



## CASE DEFINITION

### Sulfuryl Fluoride

#### Clinical description

Sulfuryl fluoride poisoning usually occurs after inhalational exposure. The predominant manifestations of sulfuryl fluoride poisoning are respiratory irritation and neurologic symptoms. Effects of acute exposure usually include lacrimation, nose or throat irritation, cough, dyspnea, paresthesias, and seizures (1-3).

#### Laboratory criteria for diagnosis

- *Biologic:* No specific test for sulfuryl fluoride exposure is available. However, an elevated fluoride concentration in the serum, 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.

-OR-

- *Environmental:* Detection of sulfuryl fluoride in environmental samples, as determined by NIOSH.

#### Case classification

- *Suspected:* A case in which a potentially exposed person is being evaluated by health-care workers or public health officials for poisoning by a particular chemical agent, but no specific credible threat exists.
- *Probable:* A clinically compatible case in which a high index of suspicion (credible threat or patient history regarding location and time) exists for a sulfuryl fluoride exposure, or an epidemiologic link exists between this case and a laboratory-confirmed case.
- *Confirmed:* A clinically compatible case in which laboratory tests on environmental samples are confirmatory.

The case can be confirmed if laboratory testing was not performed because either a predominant amount of clinical and nonspecific laboratory evidence of a particular chemical was present or a 100% certainty of the etiology of the agent is known.

#### Additional resources

1. Calvert GM, Mueller CA, Fajen JM, et al. Health effects associated with sulfuryl fluoride and methyl bromide exposure among structural fumigation workers. *Am J Public Health* 1998;88:1774-80.

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2. CDC. Fatalities resulting from sulfuryl fluoride exposure after home fumigation---Virginia. MMWR 1987;36:602-4, 609-11. Available at <http://www.cdc.gov/mmwr/preview/mmwrhtml/00051658.htm>
3. Scheuerman EH. Suicide by exposure to sulfuryl fluoride. J Forensic Sci 1986;31:1154-8.

This document is based on CDC's best current information. It may be updated as new information becomes available. For more information, visit [www.bt.cdc.gov/chemical](http://www.bt.cdc.gov/chemical), or call CDC at 800-CDC-INFO (English and Spanish) or 888-232-6348 (TTY).

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