

Poison HOTLINE - 1 800 222 1222

Cyanide

Cyanide prevents the cells in the body from using oxygen, which leads to cell death. Thousands of tons of cyanide are used in industry to manufacture paper, textiles, and plastics, but the most common way people are exposed to cyanide is from cigarette smoke. The pits and seeds of certain fruits such as apples, peaches, apricots and cherries, also contain a chemical, which is metabolized to cyanide. Because cyanide is produced from burning plastics and other synthetic materials, cyanide poisoning should be considered for any victim of a house fire or smoke inhalation.

Cyanide is rapidly absorbed from the lungs and stomach and has a very rapid onset of action. Large cyanide exposures can lead to death within a few minutes. The symptoms of cyanide poisoning can be easily overlooked since they are very similar to carbon monoxide poisoning. The symptoms of mild to moderate cyanide poisoning include nausea, vomiting, headache, weakness, confusion, dizziness and shortness of breath. With severe poisoning, there can be sudden loss of consciousness with apnea, coma, hypotension, metabolic acidosis, seizures and dysrhythmias.

Treatment of cyanide poisoning is based on history of exposure as well as symptoms of toxicity. Initial treatment includes supplemental oxygen and good supportive care. Administer a cyanide antidote kit, either hydroxocobalamin or sodium nitrite/sodium thiosulfate, to symptomatic patients. These antidotes are most beneficial when administered soon after exposure. Although the hydroxocobalamin is more expensive, it appears to be more effective with a faster response time and fewer adverse effects.

Hydroxocobalamin permanently binds up cyanide. Sodium thiosulfate is a sulfur donor which is used in the metabolism of cyanide to thiocyanate. Sodium nitrite induces methemoglobin which binds cyanide, but not permanently. The methemoglobin transports the cyanide to the liver where it is metabolized to thiocyanate. All of the three antidotes can be used by themselves, and sodium thiosulfate can be used with either hydroxocobalamin or sodium nitrite. Hydroxocobalamin and sodium nitrite should NEVER be used together.

For more information about cyanide or the use of these antidotes, call the IPCC at **1-800-222-1222**.

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