

# Cleaning Flood-damaged Homes

## Caution!

1. Inspect for structural and electrical damage before entering to make sure it's safe.
2. Electrical safety is extremely important with floods. Check for fire hazards and gas leaks. Use battery-powered light sources.
3. Never mix chlorine bleach with ammonia or vinegar.
4. Wear sturdy shoes, rubber gloves and eye protection.
5. Watch for fire ants and animals.
6. If there is mold, wear a respirator that can filter spores (minimum rating of N-95).

## First Steps

Ensure everyone is out of danger from new flood crests, fire and falling buildings. Assume floodwaters and flooded materials are contaminated.

## Flood Insurance Claims

1. Contact your insurance adjuster immediately.
  - a. Begin cleanup, salvage and drying as soon as possible. Do not wait for adjuster. Take photos to document damage. All steps suggested in these "first steps" can be taken before adjuster arrives.
  - b. Clean house so adjuster can see structural damage. Keep damaged materials for proof of loss.
  - c. Leave phone number where you can be reached when adjuster arrives.
  - d. Adjuster will assess damage to house. Owner should sign proof-of-loss statement. Additional damage can be added when found.
2. Contact governmental offices for information.
  - a. LSU AgCenter Cooperative Extension Service office (may be listed as County Agent's Office or LSU AgCenter in parish government section of your phone directory – or find locations at [www.LSUAgCenter.com](http://www.LSUAgCenter.com)).
  - b. Parish Emergency Management Office
  - c. FEMA TeleRegistration Hotline, 800-621-3362.

## Electrical Systems

3. Be sure all electric and gas services are turned off before entering premises for the first time.
  - a. Disconnect main electrical switch and all circuits.
  - b. Remove covers from all outlets and fuse or breaker boxes and flush with clean water.
  - c. Let dry and spray with contact cleaner/lubricant. If flooded in saltwater, wiring should be replaced.
  - d. Have electrician check for shorts and other unsafe conditions before reconnecting system.

## Food and Water Sanitation

4. Until your local water company, utility or public health department declares your water source safe, purify water for drinking, cooking and washing any part of the body or dishes.
  - a. **Water:** Strain water through a clean cloth or filter. Then boil water vigorously for a full minute. Let cool. If

boiling is not possible, use fresh, unscented liquid chlorine bleach (16 drops or 1/8 teaspoon per gallon of clear water; 1/4 teaspoon per gallon of cloudy water), stir and let stand 30 minutes. Iodine and purification tablets are not recommended.

- b. **Food:** Because of risk of contamination, discard all food that came in contact with floodwater, including canned goods. Discard perishable foods that have been above 40 degrees F for more than two hours.
- c. **Utensils:** Discard flood-contaminated wooden cutting boards and spoons, plastic utensils, baby bottles, nipples and pacifiers. Thoroughly wash metal and ceramic pans, utensils and dishes with hot, soapy water and sanitize by boiling them in clean water or by immersing them for 15 minutes in a solution of 1 teaspoon chlorine bleach per quart of water.

## Furnishings and Carpets

5. Remove all furniture, bedding and carpeting to outside to be cleaned and dried (or discarded).
  - a. Flooded carpets and rugs are best replaced since floodwater may contain contaminants. Flooded carpet pads must always be discarded and replaced. Moldy carpets and rugs should be discarded.
  - b. Remove waterlogged rugs, carpets and pads within 48 hours after flooding subsides.
  - c. If salvage of valuable rugs is attempted, spread them out outside. Hose off. If soiled, professionally clean or work in disinfecting carpet shampoo with a broom. Rinse well with solution of 1 gallon water and 2 tablespoons liquid household chlorine bleach to sanitize (if colorfast) – or use hydrogen peroxide. If carpet is wool, do not add bleach.
  - d. Dry carpets and subfloors thoroughly as quickly as possible. If carpeting is installed while anything is still damp, it may mildew. Carpets might shrink, but a professional may be able to stretch them.

## Walls\*

6. Open flooded walls, even if they appear undamaged, to prevent mold, odor and structural decay.
  - a. Remove water from structure as rapidly as possible. Ventilate.
  - b. Remove baseboards and trim bottom of wallboard to drain walls that don't contain insulation. If needed, flush to remove silt.
  - c. Remove interior surface of insulated walls to a point above water height. Undamaged wood paneling may be reinstalled after cleaning.
  - d. Remove and discard all wet fibrous insulation.
  - e. Clean out silt. If wood is moldy, clean with a phosphate-free cleaner. Wall studs and plates may be sprayed with disinfectant (1 cup bleach per gallon of water or a commercial disinfectant product) to kill bacteria and remaining fungi. Caution: Disinfectants are hazardous, too.
  - f. Consider coating wood with borate spray to deter termites and fungi.

- g. Speed dry with dehumidifiers, fans and air conditioners or heaters, as soon as power is restored.
- h. Do not restore walls until they have thoroughly dried (wood moisture is less than 20 percent).
- i. Select replacement materials that will withstand future floods (such as closed cell rigid or spray foam insulation, removable wainscoting, paperless drywall, ceramic tile, etc.).

## Next Steps

7. Long-term flooding or wetness is likely to ruin most interior finishes and contents, but the next steps may be possible when flooding is short-term and cleanup begins promptly. Delay permanent repairs until the building is thoroughly dry.

### Subfloors

- a. Layers of submerged plywood or oriented-strand-board subfloors will likely separate or swell. Affected sections must be replaced to keep new floor covering from buckling.
- b. When floor coverings are removed, allow subflooring to dry thoroughly (which may take months without a dehumidifier). Check for warping before installing new flooring.

### Wood Floors

- c. Carefully remove a board every few feet to reduce buckling caused by swelling. If boards are tongue-and-grooved, consult a carpenter or flooring professional.
- d. Clean and dry floor thoroughly before replacing boards and attempting repairs. Solid wood may shrink back and be restorable.

### Tile and Sheet Flooring

- e. If submerged wood subfloor swells or separates, flooring will need to be removed. (Asbestos tiles should be removed only by a trained professional.)
- f. If subflooring is concrete, removal of floor covering will hasten drying of slab but might not be necessary if it would ruin an otherwise unharmed material.
- g. If water has seeped under loose sections of sheet flooring, remove entire sheet.
- h. Ease of flooring removal depends on type of material and adhesive. Contact a reputable dealer to find out what product and technique (if any) will loosen the adhesive.

## Cleaning Wall Finishes, Woodwork and Floors\*

8. To reduce mold and damage, clean and dry as soon as floodwaters recede.
- a. Use phosphate-free, all-purpose or disinfecting cleaner. Wash from top to bottom. Rinse with clean water.
  - b. One-half cup of household chlorine bleach to a gallon of water may be used on nonmetallic, colorfast surfaces as a disinfectant after cleaning, but it will not prevent new mold growth on materials that stay damp.
  - c. Dry thoroughly and quickly. If utilities are on, use air conditioning or heating system, fans and a dehumidifier or desiccants to speed drying.

## Appliances and Equipment

9. Clean and dry submerged household appliances.
- a. With electricity or fuel turned off, unplug appliances and open or expose as many areas as possible. Rinse or wipe clean and let dry.
  - b. Tilt to drain and aid quick drying. (Three to seven days are necessary for drying.)
  - c. Appliance repair professionals should inspect salvaged appliances before reconnecting any of them, but many appliances can be saved.

## Furniture

10. Take furniture outside to clean.
- a. Brush off mud. All parts (drawers, doors, etc.) should be removed. Remove or cut hole in back to push out stuck drawers and doors. Discard flooded padding.
  - b. Use commercial furniture-cleaning products designed for the type of material. Do not refinish or wax until thoroughly dry.
  - c. Dry slowly out of direct sunlight, because the sun's rays will warp furniture. It may take several weeks to several months to dry.
  - d. Remove and discard flooded upholstery and padding.

## Preventing Mold

11. Aggressively control mold in the weeks and months after the flood.
- a. When power is available, continuously use air conditioning (or heating in winter) plus a dehumidifier, if possible, to remove humidity.
  - b. In a structure without air conditioning, open windows and use fans to circulate air.
  - c. Turn on electric lights in closets and leave doors open to facilitate drying.
  - d. Try to reduce activities that add moisture to the indoor air. Use exhaust fans when cooking and bathing.

## Removing Mildew from Household Articles

12. Avoid disturbing and spreading mold spores indoors. Clean mildewed items outside. Learn and take precautions to minimize exposure to mold. Visit [www.epa.gov/mold](http://www.epa.gov/mold) and [www.LSUAgCenter.com](http://www.LSUAgCenter.com) for more information.
- a. Use a HEPA vacuum, if available, to remove visible mold growth. Discard vacuum bag. Otherwise, wipe with damp paper towels, seal used paper towels in plastic bags and discard.
  - b. Dry items in the sun if possible.
  - c. Sponge any remaining mildew with thick suds or commercial cleaner designed for the type of material. Wipe with a clean, barely damp cloth.
  - d. Wipe mildew-stained areas with cloth dampened with diluted alcohol (1 cup rubbing or denatured alcohol to 1 cup water). Dry thoroughly.

For more information, visit [www.LSUAgCenter.com](http://www.LSUAgCenter.com). Click on Family and Home or contact your local LSU AgCenter Cooperative Extension Service office.

\*Caution! Do not sand or scrape lead-based paint. Get more information before disturbing old paint. Hire only firms certified in lead removal if paint will be disturbed in structures built prior to 1978.

Prepared by LSU AgCenter/Louisiana Cooperative Extension Service Disaster Preparedness Task Force. Revised by Claudette H. Reichel, Ed.D., Professor and Extension Housing Specialist

Visit our website: [www.lsuagcenter.com](http://www.lsuagcenter.com)

**Louisiana State University Agricultural Center**

William B. Richardson, Chancellor

**Louisiana Agricultural Experiment Station**

David J. Boethel, Vice Chancellor and Director

**Louisiana Cooperative Extension Service**

Paul Coreil, Vice Chancellor and Director

Pub. 2267 08/10 Rev.

The LSU AgCenter provides equal opportunities in programs and employment.