

This fact sheet answers the most frequently asked health questions (FAQs) about endrin. 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.

HIGHLIGHTS: Exposure to endrin can cause various harmful effects including death and severe central nervous system injury. Swallowing very large amounts of endrin may cause convulsions and kill you in a few minutes or hours. Exposure to high doses may result in headaches, dizziness, nervousness, confusion, nausea, vomiting, and convulsions. No long-term health effects have been noted in workers. Endrin has been found in at least 120 of the 1,430 National Priorities List sites identified by the Environmental Protection Agency (EPA).

What is endrin?

(Pronounced ěn' drĭn)

Endrin is a solid, white, almost odorless substance that was used as a pesticide to control insects, rodents, and birds. Endrin has not been produced or sold for general use in the United States since 1986.

Little is known about the properties of endrin aldehyde (an impurity and breakdown product of endrin) or endrin ketone (a product of endrin when it is exposed to light).

What happens to endrin when it enters the environment?

- Endrin does not dissolve very well in water. It has been found in groundwater and surface water, but only at very low levels. It is more likely to cling to the bottom sediments of rivers, lakes, and other bodies of water.
- Endrin is generally not found in the air except when it was applied to fields during agricultural applications.
- The persistence of endrin in the environment depends highly on local conditions. Some estimates indicate that endrin can stay in soil for over 10 years.

- Endrin may also be broken down by exposure to high temperatures or light to form primarily endrin ketone and endrin aldehyde.
- It is not known what happens to endrin aldehyde or endrin ketone once they are released to the environment. However, the amount of endrin broken down to endrin aldehyde or endrin ketone is very small.

How might I be exposed to endrin?

- You may be exposed to endrin in air, water, or soil if you live near a hazardous waste site.
- You may be exposed by eating foods that contain endrin.
- Children living near hazardous waste sites could be exposed to endrin in contaminated soils if they eat dirt.
- Endrin levels can build up in the tissues of organisms that live in water.
- Human breast milk may be a route of exposure for nursing infants.

How can endrin affect my health?

Exposure to endrin can cause various harmful effects including death and severe central nervous system (brain and spinal cord) injury. Swallowing large amounts of endrin may

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cause convulsions and kill you in a few minutes or hours.

Symptoms that may result from endrin poisoning are headaches, dizziness, nervousness, confusion, nausea, vomiting, and convulsions.

No long-term health effects have been noted in workers who have been exposed to endrin by breathing or touching it.

Studies in animals confirm that endrin's main target is the nervous system.

Birth defects, especially abnormal bone formation, have been seen in some animal studies.

How likely is endrin to cause cancer?

In studies using rats, mice, and dogs, endrin did not produce cancer. However, most of these studies did not accurately evaluate the ability of endrin to cause cancer.

No significant excess of cancer has been found in exposed factory workers.

The EPA has determined that endrin is not classifiable as to its human carcinogenicity because there is not enough information to allow classification.

Is there a medical test to show whether I've been exposed to endrin?

If you are exposed to endrin, it can be detected in your blood, breast milk, or fatty tissue. Tests can measure endrin in the blood or fat of people recently exposed. These tests aren't available at most doctors' offices, but can be done at special laboratories that have the right equipment.

Although these tests can be used to confirm that a person has been exposed to endrin, it is not yet possible to use these

tests to predict the type or severity of any health effects that might occur.

Has the federal government made recommendations to protect human health?

The EPA's maximum contaminant level (MCL) for endrin in drinking water is 0.0002 milligrams per liter (0.0002 mg/L).

The Occupational Safety and Health Administration (OSHA) has established a limit of 0.1 mg endrin per cubic meter of air (0.1 mg/m³) for an 8-hour day in a 40-hour work-week.

Glossary

Carcinogenicity: Ability to cause cancer.

CAS: Chemical Abstracts Service.

Dissolve: To disappear gradually.

Long-term: 365 days or longer.

Milligram (mg): One thousandth of a gram.

Pesticide: A substance that kills pests.

Sediments: Mud and debris that have settled to the bottom of a body of water.

References

This ToxFAQs information is taken from the 1996 Toxicological Profile for Endrin produced by the Agency for Toxic Substances and Disease Registry, Public Health Service, U.S. Department of Health and Human Services, Public Health Service in Atlanta, GA.

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.

