



CYANIDES

Agent Information:

Used as a fumigant, in the production of urethane, wool, nylon and as a chemical warfare agent. Hydrogen cyanide (HCN), hydrocyanic acid, prussic acid, AC) and cyanogen chloride (CK). 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, high concentrations. Cyanides are toxicologically, part of a group of compounds known as systemic asphyxiants.

Signs and Symptoms:

Signs and symptoms vary depending on the route of exposure and level of the exposure.

Moderate exposure

Signs: Metabolic acidosis, venous blood-O₂ level above normal, hypotension, "pink" skin color

Symptoms: Giddiness, palpitations, dizziness, nausea, vomiting, headache, eye irritation, increase in rate and depth of breathing (hyperventilation), drowsiness.

High exposure:

Signs: Above plus coma, convulsions, cessation of respiration and heartbeat.

Symptoms: Immediate loss of consciousness, convulsions and death within 1 to 15 minutes.

Route of Exposure:

Primary route is inhalation or ingestion; dermal and ocular also.

Protective Measures:

Utilize appropriate Level 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.

Prophylaxis:

N/A

Treatment:

Supportive care. For breathing patients, amyl nitrite via inhalation, 1 ampule (0.2 mL) every 5 minutes. Sodium nitrite (300 mg IV over 5-10 minutes) and sodium thiosulfate (12.5 g IV). Additional sodium nitrite should be based on hemoglobin level and weight of patient. Gastric lavage with activated charcoal.

Reporting:

Any suspect cases should be reported immediately to the Division of Public Health, Epidemiology Branch: 1-888-295-5156 (24/7 coverage). For additional information, view the CDC website for Emergency Preparedness and Response at www.bt.cdc.gov.