

# The Texas Department Of Public Health Issued Sodium Cyanide Alert

Texas Medical Association

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## Citation

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## Abstract

A truck containing 10 tons of sodium cyanide was recently stolen near Mexico City, Mexico. The truck has been recovered, but 83 of the 96 containers, each carrying 100 kilograms of sodium cyanide each, are missing. The FBI has no evidence that the chemical is destined for Texas or that it will be used for terrorism. However, it is important that health care providers and facilities be prepared to diagnosis, treat, and report patients presenting with symptoms of cyanide poisoning.

If you suspect cyanide poisoning in any individual, you should:

1. Treat the patient supportively; for specific information about antidotes call the Texas Poison Center Network, 24 hrs a day at 1-800-222-1222.
2. Call your local law enforcement office or the FBI.

Cyanide compounds kill by preventing delivery of oxygen to organs. Cyanide could be deployed as a gas or in a water-soluble form through the water or food supply.

The delay between exposure and onset of symptoms depends on the compound, route of exposure, and dose. Cyanide gas is the most rapid in onset – with symptoms occurring within fifteen seconds of exposure. Without intervention, death occurs within ten minutes of exposure to a high concentration of cyanide gas. Ingested soluble salts of cyanide have the second fastest onset, followed by ingested insoluble salts, and then by ingested cyanogens.

## SIGNS AND SYMPTOMS

Shortly after exposure the patient may experience flushing, shortness of breath, palpitations, chest pain, headache, dizziness, nausea, and confusion. With significant poisoning the patient becomes stuporous, combative, and then experiences convulsions and apnea. The taste or scent of bitter almonds is sometimes noted. The skin may be bright pink to cherry red. Venous blood may be the same color as arterial blood. Early tachycardia and hypertension may be followed by bradycardia and hypotension.

## DIFFERENTIAL DIAGNOSIS

encephalitis; stroke; uremia; diabetic ketoacidosis; or exposure to paraldehyde/ phenformin, iron/isoniazid, lactate, ethylene glycol, salicylates, carbon monoxide, hemlock, strychnine, or sodium azide.

## DIAGNOSTIC TESTS

Draw arterial and venous blood gases, serum electrolytes, and plasma lactate. Metabolic acidosis combined with an arterial-venous oxygen saturation difference of less than 10mm Hg suggests cyanide poisoning. If lactic acidosis is not present, exposure to cyanide has NOT occurred. Pulse oximetry is not reliable in diagnosing cyanide poisoning.

Supportive laboratory tests: The ECG may show tachycardia or bradycardia, sinoventricular tachycardia, atrioventricular block, ventricular arrhythmias, and ischemic changes followed by asystole. ST segment depression, and shortening of the ST segment with eventual fusion of the T wave into the QRS complex have been reported.

## TREATMENT

Keep the patient warm and quiet. Administer high-flow 100% oxygen. Intubate immediately if the patient is unconscious or the airway endangered. Establish an IV line. Monitor cardiac function. After donning protective gear, remove all contaminated clothing and wash the skin with plenty of water. Wash contaminated eyes for at least ten minutes. DO NOT give mouth to mouth or mouth to nose resuscitation.

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For information regarding antidotes call poison control at 1-800-222-1222.

### **CONTAMINATION CONTROL**

Emergency and other medical personnel must use appropriate personal protective equipment to protect themselves from secondary exposure.

### **REPORT**

Immediately report any suspect cases to the local health authority at 800-705-8868 or the Texas Department of Health at 800-252-8239; reports may also be faxed to (512) 458-7616.

Please check <http://www.thd.state.tx.us> for information updates.

### **References**

**Author Information**

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