



## **CYANIDE**

- Agent information:** Used as a fumigant in the production of urethane, wool, and nylon; and as a chemical warfare agent. Cyanide can be a colorless gas, such as hydrogen cyanide (HCN), or cyanogen chloride (CNCl), or a crystal form such as sodium cyanide (NaCN), or potassium cyanide (KCN). Cyanide is a colorless or pale blue liquid with an almond-like odor (not detected by all persons) and is very volatile at room temperature. It is rapidly lethal in enclosed spaces and high concentrations. Cyanides are toxicologically part of a group of compounds known as systemic asphyxiants.
- Route of exposure:** Primary route is inhalation or ingestion; dermal and ocular exposure could also occur.
- Signs and symptoms:** Signs and symptoms vary depending on the route of exposure and level of the exposure. For moderate exposure these may include metabolic acidosis, venous blood O<sub>2</sub> level above normal, hypotension, “pink” skin color, giddiness, palpitations, dizziness, nausea, vomiting, headache, eye irritation, hyperventilation, and drowsiness.
- Higher concentrations of cyanide may cause coma, immediate loss of consciousness, convulsions, cessation of respiration and heartbeat, and death within one to 15 minutes. Persons that survive cyanide poisoning may develop heart and brain damage.
- Protective measures:** Utilize appropriate Level Personal Protective Equipment (PPE) as identified by the Environmental Protection Agency and Hazmat protocols. Persons whose clothing or skin is contaminated with cyanide-containing solutions can secondarily contaminate response personnel by direct contact or through off-gassing vapor. Removing patient’s clothing will eliminate any trapped gases, reducing risk of secondary contamination.

**Emergency Medical Services and Preparedness Section**  
**24/7 Emergency Contact Number: 1-888-295-5156**  
**Contact Number: 302-223-2999**

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- Prophylaxis:** Appropriate PPE to avoid secondary contamination.
- Treatment:** Supportive medical care. Clinicians should treat potentially exposed persons and not wait for laboratory confirmation. Antidotes should be given to unconscious victims as soon as possible after exposure.
- There are currently two cyanide antidotal kits approved by the U.S. Food and Drug Administration (FDA). The standard cyanide antidotal kit includes amyl nitrite perles and intravenous infusions of sodium nitrite and sodium thiosulfate. Another antidote, the cyanokit, employs intravenous infusion of hydroxocobalamin.
- Reporting:** Any suspect cases should be reported immediately to the Division of Public Health, 1-888-295-5156 (24/7 coverage).
- Additional information:** For additional information, view the Centers for Disease Control and Prevention website:  
<https://emergency.cdc.gov/>.