



SULFURYL FLUORIDE

I. Protocol Overview

Sulfuryl fluoride is a colorless, odorless, toxic inorganic gas used as a fumigant in structures, vehicles, and wood products for control of wood-infesting termites and beetles, other insects, and rodents, but it is not registered for use on food or feed crops. Chloropicrin (causes eye and respiratory irritation and vomiting) is added to products containing sulfuryl fluoride to serve as a warning indicator. Sulfuryl fluoride acts as a central nervous system depressant.

Symptoms of poisoning include depression, slowed gait, slurred speech, nausea, vomiting, stomach pain, drunkenness, itching, numbness, twitching, and seizures. Inhalation of high concentrations may cause respiratory tract irritation or failure. Long-term or repeated exposure to high levels of sulfuryl fluoride may cause central nervous system depression, blood, lungs, liver, and kidney effects, weakness, weight loss, anemia, bone brittleness, stiff joints, and general ill health.

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.

No specific test for sulfuryl fluoride exposure is available. An elevated serum fluoride concentration via ion selective electrode, hypocalcemia, and hyperkalemia might indicate that an exposure has occurred. Normal serum fluoride levels are <20 mcg/L but varies substantially on the basis of dietary intake and environmental levels. Rapid toxicological screening may rule out other exposures. Sulfuryl fluoride in environmental samples is measured using Ion Chromatography (IC) or sorbent tubes (air monitoring). Sulfuryl fluoride can be detected in food samples using fluoride ion selective electrode (ISE) and gas chromatography electron capture detection (GC-ECD).

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://emergency.cdc.gov/agent/sulfurylfluoride/casedef.asp>