



## CHLORINE (Cl<sub>2</sub>)

- Agent information:** Chlorine is a yellow-green, noncombustible gas with a pungent, irritating odor, like the odor of bleach. It is an industrial chemical with the potential to cause a mass casualty incident. A strong oxidizing agent, chlorine can react explosively or form explosive compounds with many common substances. Chlorine is heavier than air and may collect in low-lying areas.
- Transmission:** Primary route is inhalation. Significant dermal absorption or ingestion is unlikely since at room temperature, chlorine is a gas. Chlorine gas is highly corrosive when it contacts moist tissues such as the eyes, skin, and upper respiratory tract. Direct contact with liquid chlorine or concentrated vapor causes severe chemical burns, leading to cell death and ulceration.
- Signs and symptoms:** Signs and symptoms vary, depending on the route and level of exposure. Immediately after exposure, signs and symptoms include cough, laryngeal spasm, mucosal and dermal irritation and redness, shortness of breath, chest tightness, and wheezing. Acute exposure to chlorine gas initially causes coughing, eye and nose irritation, lacrimation, and a burning sensation in the chest. Respiratory complications that develop after acute exposure to chlorine gas include pulmonary edema with mucosal irritation (the greater the water solubility of the agent leads to greater mucosal irritation), and acute respiratory distress syndrome. Onset is one to 24 hours up to 72 hours. Although delayed onset is uncommon, the patient can be asymptomatic for hours. Dermal exposure to liquefied chlorine can result in frostbite.
- Protective measures:** Rescue personnel are at low risk of secondary contamination from victims exposed only to chlorine gas. However, clothing or skin soaked with industrial strength bleach or similar solutions may be corrosive to rescuers and may release harmful chlorine gas. Personal Protective Equipment (PPE) includes chemical-resistant clothing and positive pressure, self-contained breathing apparatus.

**Emergency Medical Services and Preparedness Section**  
**24/7 Emergency Contact Number: 1-888-295-5156**  
**Contact Number: 302-223-2999**



# Medical

- Evaluation:** No tests available.
- Prophylaxis:** Appropriate PPE to avoid secondary contamination.
- Treatment:** There is no antidote for chlorine. Treatment consists of supportive care — administration of humidified oxygen, bronchodilators and airway management, and treating skin and eyes with copious irrigation.
- Reporting:** Report suspect cases immediately to the Division of Public Health, 1-888-295-5156 (24/7 coverage).
- For more information:** Visit the Centers for Disease Control and Prevention website: <https://emergency.cdc.gov/>.