

Hexachloroethane

CAS Number: 67-72-1

What is hexachloroethane?

Colorless and solid in appearance, hexachloroethane slowly turns into a vapor when it is exposed to the air and smells like mothballs. Hexachloroethane is not found naturally in the environment, but it can be formed when making other chemicals. This is called a by-product.

What is hexachloroethane used for?

Hexachloroethane is mostly used by the military to make weapons that produce smoke, like smoke pots and grenades used during training. It is also present as an ingredient in fungicides, insecticides, lubricants and plastics. Although hexachloroethane is no longer made in the United States, it can be created while producing some other chemicals. Hexachloroethane can be formed if products that contain chlorinated hydrocarbons are burned.

How can it enter and leave your body?

Hexachloroethane can enter your body through the lungs when you breathe contaminated air. It can also be absorbed through your skin if you come into contact with the substance. Hexachloroethane can also enter your body if you drink contaminated water.

How can you be exposed to hexachloroethane?

You can be exposed to hexachloroethane if you work at military bases that use smoke pots or grenades during training. If you work near a hazardous waste site where hexachloroethane is disposed, you could breathe contaminated air. You

could also be exposed by drinking contaminated water or touching contaminated soil. But you are less likely to be exposed to hexachloroethane by eating food. When it is released to soils, it will evaporate (turn into a vapor) into the air. This is also true when it is released in lakes or streams. You could be exposed if your workplace makes or uses hexachloroethane.

What are the health effects of exposure to hexachloroethane?

People who worked at a munitions factory that were exposed to low levels of hexachloroethane experienced mild skin irritation. Other than this example, very little information is available about health effects on humans. But animal studies show that exposure to hexachloroethane can irritate or bother your nose and lungs and cause mucus to build up in your nose similar to allergy symptoms.

Breathing high doses of hexachloroethane vapor can cause your face muscles to twitch and make it difficult to move. The animals in the study were exposed to greater levels of hexachloroethane than levels found near a hazardous waste site.

Although hexachloroethane is not very toxic, your liver could be affected if you are exposed to it for a long period of time. There is also a slim chance that exposure could cause some damage to the kidneys. The animal studies don't indicate that exposure to hexachloroethane could cause birth defects or affect your ability to have offspring.

Mice and male rats that were fed hexachloroethane during their lifetime developed liver tumors. The tumors found in the mice and male rats are not found in humans so it is not likely

that hexachloroethane could cause you to develop cancer of the kidney. However, the Department of Health and Human Services believes hexachloroethane may be a cancer causing substance.

What levels of exposure can result in harmful health effects?

The Occupational Safety and Health Administration has established a limit to ensure that workers are exposed to no more than 1 part per million (ppm) of hexachloroethane during an 8- hour work day for a 40-hour work week. In addition, the U.S. Environmental Protection Agency suggests that no more than 1 part per billion (ppb) of hexachloroethane be consumed over your lifetime.

Where can you get more information?

Contact your state health or environmental department, or:

Agency for Toxic Substances and Disease Registry
Division of Toxicology
1600 Clifton Road, N.E., E-29
Atlanta, Georgia 30333

References

1. Agency for Toxic Substances and Disease Registry (ATSDR). *Toxicological Profile for Hexachloroethane*. Atlanta, GA: U.S. Department of Health and Human Services, 1995.
2. U.S. Environmental Protection Agency. *Health Effects Notebook for Hazardous Air Pollutants, Hexachloroethane*. Office of Air Planning & Standards, 1994.