

**North Carolina Department of Labor
Occupational Safety and Health Division**

Raleigh, North Carolina

Field Information System

Standards Notice 77

Subject: Cyanide Antidotes

A. Standards.

1. 29 CFR 1910 Subpart E, Exit Routes and Emergency Planning.
2. 29 CFR 1910.94 – Ventilation.
3. Subpart H, Hazardous Materials – Dipping and Coating Operations.
4. 29 CFR 1910 Subpart I, Personal Protective Equipment.
5. 29 CFR 1910.151(a) – The employer shall ensure the ready availability of medical personnel for advice and consultation on matters of plant health.
6. 29 CFR 1910.151(b) – In the absence of an infirmary, clinic, or hospital in near proximity to the workplace which is used for the treatment of all injured employees, a person or persons shall be adequately trained to render first aid. Adequate first aid supplies shall be readily available.
7. 29 CFR 1910.1200 – Hazard Communication.

B. Discussion.

In a memo dated May 17, 1988 from the OSHA Office of Occupational Medicine and entitled “Cyanide Antidote Kits,” the statement was made that administration of amyl nitrite by the designated first aid responder in a cyanide emergency is the medically accepted initial response. That memo also stated that hydroxy cobalamin had limited use as an alternative intravenous medication to the sodium nitrite protocol.

In a March 31, 2020 memorandum, OSHA issued updated guidance on cyanide antidotes, stating that antidote kits that contain amyl nitrite for administration by inhalation are no longer an acceptable initial therapeutic response and are not commercially available. According to the U.S. Food and Drug Administration (FDA) in September 2018, the only products approved for cyanide poisoning consist of the following: Cyanokit (hydroxocobalamin injection), Nithiodote (sodium nitrite and sodium thiosulfate for intravenous infusion), sodium nitrite injection, and sodium thiosulfate injection. Of these, hydroxocobalamin is the preferred antidote, but sodium nitrite and sodium thiosulfate are also acceptable.

C. Interpretation.

Employers that offer antidote therapy for cyanide poisoning should provide one of the FDA-approved products. Ideally, cyanide antidotes should be given soon after exposure to unconscious victims with known or strongly suspected cyanide poisoning.

Because all currently FDA-approved cyanide antidotes are IV infusions, they should only be given by healthcare professionals whose scope of practice includes administration of IV drugs. Employers should heed all aspects of the antidote's "Indications and Usage" labeling. Because cyanide poisoning may require other therapeutic interventions, such as cardiopulmonary resuscitation, supplemental 100% oxygen, decontamination, and other supportive care, most cyanide exposures will result in activation of emergency medical services (EMS). Therefore, when there is a foreseeable risk of cyanide exposure, employers should communicate with their local EMS agency to plan for exposure controls, hazard recognition, training, and treatment availability.

D. **Inspection Guidance.**

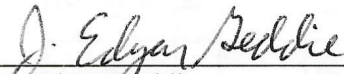
Due to the acute onset and lethal outcomes associated with cyanide poisoning, an employer covered by OSHA standard, Medical Services and First Aid, 29 CFR 1910.151, whose workplace has a foreseeable risk of cyanide exposure, must consult with a physician or other licensed health care professional (PLHCP). This consultation shall ensure that emergency medical services, including those equipped with effective cyanide antidotes, are readily available in the event of an acute cyanide overexposure in the workplace. The absence of such consultation is enforceable as a serious violation of 1910.151(a).

Specifically, this medical consultation should address workplace-specific considerations, such as appropriate storage and replenishment of medical supplies (e.g., FDA-approved antidote drugs, intravenous supplies), and pre-placement of emergency medical equipment and first-aid supplies (e.g., portable oxygen tanks, automated external defibrillators or AEDs). Where appropriate, consultation shall also address on-site staffing, training, and licensing requirements of first aid and medical responders; wait times for EMS/ambulance arrival; when and how intravenous drugs can be administered; worker susceptibility, etc. Compliance officers shall bring any deficiencies in the availability of medical supplies or personnel to the attention of their supervisor for further evaluation.

Additionally, for workplaces with potential cyanide exposures, other applicable OSHA standards may include, but are not limited to: 29 CFR 1910 Subpart E, Exit Routes and Emergency Planning; Subpart H, Hazardous Materials – Dipping and Coating Operations; Subpart I, Personal Protective Equipment; 29 CFR 1910.94 – Ventilation; and 29 CFR 1910.1200 – Hazard Communication.

E. **Effective Date.**

This Standards Notice is effective on the date of signature. It will remain in effect until revised or canceled by the Director.



J. Edgar Geddie
Health Standards Officer



Kevin Beauregard
Director

9/30/2020

Date of Signature