

## **How to Shelter-in-Place** *(Chemical Incident)*

Shelter-in-place applies to several types of terrorist attacks, but details will vary. For example, you would use duct tape and plastic sheeting to seal an internal room against chemical agents. For sheltering against radiation dispersed by a radiological dispersion device (RDD or “dirty bomb”) or radioactive fallout particles after a nuclear explosion, you would normally prefer a basement shelter to a higher floor; duct tape and plastic would help keep radioactive dust out, but primary protection from radioactive particles would be achieved by applying the principles of mass, distance, and time. (See [Factors for Protection From Radioactive Fallout](#).)

If officials advise people in a specific area to **shelter-in-place because of a short-term chemical release**, households should have the following in the shelter-in-place room:

- Plastic sheeting pre-cut to fit room openings. (Cut the plastic a minimum of 6 inches wider than each opening. The thickness of the plastic should be 4 to 6 millimeters or greater.)
- Duct tape and scissors. (The thickness of the duct tape should be 10 millimeters or greater.)

A shelter-in-place room should be an interior room, preferably one without windows, that you can seal to block out air that may be contaminated by the short-term release of hazardous chemical agents. The room should be above the ground-level floor. In the case of a chemical threat, an above-ground location is preferable because some agents are heavier than air and may seep into basements even if the windows are closed.

Guidelines for sheltering-in-place are based on the need to shelter for only a few hours—more than sufficient time for a short-term release of airborne agents to dissipate. Ten square feet of floor space per person will provide sufficient air to prevent carbon dioxide build-up for up to five hours, assuming each person is resting and breathing at a normal rate.

## **During a Chemical Attack**

The following are guidelines for what you should do in a chemical attack.

### **If you are instructed to remain in your home or office building, you should:**

- Close and lock all windows and exterior doors.
- Turn off all ventilation, including furnaces, air conditioners, vents, and fans.
- Go to shelter in an internal room and take your Disaster Supplies Kit. Be sure you have a working battery-powered radio.
- Seal the room with duct tape and plastic sheeting. Use duct tape with a minimum thickness of 10 millimeters and pre-cut plastic sheeting with a thickness of 4 to 6 millimeters or greater to seal all cracks around doors, windows, and vents, and all wall plugs, switch plates, and cables.
- If you are told there is danger of explosion, close the window shades, blinds, or curtains.
- Call your emergency contact. Ideally your room will have a hard-wired telephone. Cellular telephone service may be overwhelmed or damaged during an emergency. You will need a working phone if you have to report a life-threatening emergency.

- Keep listening to your radio or television until you are told all is safe or you are told to evacuate. Local officials may call for evacuation in specific areas at greatest risk in your community.

**At home:**

- Close the fireplace damper.
- Bring your pets with you, and be sure to bring additional food and water for them.

**If you are caught in an unprotected area, you should:**

- Move away immediately.
- Get upwind of the contaminated area.
- Find shelter as quickly as possible.

**Using HEPA Filters**

HEPA filters may be useful in **biological attacks**. If you have a central heating and cooling system in your home with a HEPA filter, leave it on if it is running or turn the fan on if it is not running. Moving the air in the home through the filter will help remove the agents from the air. If you have a portable HEPA filter, take it with you to the internal room where you are taking shelter and turn it on.

If you are in an apartment or office building that has a modern central heating and cooling system, the system's filtration should provide a relatively safe level of protection from outside biological contaminants.

HEPA filters will not filter chemical agents.

(See ["Terrorism."](#))