

This fact sheet answers the most frequently asked health questions (FAQs) about 1,2-dibromo-3-chloropropane. 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. This information is important 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.

SUMMARY: Exposure to 1,2-dibromo-3-chloropropane occurs mainly from drinking water or eating food that contains the chemical. At high levels, this chemical may cause damage to the male reproductive system. This chemical has been found in at least 10 of 1,314 National Priorities List sites identified by the Environmental Protection Agency.

What is 1,2-dibromo-3-chloropropane?

(Pronounced 1,2-dī'brō'mō-3-klôr ō prō'pān')

1,2-Dibromo-3-chloropropane is a manufactured chemical and is not found naturally in the environment. It is a colorless liquid with a sharp smell. It can be tasted in water at very low concentrations.

Some industries use it to make another chemical that is used to make materials that resist burning.

Large amounts of 1,2-dibromo-3-chloropropane were used in the past on certain farms to kill pests that harmed crops. Farmers in all states other than Hawaii stopped using this chemical in 1979. Hawaii stopped using it in 1985.

We do not know exactly how much of it is currently made or used by industry, but it is probably a small amount.

What happens to 1,2-dibromo-3-chloropropane when it enters the environment?

- Most of it that enters surface water evaporates into the air within several days or a week.
- It takes several months for it to break down in air.
- It doesn't stick to soil at the bottom of rivers, lakes, or ponds.

- In soil, some evaporates into the air, while small amounts may stay in the soil for several years.

How might I be exposed to 1,2-dibromo-3-chloropropane?

- Drinking water or eating food that contains the chemical.
- Breathing air or touching soil at or near agricultural areas where 1,2-dibromo-3-chloropropane was used in the past.
- Breathing air at hazardous waste sites where improper disposal methods were used.
- Working in an industry that uses 1,2-dibromo-3-chloropropane.

How can 1,2-dibromo-3-chloropropane affect my health?

The main effect from breathing high levels of 1,2-dibromo-3-chloropropane is damage to the male's ability to reproduce.

Studies on workers have shown that men may produce fewer sperm, produce sperm that results in more girl than boy babies, and eventually become unable to father children. It can also cause headaches, nausea, lightheadedness, and weakness in workers.

Animals breathing high levels of the chemical were not

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able to reproduce and had damaged stomachs, livers, kidneys, brains, spleens, blood, and lungs. Breathing low to moderate levels also caused damage to the reproductive system.

The ability of people to reproduce was not affected by drinking water contaminated with low levels of 1,2-dibromo-3-chloropropane and there was no increase in the number of birth defects. Rats exposed to high levels did, however, have an increase in birth defects. It can also cause skin and eye damage from direct contact.

How likely is 1,2-dibromo-3-chloropropane to cause cancer?

The Department of Health and Human Services has determined that 1,2-dibromo-3-chloropropane may reasonably be anticipated to be a carcinogen.

Animal studies found cancer of the nose in animals exposed by breathing the chemical, cancer of the stomach and kidney in animals that ingested the chemical, and cancer of the stomach and skin in animals who had skin contact with the chemical.

We do not know if these same cancers would occur in people.

Is there a medical test to show whether I've been exposed to 1,2-dibromo-3-chloropropane?

Tests are available that measure the amount of 1,2-dibromo-3-chloropropane in exhaled air, blood, and samples of tissues from the body. These tests may require special equipment and they may not be available in your doctor's office.

Because exposure to this chemical lowers the number of sperm, we can count the number of sperm and blood levels of certain hormones in exposed men to determine whether harmful effects have occurred. However, these changes cannot tell the level or length of exposure to the chemical.

Has the federal government made recommendations to protect human health?

The Environmental Protection Agency (EPA) has set a limit of 0.2 parts of 1,2-dibromo-3-chloropropane per billion parts of drinking water (0.2 ppb). EPA requires that discharges or spills into the environment of 1 pound or more of 1,2-dibromo-3-chloropropane be reported. EPA banned the use of 1,2-dibromo-3-chloropropane as a pesticide in the United States in the early 1980s.

The Occupational Safety and Health Administration (OSHA) has set an occupational exposure limit of 1 part of 1,2-dibromo-3-chloropropane in one billion parts of air (1 ppb) for an 8-hour workday over a 40-hour workweek.

The National Institute for Occupational Safety and Health (NIOSH) currently recommends that workers breathe as little 1,2-dibromo-3-chloropropane as possible.

Glossary

Carcinogen: A substance that can cause cancer.

Ingesting: Taking food or drink into your body.

ppb: Parts per billion.

References

Agency for Toxic Substances and Disease Registry (ATSDR). 1992. Toxicological profile for 1,2-dibromo-3-chloropropane. 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.

