



CYANIDES

Agent Information:

Cyanides are industrial chemical agents historically used in war because of their ability to cause mass casualties. Cyanide is a colorless or pale blue liquid with an almond-like odor (not detected by all persons) and is very volatile (quick to form a gas) at room temperature. In enclosed spaces, cyanides are rapidly lethal at high concentrations. The group includes Hydrogen cyanide (HCN), hydrocyanic acid, prussic acid, AC) and cyanogen chloride (CK).

Signs and Symptoms:

Signs and symptoms vary, depending on the route and level of exposure. Signs of moderate exposure are: increased respiratory and heart rates, metabolic acidosis, venous blood-O₂ level above normal, hypotension, and "pink" skin color. Symptoms include giddiness, palpitations, dizziness, nausea, vomiting, headache, eye irritation, increase in rate and depth of breathing (hyperventilation), and drowsiness.

Signs of high exposure are: above signs, plus coma, convulsions, and cessation of respiration and heartbeat. Symptoms are: immediate loss of consciousness, convulsions and loss of vital signs within 1 to 15 minutes (depending on level of exposure).

Route of Exposure:

Primary route is inhalation or ingestion. Dermal and ocular exposures can also occur.

Protective Measures:

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 clothing will eliminate any trapped gases, reducing risk of secondary contamination. PPE includes hooded PAPR, biochem suit, gloves, boots, etc.

Lab Samples Requested for Evaluation:

Cyanide levels are not available in time to guide acute treatment, but may confirm exposure.

Prophylaxis:

Appropriate PPE to avoid secondary contamination.

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. Consider gastric lavage with activated charcoal if ingested.

Reporting:

Report suspect cases immediately to Delaware's Division of Public Health, Epidemiology Branch: 1-888-295-5156 (24/7 coverage).

Contact Information:

Delaware's Division of Public Health 1-888-295-5156
For additional information, view the Centers for Disease Control and Prevention (CDC) website for Emergency Preparedness and Response at www.bt.cdc.gov.

24/7 Emergency Contact Number: 1-888-295-5156

Revised: 4/2008

Doc. # 35-05-20/08/04/66