

“Preparedness is the key to effective incident management.”

# Managing the Consequences of a Chemical Agent Attack

## ... a Quick Reference

to assist first responders in the management of a terrorist incident involving the release of a chemical agent(s).



January 2002

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## Chemical Agents

### • Nerve

GA Tabun  
GB Sarin  
GD Soman  
GF Cyclosarin  
VX

All are heavier than air and can be absorbed through the eyes, lungs and skin.

### Exposure Signs & Symptoms

Pinpoint pupils (miosis)  
Runny nose (rinorrhoea)  
Chest tightness, coughing  
Jerking and twitching  
Difficulty breathing  
Nausea, vomiting, & diarrhea  
Sudden loss of consciousness  
Convulsions, apnea

### • Blister

H Sulfur Mustard  
HD Distilled Mustard<sup>a</sup>  
HN Nitrogen Mustard  
L Lewisite  
H/L Mustard/Lewisite  
CX Phosgene Oxime<sup>b</sup>

<sup>a</sup> Becomes a solid at 57 °F

<sup>b</sup> Does not cause blisters.

### Exposure Signs & Symptoms

Reddening of eyes/gritty irritation  
Reddening of skin (erythema)  
Severe itching/burning of skin  
Blisters with/without pain  
Sore throat, hoarseness  
Dry cough, nausea & vomiting

**Note:** Mustard agents have delayed signs/symptoms from 2-24 hours after exposure, depending on concentration and if vapor or liquid.

### • Choking (Pulmonary)

CG Phosgene  
PS Chloropicrin  
Cl Chlorine

**Note:** All are heavier than air and phosgene may have delayed signs and symptoms.

### Exposure Signs & Symptoms

Mild irritation of eyes, nose, throat (immediate)

Shortness of breath, coughing, frothy secretions (2-24 hours after exposure)

Nausea, vomiting, pulmonary edema

**Note:** Riot control agents have more severe irritant effects on the eyes, nose and throat, with shortness of breath and coughing immediately after exposure.

### • Blood (Cyanide)

AC Hydrogen cyanide\*\*\*  
CK Cyanogen chloride

\*\*\*AC is the only chemical agent that is lighter than air.

### Exposure Signs & Symptoms

Headaches  
Strong stimulated breathing  
Loss of consciousness  
Convulsions, apnea

**Note:** normal pupil size, no secretions. CK may cause burning or stinging on contact with eyes, exposed skin or respiratory tract.

## Points to Remember

- Alert hospitals immediately of possible contaminated casualties.
- Be knowledgeable of potential terrorist targets.
- An explosion may involve the release of a chemical or biological agent or radioactive materials.
- Request the Hazardous Incident Response Team and Bomb Squad if they have not already been dispatched.
- Request more resources if the incident has already exceeded the capability of on scene resources to manage or it is likely to escalate.
- Nerve, blister, choking and blood agents are heavier than air, except for hydrogen cyanide.
- The “G” nerve agents are non-persistent (usually evaporate within hours).
- Choking and blood agents are very non-persistent (usually evaporate almost immediately).
- VX and blister agents are persistent (usually remain for days or longer)
- The immediate and ongoing use of SCBA and turnout gear will ensure survivability in a vapor hazardous environment.
- Monitor weather conditions and remember that warmer air temperatures will increase volatility of chemical agents.
- Consider the threat of nearby and downwind spread of chemical agent vapors.
- A terrorist incident involving a chemical agent is still a hazardous materials incident.
- Plan for decontamination of mass casualties.
- Consider benefit of using PPV, foam, or both to dilute or suppress chemical agent vapors.
- A terrorist event is a federal crime scene. Coordinate activities with law enforcement including the FBI, in the interest of safety, security and the preservation of evidence.
- Plan for the coordination and management of additional resources, requested or not.
- Immediately decontaminate victims who have chemical agent liquid deposition on skin, clothing, or both.
- For liquid contamination, remove clothing of victims, apply copious quantities of water or soap and water, if immediately available. Protect victim’s eyes and face. Soap and water is preferred, but the application of water should not be delayed, if soap is not readily available.
- Review the *Gross Decontamination Options* quick reference guide.
- Consider using RSDL, M291 kit (if available) to remove localized liquid contamination.
- For victims with vapor exposure only or as a precautionary measure, victims should remove their clothing down to their underwear and be rinsed with water or soap and water.
- Consider benefit of using chemical masks during long-term decontamination operations.
- Do not transport contaminated victims to hospitals.
- Alert hospitals immediately of possible contaminated casualties.

## On Scene

- Approach location and place emergency vehicles upwind and up grade.
- Use SCBA, turnout gear and butyl gloves.
- Carry radiation alert pager if available.
- Be alert for signs of secondary devices.
- Avoid contact with *any* pool of liquid.
- Isolate the area immediately and deny entry.
- Observe and report signs and symptoms of chemical agent exposure to the Incident Commander.
- Ask victims about their signs and symptoms, where they were located and what they saw when the event occurred.
- Triage, decontaminate and treat victims. However, weigh treating victims with life-threatening injuries first.

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