

Hazardous Materials

Chemicals are found everywhere. They purify drinking water, increase crop production, and simplify household chores. But chemicals also can be hazardous to humans or the environment if used or released improperly. Hazards can occur during production, storage, transportation, use, or disposal. You and your community are at risk if a chemical is used unsafely or released in harmful amounts into the environment where you live, work, or play.

Hazardous materials in various forms can cause death, serious injury, long-lasting health effects, and damage to buildings, homes, and other property. Many products containing hazardous chemicals are used and stored in homes routinely. These products are also shipped daily on the nation's highways, railroads, waterways, and pipelines.

Chemical manufacturers are one source of hazardous materials, but there are many others, including service stations, hospitals, and hazardous materials waste sites.

Varying quantities of hazardous materials are manufactured, used, or stored at an estimated 4.5 million facilities in the United States--from major industrial plants to local dry cleaning establishments or gardening supply stores.

Hazardous materials come in the form of explosives, flammable and combustible substances, poisons, and radioactive materials. These substances are most often released as a result of transportation accidents or because of chemical accidents in plants.

What to do Before a Hazardous Materials Incident

Many communities have [Local Emergency Planning Committees](#) (LEPCs) whose responsibilities include collecting information about hazardous materials in the community and making this information available to the public upon request. The LEPCs also are tasked with developing an emergency plan to prepare for and respond to chemical emergencies in the community. Ways the public will be notified and actions the public must take in the event of a release are part of the plan.

Contact the LEPCs to find out more about chemical hazards and what needs to be done to minimize the risk to individuals and the community from these materials. Your local emergency management office can provide contact information on the LEPCs. [Find your state office or agency of emergency management](#)

You should add the following supplies to your disaster kit:

- Plastic sheeting
- Duct tape
- Scissors

What to do During a Hazardous Materials Incident

Listen to local radio or television stations for detailed information and instructions. Follow the instructions carefully. You should stay away from the area to minimize the risk of contamination. Remember that some toxic chemicals are odorless.

If you are:	Then:
Asked to evacuate	<p>Do so immediately.</p> <p>Stay tuned to a radio or television for information on evacuation routes, temporary shelters, and procedures.</p> <p>Follow the routes recommended by the authorities--shortcuts may not be safe. Leave at once.</p> <p>If you have time, minimize contamination in the house by closing all windows, shutting all vents, and turning off attic fans.</p> <p>Take pre-assembled disaster supplies.</p> <p>Remember to help your neighbors who may require special assistance--infants, elderly people and people with disabilities.</p>

Caught Outside	<p>Stay upstream, uphill, and upwind! In general, try to go at least one-half mile (usually 8-10 city blocks) from the danger area. Move away from the accident scene and help keep others away.</p> <p>Do not walk into or touch any spilled liquids, airborne mists, or condensed solid chemical deposits. Try not to inhale gases, fumes and smoke. If possible, cover mouth with a cloth while leaving the area.</p> <p>Stay away from accident victims until the hazardous material has been identified.</p>
In a motor vehicle	<p>Stop and seek shelter in a permanent building. If you must remain in your car, keep car windows and vents closed and shut off the air conditioner and heater.</p>
Requested to stay indoors	<p>Bring pets inside.</p> <p>Close and lock all exterior doors and windows. Close vents, fireplace dampers, and as many interior doors as possible.</p> <p>Turn off air conditioners and ventilation systems. In large buildings, set ventilation systems to 100 percent recirculation so that no outside air is drawn into the building. If this is not possible, ventilation systems should be turned off.</p> <p>Go into the pre-selected shelter room. This room should be above ground and have the fewest openings to the outside.</p> <p>Seal gaps under doorways and windows with wet towels or plastic sheeting and duct tape.</p> <p>Seal gaps around window and air conditioning units, bathroom and kitchen exhaust fans, and stove and dryer vents with duct tape and plastic sheeting, wax paper or aluminum wrap.</p> <p>Use material to fill cracks and holes in the room, such as those around pipes.</p> <p>If gas or vapors could have entered the building, take shallow breaths through a cloth or a towel. Avoid eating or drinking any food or water that may be contaminated.</p>

Shelter Safety for Sealed Rooms

Ten square feet of floor space per person will provide sufficient air to prevent carbon dioxide build-up for up to five hours, assuming a normal breathing rate while resting.

However, local officials are unlikely to recommend the public shelter in a sealed room for more than 2-3 hours because the effectiveness of such sheltering diminishes with time as the contaminated outside air gradually seeps into the shelter. At this point, evacuation from the area is the better protective action to take.

Also you should ventilate the shelter when the emergency has passed to avoid breathing contaminated air still inside the shelter.

What to do After a Hazardous Materials Incident

The following are guidelines for the period following a hazardous materials incident:

- Return home only when authorities say it is safe. Open windows and vents and turn on fans to provide ventilation.
- Act quickly if you have come in to contact with or have been exposed to hazardous chemicals. Do the following:
 - Follow decontamination instructions from local authorities. You may be advised to take a thorough shower, or you may be advised to stay away from water and follow another procedure.
 - Seek medical treatment for unusual symptoms as soon as possible.
 - Place exposed clothing and shoes in tightly sealed containers. Do not allow them to contact other materials. Call local authorities to find out about proper disposal.
 - Advise everyone who comes in to contact with you that you may have been exposed to a toxic substance.
- Find out from local authorities how to clean up your land and property.
- Report any lingering vapors or other hazards to your local emergency services office.