



United States Department of State
Bureau of Diplomatic Security

Responding to a CBRN Threat...

Are you ready?

CHEMICAL



BIOLOGICAL



RADIOLOGICAL



NUCLEAR

00:43:21

Responding to a **CBRN Threat...**

Be ready!

Chemical, biological, radiological, and nuclear attacks are life threatening. The acronym “CBRN” is associated with the release of a chemical or biological agent or radiological or nuclear material with the intention of causing harm. A greater awareness of basic detection, defense, and decontamination methods will enable you and your family to recognize and properly react to such a threat.

THE THREAT

In most cases you must rely on environmental indicators, physical symptoms, and communication with victims to recognize or classify the type of CBRN incident.

CHEMICAL A chemical attack is the deliberate release of a toxic gas, liquid, or solid material that can poison people and the environment.

BIOLOGICAL A biological attack is the deliberate release of dangerous bacteria, toxins, or viruses. Many of these agents must be inhaled, enter through a cut in the skin, or be eaten to make you sick.

RADIOLOGICAL An attack using radioactive material, now commonly associated with the term “dirty bomb,” is the use of common explosives to spread radioactive materials in a targeted area.

NUCLEAR A nuclear attack is an explosion or blast with intense light and heat, destructive pressure wave, and radioactive material that contaminates the air, water, and ground surfaces.

1995

The Aum Shinrikyo, a Japanese cult, launched a large-scale chemical attack on the Tokyo subway system. The nerve agent sarin was released on five different trains. Twelve commuters died and over 1,000 sought medical attention.

2001

Letters containing weaponized anthrax, a biological agent, were sent through the U.S. postal system. Five deaths were reported, but no one claimed responsibility. Hundreds of anthrax pranks have occurred since and many have impacted U.S. missions abroad.

DETECTION

A chemical, biological, or radiological incident may not always be immediately apparent because some agents and materials are odorless and colorless and cause no immediate effects. The only indication of an incident may be things in your surroundings that appear unusual or out of place. Agents and materials can be dispersed in the air, water, and on surfaces. The information below will assist you in making a preliminary assessment of possible CBRN exposure.

CHEMICAL INCIDENT Indicated by the rapid onset (minutes to hours) of symptoms (tearing, runny nose, nausea, difficulty breathing, rashes, blisters, seizure, and other patterns of illness inconsistent with a natural disease) and observed signatures (unusual liquid sprays or vapors, oily droplets on surfaces, dead insects and animals, low-lying clouds or fog unrelated to weather, or unexplained odors). Chemical agents are generally liquids, but can be aerosolized.

BIOLOGICAL INCIDENT Indicated by the gradual onset (hours to days) of symptoms (fever, chills, fatigue, coughing, and other non-specific initial symptoms) and observed signatures (abandoned spray devices, unscheduled or unusual spraying with people wearing breathing protection, unusual numbers of sick or dying people or animals). Biological agents have no odor or color and can be in liquid or powder form.

RADIOLOGICAL INCIDENT Onset of symptoms (nausea, vomiting, diarrhea, redness of skin, blistering, fatigue, hair loss, and other illness), if any, may take days, weeks, or longer and observed signatures are missing because radiation is odorless and invisible. Any heat-emitting or glowing material should be noted, but special equipment is required to detect radioactivity.

NUCLEAR INCIDENT Onset of symptoms (same as radiological) may be delayed and observed signatures include a blast with intense light and heat and a damaging pressure wave.

DEFENSE

Protecting the respiratory system and initiating decontamination measures are the most important defensive actions to take following a CBRN incident. The first step is to don your emergency escape mask or, if lacking a mask, cover your nose and mouth with a folded or crumpled handkerchief (or other cloth material) and evacuate the area, maximizing your distance from the hazard. If facing radiation exposure, minimize time exposed, maximize your distance from the hazard, and seek shielding. Depending on the CBRN incident, you may be directed to shelter-in-place. If CBRN exposure is suspected, seek medical attention as soon as possible.

2003

Al-Qa'ida training manuals detailing how to use a radiological dispersal device or "dirty bomb" were uncovered in Afghanistan.

2004

Jordanian authorities breakup alleged al-Qa'ida plot to attack the U.S. Embassy, the Jordanian prime minister's office, and the Jordanian intelligence headquarters. Seized were 20 tons of chemicals, numerous explosives, and three trucks that were to be used as vehicle-borne improvised explosive devices.

SOME BASIC STEPS TO AVOID OR MITIGATE CBRN AGENT OR MATERIAL EXPOSURE INCLUDE:

- ▶ Stay alert for attack warning signs. Early detection enhances survival.
- ▶ Ensure suspicious envelopes and parcels are screened by security personnel. Do not attempt to smell or taste contents. If touched, gently place the envelope and parcel on the nearest surface and thoroughly wash hands and face with warm soapy water.
- ▶ Move upwind from incident area. If you must remain inside, seek an interior room on a higher floor as many agents are heavier than air and will stay closer to the ground. If inside due to a radioactive material release outside, seek an interior room on the lowest level.
- ▶ Ensure windows and exterior doors are closed and HVAC system is shut down (unless equipped with a full chemical/biological filtration system).
- ▶ Cover nose, mouth, bare arms and legs, and make sure cuts or abrasions are covered or bandaged.
- ▶ If circumstances dictate, shelter-in-place in your office or residence using guidelines from this pamphlet.

- ▶ At the office, familiarize yourself in advance with established emergency procedures and equipment.
- ▶ If in a vehicle and the agent or material has yet to enter, shut off air intake vents and close windows.

DECONTAMINATION

Decontamination is a process that can reduce or neutralize toxic chemicals, biological agents, and radioactive material to levels that will lessen the risk of further harm to the victim and cross contamination to others.

THE PRIMARY PURPOSES FOR DECONTAMINATION ARE:

- ▶ To remove the agent or material from the victim to reduce further exposure and ill health effects, and
- ▶ To protect emergency responders, medical personnel, and unexposed victims from secondary exposures resulting from cross contamination.

2006

At an open hearing before the U.S. Senate Select Committee on Intelligence, Ambassador John Negroponte, Director of National Intelligence, stated, "Although an attack using conventional explosives continues to be the most probable scenario,

al-Qa'ida remains interested in acquiring chemical, biological, radiological, and nuclear materials or weapons to attack the United States, U.S. troops, and U.S. interests worldwide."

**BASIC DECONTAMINATION MEASURES
REGARDLESS OF THE AGENT OR
MATERIAL INCLUDE:**

- ▶ Decontaminate as soon as possible to maximize effectiveness, especially in chemical exposure.
- ▶ Use water or a soap-and-water solution to clean exposed areas (hands, then face) as both are effective for decontamination of chemical/biological agents and radioactive material; or use a mixture of 9 parts water and 1 part bleach (9:1) to reduce the possibility of absorbing an agent or material through the skin.
- ▶ Remove clothing and shower or clean entire body using water, a soap-and-water solution, or a 9:1 water-and-bleach mixture. Place contaminated clothing in plastic bags and seal.
- ▶ If water is not available, talcum powder or flour can be used for decontamination of liquid agents. Sprinkle liberally on the affected skin area and brush off thoroughly with a rag or gauze pad.
- ▶ Perform decontamination as close as possible to, but outside, the contaminated area.
- ▶ Prioritize decontamination based on the severity of contamination or severity of symptoms.

SHELTER-IN-PLACE

If chemical, biological, or radiological contaminants are released accidentally or intentionally in the air outside, one of the instructions you may receive is to shelter-in-place. This is a precaution aimed to keep you safe while remaining indoors, whether at home, work, or elsewhere. Some general guidelines follow, *but always begin with protecting your airway.*

CHOOSING A ROOM...

- ▶ If the incident is a chemical release, seek an interior room on a higher floor (without windows or with few windows) as many agents are heavier than air and stay closer to the ground.
- ▶ If a radioactive material is released outside, seek an interior room on the lowest level.
- ▶ Choose a room with access to a bathroom and preferably containing a telephone.
- ▶ Avoid rooms with window or wall air conditioners as they are more difficult to seal.

SEALING A ROOM...

- ▶ Lock doors and close windows, air vents, and fireplace dampers. Also close shades, blinds, or curtains if there is potential danger from explosion.
- ▶ Turn off fans and HVAC systems (unless equipped with a full chemical/biological filtration system).
- ▶ Cover all windows, doors, and air vents with plastic sheeting (2-6 mm) and duct tape.

SUGGESTED SUPPLIES AND EQUIPMENT...

- ▶ Nonperishable food and bottled water (enough for 3 days).
- ▶ Clothing that includes long-sleeved shirts, long pants, boots, and rubber gloves.
- ▶ Bedding supplies.
- ▶ First aid supplies, medications, and other special need items.
- ▶ Battery-powered radio, flashlights, extra batteries, cell phone, and television set.

Stay Alert and Prepared...

The possibility for a CBRN attack remains a very viable threat. The exact nature of an attack may not always be immediately obvious. You may not receive a warning prior to a CBRN attack or incident, so pay close attention to indicators that may appear suddenly or seem out of place, such as powders, liquids, or strange smells, outside or within a building, with or without an immediate effect on people.

TO ENHANCE YOUR SURVIVAL OF A CBRN INCIDENT OR ATTACK, BECOME MORE FAMILIAR WITH GENERAL PERSONAL AND PHYSICAL SECURITY MEASURES SUCH AS:

- ▶ Protecting your airway—with an approved mask, if available.
- ▶ Distancing yourself from the suspicious site and those affected.
- ▶ Taking quick decontamination action, including early consultation with medical personnel.

This material is meant to encourage good security measures and assist you in your survival of a CBRN incident. If you or your family require additional details about the CBRN threat or any security-related subject that impacts you while residing abroad, please contact the regional security officer (RSO) or designated security representative at your post of assignment.

If you are working at a State Department facility in the United States and witness a suspicious incident, please contact the Diplomatic Security Control Center at (202) 647-9111.

STATE DEPARTMENT PUBLICATION 11326
Bureau of Diplomatic Security
Released June 2006