoke is a major source of 1,2-Dichloroethane. This chemical is used in many products besides gasoline, including Styrofoam, plastics, nylon, rubber, lubricants, dyes and pesticides.

How can people be exposed to 1,2-Dichloroethane?

You could be exposed to 1,2-Dichloroethane through:

Breathing vapors from disposal or spills if you work where 1,2-Dichloroethane is made or used. You can also breathe low levels of 1,2-Dichloroethane if you live near a plant where the chemical is made or used.

Eating food containing 1,2-Dichloroethane, although that is unlikely.

Drinking water containing 1,2-Dichloroethane, although that is unlikely.

Touching 1,2-Dichloroethane if you work where the chemical is made or used. You can also touch it if you use old products made with 1,2-Dichloroethane, such as cleaning products, pesticides, wallpaper and carpet glue. Exposure to these products is not likely to cause harmful effects.

How does 1,2-Dichloroethane work and how can it affect my health?

Workers who breathed high amounts of 1,2-Dichloroethane had irritated eyes, skin, noses, and throats. Other symptoms were upset stomach, headaches, dizziness or sleepiness. Exposure to large amounts of 1,2-Dichloroethane in the air, or through swallowing, can lead to lung problems. Other health effects are nervous system problems, liver and kidney disease, and death from heart failure. Since exposure to 1,2-Dichloroethane has led to cancer in animals, it is named as a possible cancer-causing substance in humans.

Long-term effects of drinking water containing low levels of 1,2-Dichloroethane are not fully known. One study showed and increased risk of developing cancer if exposed to this and other chemicals in groundwater. 1,2-Dichloroethane is regulated to protect public health.

How is 1,2-Dichloroethane poisoning treated?

There is no treatment for 1,2-Dichloroethane poisoning. A doctor will treat the symptoms.

What should I do if exposed to 1,2-Dichloroethane?

Persons exposed to high levels of 1,2-Dichloroethane should be immediately removed from the source of exposure. Clothing that has contacted 1,2-Dichloroethane should be removed and discarded. Skin and eyes contaminated with 1,2-Dichloroethane should be flushed with clean water for at least 15 minutes. Seek medical attention immediately.

What factors limit use or exposure to 1,2-Dichloroethane?

The general population is not likely to be exposed to large amounts of 1,2-Dichloroethane. Historically, it was used in household products such as cleaning agents, pesticides, and wallpaper and carpet glue. If these older products were discarded, there should be no risk of exposure from those sources. Children should avoid playing in soils near uncontrolled hazardous waste sites where 1,2-Dichloroethane might have been discarded.

Is there a medical test to show whether I've been exposed to 1,2-Dichloroethane?

Tests are available to measure 1,2-Dichloroethane in breath, blood, breast milk and urine. These tests need to be done within a couple of days following exposure since 1,2-Dichloroethane leaves the body quickly. These tests cannot predict the nature or severity of toxic effects.

Technical Information for 1,2-Dichloroethane

CAS Number: 107-06-2

Chemical Formula: $C_2H_4Cl_2$

Carcinogenicity (EPA): B2—Probable human carcinogen.

MCL (Drinking Water): 5 parts per billion (ppb)

OSHA Standards: 50 ppm TWA; 100 ppm, ceiling value should not be exceeded at any time.

NIOSH Standards: 10 Hr Time-Weighted Avg: 1 ppm (4 mg/m^3); 15 Min STEL: 2 ppm (8 mg/m^3)

References and Sources

Agency for Toxic Substances and Disease Registry (ATSDR). 2001. *Toxicological Profile for 1,2-Dichloroethane.* Update. Atlanta, GA: U.S. Department of Health and Human Services.

U.S. Environmental Protection Agency. *Drinking Water and Health—Consumer Fact Sheet on 1,2-Dichloroethane.* http://www.epa.gov/ogwdw000/contaminants/dw_contamfs/12-dichl.html (Accessed 10/12/09)

New Jersey Department of Health and Senior Services. *Hazardous Substances Fact Sheet: 1,2-Dichloroethane.* http://nj.gov/health/eoh/rtkweb/documents/fs/0652.pdf (Accessed 10/12/09)

Hazardous Substances Data Bank. On-line version: 1,2-Dichloroethane http://toxnet.nlm.nih.gov/cgi-bin/sis/search/f?./temp/~bhztaC:1 (Accessed 10/12/09)