

Homeland Defense

Information Products

Biological and Chemical Agent Quick Reference

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Biological Agents				
AGENT	INCUBATION	LETHALITY	PERSISTENCE	DISSEMINATION
Bacteria				
Anthrax	1-5 Days	3-5 days fatal	Very stable	Aerosol
Cholera	12 hours-6 days	Low with treatment High without treatment	Unstable Stable in saltwater	Aerosol Sabotage of water
Plague	1-3 days	1-6 days fatal	Extremely stable	Aerosol
Tularemia	1-10 days	2 weeks moderate	Very stable	Aerosol
Q fever	14-26 days	Weeks?	Stable	Aerosol Sabotage
Viruses				
Smallpox	10-12 days	High	Very stable	Aerosol
Venezuelan Equine Encephalitis	1-6 days	Low	Unstable	Aerosol Vectors
Ebola	4-6 days	7-16 days fatal	Unstable	Aerosol Direct contact
Biological Toxins				
Botulinum toxins	Hours to days	High without treatment	Stable	Aerosol Sabotage
Staphylococcal enterotoxin B	1-6 days	Low	Stable	Aerosol Sabotage
Ricin	Hours to days	10-12 days fatal	Stable	Aerosol Sabotage
Tricothecene mycotoxins (T2)	2-4 hours	Moderate	Extremely stable	Aerosol Sabotage

For more detailed information on Biological Agents, see <http://www.usamriid.army.mil/education/bluebook.htm>.

Chemical Agents			
AGENT	SIGNS AND SYMPTOMS	DECONTAMINATION	PERSISTENCE
Nerve Agents			
Tabun (GA)	Salivation	Remove contaminated clothing Flush with a soap and water solution for patients Flush with large amounts of a 5% bleach and water solution for objects	1-2 days if heavy concentration
Sarin (GB)	Lacrimation		1-2 days will evaporate with water
Soman (GD)	Urination		Moderate, 1-2 days
V Agents (VX)	Defecation Gastric disturbances Emesis		High, 1 week if heavy concentration As volatile as motor oil
Vesicants (Blister Agents)			
Sulfur Mustard (H)	Acts first as a cell irritant, then as a cell poison.	Remove contaminated clothing Flush with soap and water solution for patients. Flush with large amounts of a 5% bleach and water solution for objects	Very high, days to weeks
Distilled Mustard (HD)	Conjunctivitis, reddened skin, blisters, nasal irritation, inflammation of throat and lungs.		
Nitrogen Mustard (HN 1,3)			
Mustargen (HN2)			
Lewisite (L)	Immediate pain with blisters later.		
Phosgene Oxime (CX)	Immediate pain with blisters later—necrosis equivalent to second and third degree burns		Moderate Days, rapid hydrolysis with humidity Low, 2 hours in soil
Chemical Asphyxiants (Blood agents)			
Hydrogen Cyanide (AC)	Cherry red skin or ~ 30% cyanosis. Patients may appear to be gasping for air. Seizures prior to death.	Remove contaminated clothing. Flush with a soap and water solution for patients. Flush with large amounts of 5% bleach and water solution for objects.	Extremely volatile, 1-2 days
Cyanogen Chloride (CK)	Effect is similar to asphyxiation, but is more sudden.		Rapidly evaporates and disperses
Arsine (SA)			Low

Personal Protective Equipment Levels:

- Level A: Fully encapsulated suit with SCBA
- Level B: Non-encapsulated suit with SCBA
- Level C: Splash Suit (tyvek coveralls) with an air purifying respirator (APR)

Contact Phone Numbers:

CHEMTREC: 800-424-9300
 National Response Center: 800-424-8802
 Center for Disease Control: 888-232-3228
 U.S. Public Health Service: 800-USA-NDMS