
Information and recommendations for patients

- Patients whose clothing or skin is contaminated with nitric acid can cause secondary contamination of rescue and medical personnel by direct contact or by release of its vapor or fumes.
 - Nitric acid and its vapor or fumes are rapidly corrosive when they come in contact with tissues such as the eyes, skin, and upper respiratory tract causing irritation, burns, coughing, chest pain and dyspnea. Swelling of the throat and accumulation of fluid in the lungs (shortness of breath, cyanosis, expectoration, cough) may occur.
 - Ingestion of nitric acid can cause severe corrosive injury to the lips, mouth, throat, esophagus, and stomach.
 - There is no antidote to be administered to counteract the effects of nitric acid. Treatment consists of supportive measures.
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Substance information

Nitric acid (HNO₃), CAS 7697-37-2

Synonyms: hydrogen nitrate

At room temperature nitric acid is a colorless to yellow or brownish-red liquid with a choking odor. The color is due to the release of oxides of nitrogen, especially nitrogen dioxide, into the air upon exposure to light. Depending on environmental factors the vapor or fumes of nitric acid may actually be a mixture of various oxides of nitrogen and nitric acid, even at temperatures well below the boiling point of 83°C (181°F). Nitric acid may be formed in photochemical smog from the reaction between nitric oxide and hydrocarbons.

Nitric acid itself is nonflammable, but it can increase the flammability or cause the spontaneous combustion of other materials. It is soluble in water.

Nitric acid is used in the manufacture of fertilizers, gunpowder and explosives, pesticides, dyestuffs, and pharmaceuticals, especially in the manufacture of organic and inorganic nitrates. It is also used for etching and cleaning of metals, and electroplating.

What immediate health effects can result from exposure to nitric acid?

Exposure to small amounts of vapor or fumes usually causes eye, nose, and throat irritation with tearing of the eyes, sore throat and coughing. Extended exposure can cause severe breathing difficulty, which may lead to chemical pneumonia and death. Deep burns of the skin and mucous membranes may be caused by contact with liquid nitric acid; sometimes yellowing of the skin results. Severe eye burns with clouding of the surface, perforation of the globe, and ensuing blindness may occur from exposure to nitric acid.

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.

Some people who have had serious exposures to their lungs have developed permanent breathing difficulty and tended to develop lung infections easily.

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
- () 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	_____

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