



## Office of Health Emergency Management

### The Facts on CYANIDE

Because of recent terrorist events, people have expressed concern about the possibility of a terrorist attack involving chemical agents such as sarin, phosgene, cyanide, or other agents. The Office of Health Emergency Management (OHEM) has prepared several fact sheets to help you understand the different types of chemical threats and how they could affect your health.

#### What is cyanide?

Cyanide is a rapidly acting, potentially deadly chemical that can exist in various forms. It can be a colorless gas, such as hydrogen cyanide or cyanogen chloride, or a crystal form such as sodium cyanide or potassium cyanide (KCN). Cyanide sometimes is described as having a "bitter almond" smell, but it does not always give off an odor, and not everyone can detect this odor. Cyanide is also known by the military designations

AC (for hydrogen cyanide) and CK (for cyanogen chloride).

#### Where is cyanide found and how it is used?

Hydrogen cyanide, under the name Zyklon B, was used as a genocidal agent by the Germans in World War II. Reports have indicated that during the Iran-Iraq War in the 1980s, hydrogen cyanide gas may have been used along with other chemical agents against the inhabitants of the Kurdish city of Halabja in northern Iraq. Cyanide is released from natural substances in some foods and in certain plants such as cassava. Cyanide is contained in cigarette smoke and the combustion products of synthetic materials such as plastics. Combustion products are substances given off when things burn. It is present in the chemicals used to develop photographs. Cyanide salts are used in metallurgy for electroplating, metal cleaning, and re-

moving gold from its ore. Cyanide gas is used to exterminate pests and vermin in ships and buildings. If accidentally swallowed, chemicals found in acetonitrile-based products that are used to remove artificial nails can produce cyanide.

#### How could I potentially be exposed to cyanide?

You could be exposed to cyanide by breathing air, drinking water, eating food, or touching soil that contains cyanide. Cyanide enters water, soil, or air as a result of both natural processes and industrial activities. In air, cyanide is present mainly as gaseous hydrogen cyanide. Smoking cigarettes is probably one of the major sources of cyanide exposure for people who do not work in cyanide-related industries.

#### How does cyanide work?

The extent of poisoning caused by cyanide depends on the amount of cyanide a person is ex-

posed to, the route of exposure, and the length of time that a person is exposed. Breathing cyanide gas causes the most harm, but ingesting cyanide can be toxic as well. Cyanide gas is most dangerous in enclosed places where the gas will be trapped because it evaporates and disperses quickly in open spaces, making it less harmful outdoors. Cyanide gas is less dense than air, so it will rise. Cyanide prevents the cells of the body from using oxygen. When this happens, the cells die.

### **What are the symptoms of cyanide exposure?**

People exposed to a small amount of cyanide by breathing it, absorbing it through their skin, or eating foods that contain it may have some or all of the following symptoms within minutes:

**Rapid breathing**

**Restlessness**

**Dizziness**

**Weakness**

**Headache**

**Nausea and vomiting**

**Rapid heart rate**

Exposure to a larger amount of cyanide by any route may cause these other health effects as well:

**Convulsions**

**Low blood pressure**

**Slow heart rate**

**Loss of consciousness**

**Lung injury**

**Respiratory failure leading to**

### **death**

*Note: showing these signs and symptoms does not necessarily mean that a person has been exposed to cyanide.*

### **What are the possible long-term effects of cyanide exposure?**

Survivors of serious cyanide poisoning may develop heart and brain damage.

### **How can I protect myself if I'm exposed to cyanide?**

Since inhalation is likely to be the primary route of exposure to cyanide, leave the area where the cyanide gas was released and get to fresh air. Moving to an area where fresh air is available is highly effective in reducing exposure to cyanide gas. If the cyanide gas was released outdoors, move away from the area where it was released. If you cannot get out of the area where the cyanide gas was released, stay as low to the ground as possible. If the release of cyanide gas was indoors, get out of the building. If you are near a release of cyanide gas, emergency coordinators may tell you to either evacuate the area or "shelter in place" inside a building to avoid being exposed to the chemical. right away. If you have

been exposed, dial 911 IMMEDIATELY and explain what has happened.

### **How is cyanide poisoning treated?**

Cyanide poisoning is treated with specific antidotes and supportive medical care in a hospital setting. The most important thing is for victims to seek medical treatment as soon as possible.

### **How can I get more information about cyanide?**

You can contact one of the following:

Regional poison control center (1-800-222-1222)  
Centers for Disease Control and Prevention Public Response Hotline (CDC) in English (888) 246-2675  
En Español (888) 246-2857  
TTY (866) 874-2646

**For more information on emergency health preparedness, contact the Office of Health Emergency Management (OHEM) at 505/476-7701 or visit our website at [www.health.state.nm.us/ohem](http://www.health.state.nm.us/ohem)**