



ANNEX 6

TYPES OF CONTAMINANTS

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BIOLOGICAL AGENTS OF BIOTERRORISM AND DISEASE

REFERENCE

U.S. Department of Health and Human Services.
 Information published by the “Center for Disease Control and Prevention”.
<https://emergency.cdc.gov/agent/agentlist-category.asp>

Biological agents are classified below into categories A, B, and C; you will find the definition of each category, and the agents/diseases that fall into it, if you wish to know more information regarding symptoms, treatments, and preparedness for such a threat, click on each agent to follow the link.

CATEGORY “A”.

DEFINITION

The U.S. public health system and primary health care providers must be prepared to address a variety of biological agents, including pathogens that are rarely seen in the United States. High-priority agents include organisms that pose a national security risk because:

- It can be easily spread or transmitted from person to person.
- Result in high mortality rates and have the potential for a large public health impact.
- It could cause public panic and social disruption.
- They require special actions for public health preparedness.

AGENTS / DISEASES

- Anthrax (*Bacillus anthracis*).
- Botulism (*Clostridium botulinum* toxin).
- Plague (*Yersinia pestis*).
- Smallpox (*variola major*).
- Tularemia (*Francisella tularensis*).
- Viral hemorrhagic fevers, including:
 - Filovirus (Ebola, Marburg).
 - Arenavirus (Lassa, Machupo).

CATEGORY B

DEFINITION

The second highest priority agents include those that:

- They are moderately easy to spread.
- They result in moderate morbidity rates and low mortality rates.
- They require specific improvements in CDC diagnostic capacity and improved disease surveillance.

AGENTS / DISEASES

- Brucellosis (*Brucella* species).
- Epsilon toxin from *Clostridium perfringens*
- Food safety threats (*Salmonella* species, *Escherichia coli* O157: H7, *Shigella*).
- Glanders (*Burkholderia mallei*).
- Melioidosis (*Burkholderia pseudomallei*).
- Psittacosis (*Chlamydia psittaci*).
- Q fever (*Coxiella burnetii*).
- Ricinus communis (castor bean) ricin toxin.
- Staphylococcal enterotoxin B.
- Typhus (*Rickettsia prowazekii*).

- Viral encephalitis (alphaviruses, such as eastern equine encephalitis, Venezuelan equine encephalitis, and western equine encephalitis).
- Water safety threats (*Vibrio cholerae*, *Cryptosporidium parvum*).

CATEGORY C

DEFINITION

The third highest priority agents include emerging pathogens that could be designed for mass dissemination in the future due to the:

- Availability.
- Ease of production and dissemination.
- Potential for high morbidity and mortality rates and high health impact.

AGENTS / DISEASES

- Emerging infectious diseases such as Nipah virus and hantavirus.

CHEMICAL AGENTS OF BIOTERRORISM AND DISEASE

Scientists often classify hazardous chemicals by the type of chemical or by the effects a chemical would have on people exposed to it. To access more information such as poisoning signs and symptoms, and the emergency response card, you can click on the link below.

The categories or types used in this article are as follows:

BIOTOXINS

Poisons that come from plants or animals.

- Abrin
- Brevotoxin
- Colchicine
- Digital
- Nicotine
- Ricin
- Saxitoxin
- Strychnine
- Tetrodotoxin
- Trichothecene

BLISTER AGENTS / VESICANTS

Chemicals that severely blister the eyes, respiratory tract, and skin on contact.

• MUSTARDS

- Mustard gas (H) (sulfur mustard).
- Mustard/lewisite (HL).
- Nitrogen mustard (HN-1, HN-2, HN-3).
- Sesqui Mustard.
- Sulfur mustard (H) (mustard gas).

• LEWISITES / CHLORARSINE AGENTS

- Lewisite (L, L-1, L-2, L-3).
- Mustard/lewisite (HL).

• PHOSGENE OXIME (CX) (CX).

BLOOD AGENTS

Poisons that affect the body by being absorbed into the blood.

- Arsine (SA) (SA).
- Carbon monoxide.
- Cyanide.
 - Cyanogen chloride (CK).
 - Hydrogen Cyanide (AC).
 - Potassium cyanide (KCN).
 - Sodium cyanide (NaCN).
- Sodium monofluoroacetate (compound 1080).

CAUSTICS (ACIDS)

Chemicals that burn or corrode the skin, eyes, and mucous membranes (lining of the nose, mouth, throat, and lungs) of people in contact.

- Hydrofluoric acid (hydrogen fluoride).
- Hydrogen chloride.

ASPHYXIA / LUNG / LUNG AGENTS

Chemicals that cause severe irritation or swelling of the respiratory tract (lining of the nose, throat, and lungs).

- Ammonia.
- Bromine (CA) (CA).
- Chlorine (CL).
- Hydrogen chloride.
- Methyl bromide.
- Methyl isocyanate.
- Osmium tetroxide.
- Phosgene.
 - Diphosgene (DP).
 - Phosgene (CG).
 - Phosphine.
 - Phosphorus, elemental, white, or yellow.
 - Sulfuryl fluoride.

DISABLING AGENTS

Drugs that make people unable to think clearly or cause an altered state of consciousness (possibly unconsciousness).

- BZ.
- Fentanyl and other opioids.

LONG-ACTING ANTICOAGULANTS

Poisons that prevent blood from clotting properly, which can lead to uncontrolled bleeding.

- Super warfarin.

METALS

Agents consisting of metallic poisons.

- Arsenic.
- Barium.
- Mercury.
- Thallium.

NERVE AGENTS

Highly poisonous chemicals that work by preventing the nervous system from working properly.

- Agents G.
 - Sarin (GB).
 - Soman (GD).
 - Tabun (GA).

- Agents V.
 - VX.

ORGANIC SOLVENTS

Agents that damage the tissues of living beings by dissolving fats and oils.

- Benzene.

RIOT CONTROL AGENTS / TEAR GAS

Highly irritating agents are normally used by police for crowd control or by individuals for protection (e.g., Mace).

- Bromobenzyl cyanide (CA).
- Chloroacetophenone (CN).
- Chlorobenzylidenemalononitrile (CS).
- Chloropicrin (PS).
- Dibenzoazepine (CR).

TOXIC ALCOHOLS

Poisonous alcohol that can damage the heart, kidneys, and nervous system.

- Ethylene glycol.

VOMITING AGENTS

Chemicals that cause nausea and vomiting.

- Adamsite (DM).