



## CASE DEFINITION

### Bromine Poisoning

Interim document, 5-26-04

#### Clinical description

Most exposures to bromine occur by inhalation and typically lead to complaints of ocular, nasal, and respiratory irritation. Signs and symptoms of poisoning include eye redness and lacrimation, nose and throat irritation, cough, and dyspnea. Ingestion of liquid bromine can cause abdominal pain and hemorrhagic gastroenteritis with secondary shock; brown discoloration of mucous membranes and the tongue may be noted as well.<sup>1-4</sup>

#### Laboratory criteria for diagnosis

- *Biologic*: No specific test for bromine is currently available; however, detection of elevated bromide levels in serum (reference level is 50–100 mg/L) may suggest an exposure.
- *Environmental*: Detection of bromine in environmental samples as determined by the National Institute for Occupational Safety and Health

#### Case classification

- *Suspected*: The person may have been poisoned by the implicated chemical, and the case is currently being analyzed.
- *Probable*: The person's illness is clinically compatible, and a high index of suspicion (credible threat or patient history regarding location and time) exists for bromine exposure, OR an epidemiological link exists between this case and a laboratory-confirmed case.
- *Confirmed*: The person's illness is clinically compatible, and laboratory tests on environmental samples are confirmatory.

**Note:** A case should not be considered bromine poisoning if another confirmed diagnosis exists to explain the signs and symptoms.

#### References

1. Shannon M. Bromine and iodine compounds. In: Haddad L, Shannon M, Winchester J. *Clinical Management of Poisoning and Drug Overdose*. 3<sup>rd</sup> ed. Philadelphia: W.B. Saunders Company, 1998:803–12.
2. Morabia A, Sellegger C, Landry JC, et al. Accidental bromine exposure in an urban population: an acute epidemiological assessment. *Int J Epidemiol* 1988;17:148–52.
3. Harbison RD. Halogens. In: Harbison RD. *Hamilton & Hardy's Industrial Toxicology*. 5<sup>th</sup> ed. New York: Mosby, 1983:186–7.
4. Hathaway GJ, Proctor NH, Hughes JP. *Proctor & Hughes' Chemical Hazards of the Workplace*. 4<sup>th</sup> ed. New York: John Wiley & Sons, Inc., 1996:84.

This case definition 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](http://www.bt.cdc.gov) or call the CDC public response hotline at (888) 246-2675 (English), (888) 246-2857 (Español), or (866) 874-2646 (TTY).