

Ethylene Oxide ([CH₂]₂O) Patient Information Sheet

This handout provides information and follow-up instructions for persons who have been exposed to ethylene oxide.

What is ethylene oxide?

Ethylene oxide is a colorless liquid at temperatures below 51 °F and a colorless gas at room temperature. It is used in the sterilization of hospital supplies and cosmetics; as a fumigant for such products as spices, tobacco, furs, and bedding; and in the manufacture of antifreeze and other chemicals. At high concentrations, ethylene oxide may have a sweet, ether-like odor. However, dangerous exposures may occur at levels too low to smell.

What immediate health effects can result from ethylene oxide: exposure?

Most people are exposed to ethylene oxide by breathing the gas. Exposure to small amounts can cause eye, nose, and throat irritation; and skin rash. More serious exposure can cause severe breathing difficulty, skin burns, weakness, twitching, convulsions, and coma. Generally, the more serious the exposure, the more severe the symptoms.

Can ethylene oxide poisoning be treated?

There is no antidote for ethylene oxide, but its effects can be treated, and most exposed persons get well. Persons who have had serious exposures may need to be hospitalized.

Are any future health effects likely to occur?

A single, small exposure from which a person quickly recovers is not likely to cause delayed or long-term effects. After a severe exposure, symptoms may not develop for 12 hours (see *Follow-up Instructions*). Ethylene oxide is suspected of causing cancer of the blood, and birth defects may occur in infants whose mothers were repeatedly and excessively exposed during pregnancy.

What tests can be done if a person has been exposed to ethylene oxide?

Specific tests for the presence of ethylene oxide in blood or urine generally are not useful to the doctor. If a severe exposure has occurred, blood and urine analyses and other tests may show whether the blood, heart, lungs, liver, or kidneys have been injured. Testing is not needed in every case.

Where can more information about ethylene oxide be found?

More information about ethylene oxide can be obtained from your regional poison control center; your state, county, or local health department; the Agency for Toxic Substances and Disease Registry (ATSDR); your doctor; or a clinic in your area that specializes in occupational and environmental health. If the exposure happened at work, you may wish to discuss it with your employer, the Occupational Safety and Health Administration (OSHA), or the National Institute for Occupational Safety and Health (NIOSH). Ask the person who gave you this form for help in locating these telephone numbers.

Follow-up Instructions

Keep this page and take it with you to your next appointment. Follow *only* the instructions checked below.

- Call your doctor or the Emergency Department if you develop any unusual signs or symptoms within the next 24 hours, especially:
 - difficulty breathing, shortness of breath, or chest pain
 - increased pain or a discharge from eyes
 - increased redness or pain, or a pus-like discharge in the area of a skin burn
 - fever
 - numbness or weakness in the arms or legs
 - unexplained drowsiness, fatigue, or headache
 - stomach pain, vomiting, or diarrhea

- No follow-up appointment is necessary unless you develop any of the symptoms listed above.
- Call for an appointment with Dr. _____ in the practice of _____.
When you call for your appointment, please say that you were treated in the Emergency Department at _____ Hospital by _____ and were advised to be seen again in _____ days.
- Return to the Emergency Department/ _____ Clinic on (date) _____ at _____ AM/PM for a follow-up examination.
- Do not perform vigorous physical activities for 1 to 2 days.
- You may resume everyday activities including driving and operating machinery.
- Do not return to work for _____ days.
- You may return to work on a limited basis. See instructions below.
- Avoid exposure to cigarette smoke for 72 hours; smoke may worsen the condition of your lungs.
- Avoid drinking alcoholic beverages for at least 24 hours; alcohol may worsen injury to your stomach or have other effects.
- Avoid taking the following medications: _____
- You may continue taking the following medication(s) that your doctor(s) prescribed for you: _____

- Other instructions: _____

- Provide the Emergency Department with the name and the number of your primary care physician so that the ED can send him or her a record of your emergency department visit.

- You or your physician can get more information on the chemical by contacting: _____ or _____, or by checking out the following Internet Web sites: _____;

Signature of patient _____ Date _____
Signature of physician _____ Date _____