

Ethylene Oxide (EtO) & Health

- Ethylene oxide, or EtO, is a potentially harmful gas. It may also be called EO.
- The most likely way for people to come in contact with EtO is by breathing it in from air.
- The main health concern with breathing EtO over many years is an increased risk for developing blood, stomach, or breast cancer.

What is EtO?

EtO is a colorless gas. It is mostly used to make other chemicals and for sterilizing sensitive medical equipment.

How could I come in contact with EtO?

- Contact with EtO mainly occurs by breathing it in from air.
- Breathing large amounts of EtO is most likely to occur in workplaces using the chemical.
- Breathing EtO is also possible while living or working near industrial sites that use this chemical.
- Exposure to EtO can occur from other sources such as cigarette smoke.

Can I smell EtO in the air?

You cannot smell small amounts of EtO in the air.

How long does EtO stay in my body?

EtO leaves the body quickly. Almost 90% of EtO is gone from the body two hours after breathing it in.

Is there a way to test for EtO in my body?

- There are medical tests that can show if a person has been exposed to EtO.
- The tests are only useful for a very recent and high amount of exposure to EtO.
- Tests cannot tell you if breathing EtO has caused health problems or could cause them in the future.
- This type of test is typically not available at your doctor's office.

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How can EtO affect my health?

- Breathing EtO over many years, even at low amounts, can increase the risk of developing certain cancers including blood cancers (such as non-Hodgkin lymphoma, myeloma, and lymphocytic leukemia) and breast cancer; however, other factors can contribute to a person's risk of developing cancer.
- Breathing EtO at very high amounts, most likely in the workplace, can lead to dizziness, nausea, headaches, tiredness, and respiratory irritation. Limited evidence suggests breathing high amounts of EtO, like those in a workplace, may cause miscarriage in pregnant women.

As with most chemicals, your risk of health problems depends on how much EtO you breathed in, how long you were breathing it, and how your body reacts to it.

Have questions? Contact:

To learn more about Ethylene Oxide (EtO) in your community, contact:

- Tennessee Department of Health, Environmental Epidemiology Program, EEP.health@tn.gov, 615-741-7247
- Tennessee Department of Environment & Conservation, Air Pollution Control, Ask.TDECETO@tn.gov, 888-891-TDEC (8332)
- Tennessee Department of Labor & Development, Tennessee Occupational Safety and Health Administration (TOSHA), Tennessee.OHSA@tn.gov, 615-741-2793 or 844-224-5818

What if I am concerned about EtO?

- Having one of the health problems listed on this fact sheet does not mean that you have been exposed to EtO.
- Talk to your healthcare provider about your health concerns. Have annual wellness exams. Follow your healthcare provider's recommendations for medical tests and cancer screenings.

Want to learn more?

Visit our TDH website on EtO by scanning the below QR code.

