

# FLOODED AREA SAFETY AND SANITATION

**When flooding of an area has occurred, either due to heavy rains or sewer backups, important steps must be taken to assure the health and safety of individuals involved. It must be assumed during cleanup operations that all surfaces have been contaminated with disease-causing organisms. This important assumption must be considered in decisions involving personal safety of clean-up personnel as well as what items may be salvaged and what must be discarded.**

## PERSONAL PROTECTION

- Only individuals necessary for clean up should be in affected areas. **Persons with respiratory health problems (e.g. asthma, emphysema) should NOT perform the clean up.** Children and pets should not be allowed in these areas.
- Boots and rubber gloves should be worn at all times. In cases where rigorous splashing of contaminated water may occur, a dust mask and eye protection should also be worn.
- When using a bleach solution, open windows to provide good ventilation.
- At no time should cuts or open sores be left exposed.
- Do not smoke, eat, or drink during clean up.

## GENERAL SAFETY

- Be absolutely certain that there is no hazard of electrical shock! Wear rubber boots in wet areas until it is certain no electrical hazard exists.
- Turn off main switches and unplug electrical appliances in wet areas.
- Do not turn on any appliances that have become wet until they have been thoroughly dried and checked for proper operation.
- Do not use matches or any other open flame until the area has been thoroughly ventilated from natural gas. The gas supply to all appliances in flooded areas should be shut off until the appliance has been checked.

## CLEAN UP PROCEDURES

Bacteria, viruses, mold, fungi etc. must be killed in the clean up process. The most widely accepted, safe, and effective sanitizing agent is hypochlorite in the form of household bleach. For all following procedures the bleach solution referred to is one cup of bleach to one gallon of water. This will give a sufficient strength to kill organisms. Quaternary Ammonium based sanitizers - usually advertised as non-chlorine bleach sanitizers - are very effective in sanitizing and will not stain like bleach.

Time is an important consideration in clean up. Organisms to be killed will not become airborne as long as they remain wet. As long as surfaces remain wet, the only way organisms can enter the body and cause disease is by splashing into the mouth, eyes, open cuts, etc. Once dried, organisms can be spread on dust particles by air movement. It is, therefore, important to bring the bleach solution in contact with contaminated surfaces as soon as possible after rinsing off heavy soil. In order to prevent decomposition and rotting of wet items, immediate drying after disinfection is necessary.

Once the water has receded, the following steps should be taken:

- Assure that the above personal protection and general safety steps have been taken.
- Determine what items will have to be discarded and remove them for disposal. Generally, if the bleach solution can be made to come in contact with all surfaces, an item may be salvageable. Stuffed furniture, pillows, and mattresses will have to be discarded. Indoor/outdoor carpeting and rugs may be salvageable. Thick wall to wall carpets and padding will have to be discarded or professionally treated.
- Thoroughly rinse all visible soil from all items to be salvaged. Rinse the walls from several inches above the highest level the water reached to the floor. Carefully hose behind any base coping to remove all soil. Hose down the entire floor.
- Prepare the bleach solution of **one cup of household bleach to one gallon of water**. Smaller items may be immersed in this solution. Hand scrub larger items with the solution. Pour this solution on the walls several inches up from the highest level reached by the flood waters and over the entire floor. Make sure all affected surfaces have been contacted with the solution. An effective method is to use a broom or mop to splash the solution on the walls and over all of the floor.
- If water has reached more than a few inches up the walls, hollow walls will have to be opened. Cut off the portion of the drywall that has become wet. Saturate the remaining studs with the bleach solution.
- Using various methods, dry all surfaces as much as possible (the bleach solution needs 15 minutes to kill organisms). The wettest areas can be squeegeed or mopped to a floor drain. A wet/dry vacuum can be used on flat surfaces to further remove remaining water. Using fans and/or a dehumidifier, thoroughly ventilate the rooms to dry all surfaces.
- Indoor/outdoor carpeting and rugs need a very thorough treatment if they are to be safely salvaged. Remove them to a flat area such as a driveway. Hose down both sides of the carpet several times to thoroughly remove all soil. Follow this with several buckets of the bleach solution on each side, scrubbing with a broom. Then rinse both sides with clear water. Remove as much water as possible with a wet/dry vacuum and allow to thoroughly dry.
- Over the next weeks, replace disposable furnace filters or clean permanent filters with the bleach solution at least two times to reduce trapped mold spores.

If you have questions not covered here, please contact your city or county health departments.