



PHOSPHORUS (white or yellow)

I. Protocol Overview

White phosphorus is extremely toxic and is used in the manufacture of munitions (hand grenades, mortar and artillery rounds, and smoke bombs), pyrotechnics, explosives (incendiary agent or munitions ignition), in artificial fertilizers, rodenticides, semiconductors, and electroluminescent coating. When exposed to air, it spontaneously ignites and becomes luminous in the dark, and this property is conveyed to "tracer bullets." The extreme heat produces dense, white smoke and a yellow flame.

Oral exposure to high levels of white phosphorus occurs in three stages: gastrointestinal effects (first stage); about two days symptom-free (second stage); followed by a rapid decline in condition with gastrointestinal effects (third stage), plus severe effects on the kidneys, liver, cardiovascular system, and central nervous system. Inhalation exposure results in respiratory tract irritation and coughing. Chronic exposure to white phosphorus results in necrosis of the jaw, termed "phossy jaw."

For all suspected chemical exposures, consult the Poison Control Center (800-222-1222) located at Children's Hospital of Philadelphia. Information and treatment advice is available to the public and healthcare professionals at no charge.

Chemical sensors can detect phosphorous in the environment. There are no known clinical biomarkers for detection of phosphorous in clinical samples. Rapid toxicological screening may rule out other exposures. Gas chromatography with nitrogen phosphorous detection (GC-NFD) or electron capture detection (GC-ECD) methods is used to detect phosphorous contamination in environmental and food samples.

The Delaware Public Health Laboratory does not perform this testing. Contact the CDC or the Poison Control Center.

II. Contact Information

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

Poison Control Center: 215-386-2100

III. CDC Website

<http://www.atsdr.cdc.gov/toxfaqs/TF.asp?id=284&tid=52>

24/7 Emergency Contact Number: 302-223-1520

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