

This fact sheet answers the most frequently asked health questions (FAQs) about ethion. 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. It's important you understand this information 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 ethion happens mostly from skin contact or breathing contaminated air, but may also occur from eating contaminated food or drinking contaminated water. Ethion affects the function of the central nervous system and at high doses can cause nausea, blurring or dimness of vision, muscle tremors, and labored breathing. Ethion has been found in at least 9 of 1,577 National Priorities List sites identified by the Environmental Protection Agency (EPA).

## What is ethion? (Pronounced ě-thí'on)

Ethion is an organophosphate pesticide. Pure ethion is a clear to yellowish liquid with an unpleasant sulfur-like smell. It does not occur naturally in the environment.

Ethion is used in agriculture, mainly to control insects on citrus trees, but also on cotton, fruit and nut trees, and some vegetables. It may also be used on lawns and turf grasses, but it is not used in the home for pest control.

## What happens to ethion when it enters the environment?

- Ethion enters the air, water, and soil during its manufacture and use.
- Ethion in air lasts a short time. It is slowly broken down in water.
- Ethion binds strongly to soil particles and it does not

move from soil to underground water. Ethion in soil breaks down in 1—12 months.

- It is not known if ethion levels can build up in plants or fish.

## How might I be exposed to ethion?

- Working in industries that make ethion or as a pesticide applicator.
- Eating raw fruits or vegetables that have been treated with ethion, but levels are very low.
- Skin contact with soil containing ethion.

## How can ethion affect my health?

Ethion affects the nervous system. Exposure to high levels of ethion can cause nausea, sweating, diarrhea, loss of bladder

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control, blurring or dimness of vision, muscle tremors, and labored breathing. Severe poisoning may result in coma, inability to breathe, and death.

### How likely is ethion to cause cancer?

We do not know if ethion can cause cancer in humans. No cancer was seen in animals that ate ethion over a long period of time.

### How can ethion affect children?

We do not know if children are more sensitive to ethion than adults. We do not know if ethion can affect the ability of people to have children or if it causes birth defects. Some birth defects have been seen in the babies of animals that ate ethion during pregnancy.

### How can families reduce the risk of exposure to ethion?

- Children should not play on grasses that were recently treated with ethion. Carefully follow the directions on the pesticide label about how long to wait for re-entering the treated area.
- People working in a factory making ethion and people using ethion should wash clothing, skin, and hair before going home.

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

- The breakdown products of ethion can be measured in your urine.
- There are tests to measure the activity of the enzymes (acetylcholinesterases) that are affected by ethion. These tests cannot tell if you were exposed to ethion because a number of chemicals also affect these enzymes.
- Neither of these tests are routinely available in your doctor's office, but samples can be sent to a special laboratory.

### Has the federal government made recommendations to protect human health?

- The EPA has established regulations for the maximum limits of ethion on food products, ranging from 0.1 to 14 parts per million (0.1 to 14 ppm).

### References

Agency for Toxic Substances and Disease Registry (ATSDR). 2000. Toxicological Profile for Ethion. 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 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.

