
Information and recommendations for patients

- Patients exposed only to ethylenimine vapor do not pose a significant risk of secondary contamination. Patients whose clothing or skin is contaminated with ethylenimine liquid or solution can secondarily contaminate rescue and medical personnel by direct contact or through evaporation of ethylenimine.
 - Ethylenimine can produce immediate eye, skin, and respiratory tract irritation and may cause nausea and vomiting. These symptoms as well as signs of accumulation of fluid in the lungs (shortness of breath, cyanosis, expectoration, cough) may be delayed for more than 3 hours after exposure.
 - Immediate decontamination by flushing of exposed skin and eyes with copious amounts of water is required in order to avoid irreversible damage.
 - There is no antidote to be administered to counteract the effects of ethylenimine. Treatment consists of supportive measures.
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Substance information

Ethylenimine (C₂H₅N), CAS 151-56-4

Synonyms: azacyclopropane, aziridine, dimethylenimine

Ethylenimine is a colorless liquid at room temperature with a boiling point of 56°C (133°F, respectively). Both the vapor and liquid are potential fire and explosion hazards. Ethylenimine has an ammonia-like odor at air concentrations of 1.5 ppm and above. However, dangerous exposures may occur at levels too low to smell.

Ethylenimine is a highly reactive chemical, used as an intermediate and monomer for oil additive compounds, ion exchange resins, coating resins, pharmaceuticals, adhesives, polymer stabilizers, and surfactants. Polymerization products of ethylenimine are used in the manufacture of paper.

What immediate health effects can result from exposure to ethylenimine?

Most exposures to ethylenimine occur from breathing the vapor or from skin/eye contact to ethylenimine liquid or vapor. Exposure to small amounts can cause eye, nose, and throat irritation, and skin rash. More serious exposure can cause severe breathing difficulty, skin burns, severe damage to the eyes, excitation, convulsions, and coma. Severe skin and breathing problems and cough may not develop for as long as 24 hours after exposure.

Are any future health effects likely to occur?

A single small exposure from which a person recovers quickly is not likely to cause delayed or long-term effects. Survivors of severe inhalation injury may suffer residual chronic lung disease. After a severe exposure skin and eye burns may be irreversible or heal very slowly; damage to the liver or the kidneys may occur. Cough may be persistent for months. Ethylenimine may cause cancer in the case of high and long-term exposure.

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:
 - coughing or wheezing
 - difficulty breathing or shortness of breath
 - increased pain or a discharge from exposed skin or eyes
 - chest pain or tightness
 - fever
 - numbness or weakness in the arms or legs
 - unexplained drowsiness, fatigue, headache
 - stomach pain, vomiting, 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; alcohol may worsen your clinical conditions.
- () Avoid taking the following medications: _____

- () You may continue taking the following medication(s) that your doctor(s) prescribed for you: _____

- () Other instructions: _____

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

References

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