



# Chemical and Biological Weapons Nonproliferation Project Information Sheet

## Frequently Asked Questions: Personal Protection & Chemical or Biological Terrorism

Since the September 11<sup>th</sup> attacks on the World Trade Center and the Pentagon, the Stimson Center's Chemical and Biological Weapons Nonproliferation Project has received numerous inquiries from citizens and the media about how individuals could protect themselves in the event of a chemical or biological disaster. Such questions are understandable given concerns about subsequent attacks on US soil, so the project's director, Amy E. Smithson, Ph.D., answers below the most frequently asked questions. Her answers are based on extensive interviews with hazardous materials firefighters, physicians, public health officials, chemical and biological weapons experts, and others who have lengthy experience with chemical and biological defense precautions and who have dealt first-hand with chemical accidents and disease outbreaks. She wishes to underscore, however, that she is not a physician. A separate FAQ page titled "Likelihood Terrorists Can Acquire & Use Chemical or Biological Weapons" provides perspective on this *highly* unlikely possibility. Both of these FAQ sheets can be found online at [www.stimson.org/cwc/terror.htm](http://www.stimson.org/cwc/terror.htm).

### What are the signs that a poison gas attack (or a chemical accident) might be taking place?

One of the many unsettling characteristics of chemical agents is that some of them cannot be seen or smelled. Citizens can protect themselves by observing the following rule of thumb: If a single person is on the ground, choking or seizing, it is likely this individual is having a heart attack or some sort of seizure. However, if *several* people are down, coughing, vomiting, or seizing, they could be reacting to the presence of a toxic substance. Evacuate the area immediately and dial 911, making sure to tell the dispatcher that a hazardous gas may be present.

**Indoors:** If indoors, exit the building as rapidly as possible. Once outside, if you believe that you may have been exposed to the toxic substance, discarding your modesty and shedding your clothes could save your life. Taking off your outer clothing can remove roughly 80 percent of the contamination hazard. Look for a nearby fountain, pool, or other source of water so that you can quickly and thoroughly rinse any skin that may have been exposed (e.g., jump in the pool). Studies show that water alone is an effective decontaminant. Rescuers will arrive within minutes, and firefighters will hook up hoses and spray everyone to decontaminate them. Try to remain calm. Rescuers will triage everyone so that they can give medical attention to the most seriously affected individuals first. Even if you are showing no symptoms of exposure (e.g., eye problems), paramedics and physicians on scene will want to give you a check-up and advise you about follow-up care. Police officers will also want to speak with you about what you may have observed that could help them catch the individual(s) responsible.

**Outdoors:** Birds and other small animals would very quickly be overcome by a poison gas, so if birds are dropping from the sky, that is another warning sign of toxic trouble. The most important thing to do is to get a physical barrier between you and the toxic cloud. Get indoors quickly---preferably into a building but even being inside a car will help. Shut all windows and doors and turn off the air conditioner. Try to plug any air drafts (e.g., under doors). This technique is known as sheltering in place. Call 911 and notify authorities that a hazardous gas may be present. If that is indeed the case, the wind will carry the toxic hazard away within a relatively short period of time. Stay indoors, and turn on the television and/or radio for news and announcements. Authorities will notify you when it is safe to go outside. If you are at home, put your clothes in a plastic bag and take a shower, which will help remove any contamination that might have occurred before you were able to get indoors.

## **Should citizens buy gas masks?**

The chances that terrorists will turn to poisonous substances instead of conventional bombs are very, very remote. However, if it makes you feel better to purchase a gas mask, by all means, go ahead. Please make sure that you are properly fitted--a loose gas mask defeats the purpose. Also, please ensure that you are properly instructed in the use of the mask.

Personally, I do not carry a gas mask with me. I take the subway to and from work daily, and I continue to go to meetings and other events in large buildings.

Note also that the only nation that has ever issued gas masks to all of its citizens is the state of Israel.

## **What are the signs of a biological attack?**

By now, the media has repeatedly broadcast that biological agents can be dispersed from commercial sprayers, such as crop dusters. Often omitted from these reports is the fact that, among other complications, commercial equipment would have to be modified for such an attack strategy to have a chance of success.

Still, crop dusters are out of place over cities, and the FBI has already placed restrictions about where they can fly. Were I to see one over a metropolitan area, I would immediately go indoors, shut all windows and doors, turn off the air conditioner, and notify authorities. The same would hold true for any other unusual spraying activities. For instance, a person tending a rooftop garden would not raise my suspicions, but an individual deliberately spraying a substance from a rooftop, or a truck dispersing a misty substance through side vents, would.

Keep in mind that occasionally local authorities employ helicopters and other means to spray approved pesticides to control mosquitoes and other pests. Officially sanctioned spraying activities are announced well in advance, repeatedly. A call to local authorities can confirm whether any spraying that you might observe would fall into that category.

## **What can citizens do to protect themselves from a possible biological disaster?**

Frankly, it may not be apparent that a biological agent has been dispersed until people begin falling ill several days later. For most biological agents, the initial symptoms would resemble a flu-like malaise. Across the nation, local, state, and federal authorities are putting capabilities in place to improve the ability to detect abnormal public health problems rapidly--to distinguish between multiple cases of the flu or a possible biological agent attack.

As the normal cold and flu season rolls around in the next few months, please do not jump to the conclusion that you have been infected with a biowarfare agent if you begin to feel achy or have the sniffles. In fact, people catch colds throughout the year. You are more likely to get hit by lightning than to be the victim of a bioterrorist attack.

If, however, you hear reports that a biological agent may have just been released, stay indoors or get indoors right away, shut all windows and doors, and turn off the air conditioning system. The most worrisome method of biological agent dissemination is aerosol dispersal. For a biowarfare aerosol to make you ill, microscopic particles must find their way into your lungs. Therefore, putting a physical barrier in between you and a possible aerosol cloud is a key self-protection step.

Of course, a gas mask can provide excellent respiratory protection. Alternately, a surgical mask or one of the respiratory protection masks recommended for various construction and laboratory tasks would help

to screen out particulate matter that might be in the air. To protect your airway, masks need to be fitted snugly over the mouth and nose.

The Army Handbook on Medical Management of Biological Casualties recommends that medical personnel attending patients infected with most biowarfare agents employ what is known as “standard precautions.” This term essentially means wearing a surgical mask and gloves. Standard precautions are effective against anthrax, brucellosis, Q fever, tularemia, viral encephalitis, botulinum toxin, and Staphylococcal enterotoxin b.

### **Should citizens stockpile antibiotics?**

NO. Keeping a stockpile of antibiotics is, in short, a *bad* idea. While antibiotics would be used to treat individuals who might fall ill during a disease outbreak, the use of these medications should always be done at the direction of a physician. People who self-medicate themselves or their children could very well do more harm than good. Overuse of antibiotics, as well as their misuse (to treat illnesses such as colds), is harmful as it reduces the ability of these drugs to work in serious health emergencies.

The US government keeps a cache of antibiotics and other medical supplies that can arrive in an area in which an outbreak has occurred within 12 hours.

### **What precautions can citizens take with their water supply?**

Poisoning of a city’s water supply is much more easily said than done. However, citizens can protect themselves by boiling their drinking water, which will kill any microorganisms that may have survived the municipal filtration systems. Another option is to use a personal water filtration system.

### **Where should citizens turn for instructions in the event of a chemical or biological disaster?**

The electronic and print media can be very useful sources of information, especially when events are developing at a rapid pace. However, reporters can occasionally pass along faulty or inaccurate information. Local, state, and national public health, public safety, and emergency management officials would be the most reliable sources of information. As soon as the circumstances are understood, these officials will call press conferences to convey accurate information and instructions to the public. Subsequent press conferences will be called as frequently as possible to update the public about the steps that local, state, and federal government organizations are taking to address the situation and what individuals can do to help themselves and their fellow citizens. In a genuine disaster, the Emergency Broadcast System would also probably be employed to give instructions to citizens.