Georgia Poison Center Brief Recommendations for Hospitals Regarding:

CYANIDE

CAUSATIVE AGENT: Cyanide is a highly lethal agent. Cyanide can exist at usual room temperature as a gas (such as hydrogen cyanide), solid (sodium cyanide, potassium cyanide), or liquid.

MECHANISM OF TOXICITY: Cyanide poisoning inhibits intracellular oxygen utilization leading to the excess production of lactic acid resulting in metabolic acidosis.

ROUTES OF EXPOSURE: inhalation, injection, and ingestion

SYMPTOMS: May include seizures and respiratory or cardiac arrest. Some survivors have reported anxiety, apprehension, agitation, vertigo, feeling of weakness, and nausea and vomiting.

ONSET OF SYMPTOMS: 15 seconds to hours (usually more rapid after inhalation, slower following ingestion)

DECONTAMINATION: Skin decontamination following exposure to cyanide gas is usually not necessary because cyanide gas is highly volatile. Following exposure to other cyanide compounds, wet contaminated clothing should be removed and the underlying skin washed thoroughly with soap and water.

HOSPITAL PERSONNEL PRECAUTIONS: Standard precautions

TREATMENT: Intravenous sodium nitrite and sodium thiosulfate are effective. Amyl nitrite may also be effective. Hydroxycobalamin is the antidote of choice in some countries but is not available in the United States. Maintain oxygenation and perfusion, and correct acidosis as appropriate.

References:

1. Medical Management of Biological Casualties Handbook. 2nd ed. U.S. Army Medical Research Institute of Infectious Diseases. Fort Detrick Frederick, Maryland. August 1996.
2. Drugs and vaccines against biological weapons. The Medical Letter on Drugs and Therapeutics. 1998;41(1046). P.15-16.
3. Bioterrorism Readiness Plan: A Template for Healthcare Facilities. ACIP Bioterrorism Task Force and CDC Hospital Infections Program Bioterrorism Working Group. 04/13/99.

Last revision: September 20, 2001