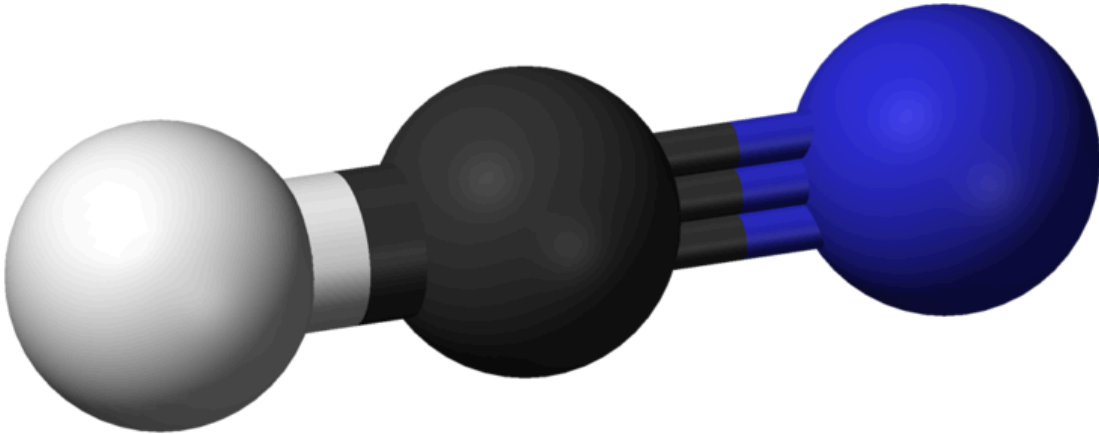


# Cyanide Poisoning Explained

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⚠️ If you ever come into contact with cyanide poisoning, seek help immediately and call poison control. ⚠️

Cyanide is infamously known for being a lethal, fast-acting poison. It was first discovered in 1782 by scientist Carl Wilhelm Scheele who isolated it from a pigment called Prussian Blue. This pigment is produced by oxidation of ferrous ferrocyanide salts. These salts are not highly toxic because they tend to avoid the release of cyanide ions. Cyanide poisons come in three main types; sodium cyanide, potassium cyanide, and hydrogen cyanide. Hydrogen cyanide is a liquid at room temperature and a colorless gas at elevated temperatures. Compared to potassium cyanide and sodium cyanide, which are white powders at room temperature. Although cyanide is widely known as a terrible poison, this article will explore its benefits found in daily life.

Cyanide is infamous for its poisonous qualities. However, there are certain therapeutic uses for cyanide when it's bonded to another substance. In medicine, cyanide can be found in the widely used antihypertensive sodium nitroprusside (a medication used to lower blood pressure, delivered through an IV), each molecule of the drug contains 5 ions of cyanide. Furthermore, cyanide can combine with other chemicals to form vitamin B12. The most common compound found in B12 is called cyanocobalamin, which is part of the "cobalamin" compounds that make up B12. All in all, cyanocobalamin is non-toxic, making it safe to put in these vitamin supplements.

There are three main antidotes to cyanide poisoning that must be given through IV immediately during a life-threatening situation. These include **hydroxocobalamin**, **sodium nitrite**, and **sodium thiosulfate**. Usually, these substances are given to someone who has been exposed to a low dosage of cyanide as they are more effective in small amounts. Hydroxocobalamin is the most used in an emergency situation. Hydroxocobalamin is similar to cyanocobalamin, a compound found in vitamin B12. Hydroxocobalamin can bind one cyanide ion to one of its cobalt ions to form cyanocobalamin. This compound is non-toxic and is safely excreted in the urine.

Cyanide is an incredibly fascinating poison. It can be lethal when existing on its own. However, when cyanide is bonded to other compounds, it becomes a key ingredient in vitamin B12. Cyanide can also be found in certain fruits, and nuts in quantities that are completely safe to digest. If exposure does occur, the most common antidote used will be hydroxocobalamin, which when bonded to cyanide, transforms into cyanocobalamin, a compound that is safely excreted in urine. seek medical attention immediately. If exposure to cyanide occurs, seek medical attention immediately and call poison control.