



**FLOOD CLEANUP HEALTH TIPS**  
**DOUGLAS COUNTY HEALTH DEPARTMENT**

Food & Drink Section: 444-7480  
Sanitation Control: 444-7481  
Sanitary Engineering: 444-7485

In order to provide one convenient source of emergency health information for those who must return to, live in and salvage flood-stricken homes, the Douglas County Health Department has summarized and recommends the following Flood Cleanup Health Tips:

**DISINFECTING WATER**

All water possibly contaminated by flooding, whether from wells, springs or municipal water supplies, must be disinfected. Drinking water may be treated by one of the following methods:

- (1) Boil water for five (5) minutes in a clean container. The flat taste can be eliminated by shaking the water in a bottle or pouring it from one container to another.
- (2) Mix ½ teaspoon of liquid commercial laundry bleach with 2½ gallons of water and let stand for at least five (5) minutes before drinking.

Once flood waters have receded, wells, springs or cisterns should be adequately protected against all known sources of contamination before disinfecting the supply. To disinfect, mix two (2) quarts of liquid commercial bleach with ten (10) gallons of water and pour the contents down the well. Replace well cover and turn on the water tap until there is an odor of chlorine. Turn off the water and do not use it for eight (8) hours. Then open all taps and spigots and flush out the chlorine. Keep flushing until the chlorine odor has disappeared.

\*Note: It is preferable to use the well disinfection method using Calcium Hypochlorite described on Page 5. If this solution is not available, household chlorine bleach may be used.

**SALVAGING DAMAGED FOODS**

To prevent foodborne illness, diarrheal diseases and dysentery, the following items should be destroyed if they have been exposed to flood waters: Fresh meats and poultry; prepared and processed foods; home canned foods; medicines and cosmetics; and packages that are not hermetically sealed (airtight), including flour, packaged frozen foods and other commodities in bags.

Throw out foods needing refrigeration if the refrigerator has been out for more than six (6) hours. Don't refreeze frozen foods which have thawed. Throw them out if they have been thawed more than four (4) hours. Call the Health Department if there is any question.

Since seepage can carry harmful bacteria into all but airtight containers, the contents of crown-capped bottles and screw-top glass containers (including canned food in glass jars) should be destroyed. Sealed metal cans that are punctured or leaking are unsafe.

If airtight cans are in good condition, they can be salvaged. However, they must be carefully cleaned and disinfected before using the contents. Follow this procedure:

- (1) Remove labels. Keep the same kinds of foods together, or mark them in a way that will enable you to identify them after disinfection. Colored crayons or adhesive tape may be used.
- (2) Wash cans in warm water containing soap or detergent.
- (3) Soak the cans for at least one minute in a disinfecting chlorine solution made by mixing four (4) tablespoons of liquid chlorine bleach with two (2) gallons of water. Rinse in clean, cool water that has been boiled for at least five (5) minutes.

### **INSECT AND RODENT CONTROL**

To guard against a possible influx of rats, flies and mosquitoes in flood-damaged areas, the following precautions should be taken:

- (1) Clean up all debris and refuse as soon as possible.
- (2) Properly store all usable food.
- (3) Place garbage and all spoiled food in secure, fly-tight and rat-tight containers while waiting for collection.
- (4) Suspend garbage containers from a tree or post if rats are seen in the area.
- (5) Make necessary repairs in all window and door screening.
- (6) Dump any containers holding water and eliminate any standing pools of water around the home.

### **CLEANING CLOTHING AND BEDDING**

Since disease-producing bacteria often carried by floodwaters can remain alive in and on fabrics for long periods, care in laundering clothing and bedding is essential.

First, brush off all dirt and, if mud-stained, rinse in cool water until as much mud as possible is removed. Then wash as usual, using enough detergent to keep soil from redepositing on fabrics.

The use of a disinfectant in the rinse water is especially recommended to destroy bacteria. Two types of disinfectants are effective, such as Lysol and Clorox (liquid chlorine bleach).

Mattresses soaked with floodwater should be discarded; reconditioning is too difficult to be done at home.

### **ENTERING DAMAGED BUILDINGS**

If there are any doubts about the safety of a building which has been flooded, do not enter it. Seek professional advice first.

When you do enter a damaged building, check it for buckled walls, loose bricks, cracks, or any shifting of the foundation.

Do not pump flooded basements out too quickly, because the water-saturated ground around the basement could push the walls in.

Follow the instructions of your utility company concerning the restoration of gas or electrical services.

## **PERSONAL HYGIENE**

Several simple rules of personal cleanliness should be followed:

- (1) Wash hands with soap and water after using the toilet or participating in flood clean-up and handling food.
- (2) Use boiled or disinfected water for brushing teeth.

## **SAFETY PRECAUTIONS**

During the urgency of clean-up time, people are often inclined to overlook proper safety measures. Below are a few reminders:

- (1) Set priorities; accomplish the vital tasks first and avoid physical overexertion.
- (2) Regardless of the crisis, be sure children are safe and being cared for at all times. Never leave them alone or allow them to play in flood-damaged buildings or areas that might be unsafe.
- (3) Give special attention to cleaning children's toys, cribs, playpens and play equipment. Items a baby or toddler may put in his/her mouth should be boiled. Discard all stuffed toys and those that are water logged or not easily cleanable.
- (4) Keep chemicals used for disinfection and poisons for insect and rodent control out of the reach of children.
- (5) Wear protective clothing covering limbs, feet and hands while cleaning up debris and rubber gloves while scrubbing flood-damaged interiors and furniture.
- (6) Be sure electrical appliances are dry and in good condition before using.

## **MEDICINES**

Discard all medicines exposed to flood waters and have all needed prescriptions refilled as soon as possible.

## **CLEANING OF COOKING AND EATING UTENSILS**

Dishes, pots and pans that have been covered by flood waters should be carefully washed and disinfected before use. Wash everything in hot, soapy water using a brush, if necessary, to remove dirt. Rinse everything thoroughly in safe water, then disinfect by immersing for one minute in a chlorine solution made up of two (2) Tablespoons of liquid household bleach in three (3) gallons of water.

Pots and pans can be sterilized by boiling for at least ten (10) minutes. Dishes with cracks should be thrown away.

## **FOOD PREPARATION**

Here are a few hints to ensure safe and easier meals:

- (1) Boil all water used in food preparation at least five (5) minutes.
- (2) Wash hands and cooking utensils in a disinfecting solution made by mixing two (2) teaspoons of liquid commercial laundry bleach with each one (1) gallon of clean water, or two (2) Tablespoons of liquid commercial laundry bleach in three (3) gallons of clean water.
- (3) Conserve fuel, water and energy, as well as the number of cooking and serving utensils, by preparing casseroles and one-dish meals, such as stews, pot roast and thick, nourishing soups.
- (4) Save the liquids of canned vegetables. Substitute them for water in recipes for soups, stews and other cooked dishes.

- (5) Drain and save juices from canned fruits. They may be mixed and combined with other canned fruit juices and used as beverages and in making gelatin salads or desserts, instead of scarce water.
- (6) If your oven is in working condition, use it to cook stews, vegetables and other foods. Oven cooking will require less attention and free you to do other tasks while the meal cooks.
- (7) If you lack refrigeration, cook only as much as can be eaten at one meal. If you have refrigeration, save time by preparing food for several meals in advance.
- (8) When purchasing formula ingredients, evaporated or dry skim milk for infants, be sure the containers are sealed. After opening in the home, be sure they are tightly covered to prevent contamination. In the absence of refrigeration, make up only enough formula for immediate use.
- (9) Avoid foods that are subject to quick spoilage and bacterial contamination, such as creamed foods, hash, custards and pies, salads and sandwiches mixed with mayonnaise or other perishables, unless refrigeration is available.
- (10) Hash, croquettes, meat pies and ground meats are easily spoiled and contaminated. If used, they should be served promptly.
- (11) Avoid keeping prepared or cooked food at room temperature. Keep hot foods hot and cold foods cold.

In general, commercially canned and packaged foods are recommended:

- Canned dried milk
- Canned meats, fish, poultry
- Canned or packaged staples
- Canned fruits or vegetables
- Canned juices
- Packaged, dried or dehydrated foods
- Canned or packaged biscuits, breads, crackers, cookies

## **TETANUS IMMUNIZATIONS**

You should check your tetanus vaccination history if you are working or wading in flood waters, and get a vaccination if you have not had one in the last ten years or do not know when you had your last vaccination. However, flood water itself does not put you at risk of getting tetanus.

The concern is that the work done in responding to or cleaning up after a flood, or any disaster, is likely to increase your chances of being injured.

If you are injured, especially with an open wound, cut or puncture, you should be seen and evaluated by a physician. You should get a tetanus shot if you have been injured and your last tetanus shot was more than five years ago, or if you are injured and do not know the last time you had a tetanus shot.

## WELL DISINFECTION

Calcium hypochlorite (containing approximately 65-70% available chlorine)

Brand Names: HTH (Owen Company); Sun (Sun Company); Free Style (Harcos Company)  
Available in Granular or Tablet form

Can be purchased at:

- Hardware stores
- Swimming pool equipment supply outlets
- Chemical supply houses

Dose: 100 mg/1 available chlorine  
= 2 oz. of dry chemical/100 gallons of water to be disinfected

Stock solution:

- 2 oz. hypochlorite in two (2) quarts of water
- Mix with a small amount of water first and stir to a smooth watery paste free of lumps.
- Then mix with remaining water.
- Stir stock solution thoroughly for 10-15 minutes prior to allowing the inert ingredients to settle.
- The clearer liquid containing the chlorine should be used and the inert material discarded.
- Each two (2) quarts of stock solution will provide a concentration of approximately 100 mg/1 when added to 100 gallons of water.
- Solution should be prepared in a clean container. Avoid metal containers, which can be corroded by strong chlorine solutions. Crockery, glass or rubber-lined containers are recommended.
- One heaping Tablespoon of granular calcium hypochlorite weighs approximately one-half (½) ounce.
- Stock solution should be stored in a cool place in dark glass or plastic bottles with airtight cap.

After disinfection, pump the well until the odor of chlorine can no longer be noticed in the discharged water.

\*For additional information, please contact the Douglas County Health Department at 444-7485.