

# Mercury Releases And Spills

<http://www.epa.gov/hg/spills/>

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## Mercury

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## Mercury Releases and Spills

You can prevent potential mercury exposure to you and your environment by:

- storing and handling responsibly products that contain mercury;
- following our tips when cleaning up mercury spills; and
- recycling or otherwise properly disposing of products that contain mercury.

### Cleaning Up Spills

- What never to do after a mercury spill
- What to do if a thermometer breaks
- Other mercury spills
  - More than the amount in a thermometer, but less than one pound, which is about two tablespoons
  - More than two tablespoons (one pound)

Learn about the cleanup and safe disposal of compact fluorescent light bulbs



### Storing, Transporting and Disposing of Mercury

- What to do if you have mercury in your home
- Packaging mercury for storage and transportation
- Recycling and disposal Options

### Hazardous Waste Site Cleanup

- Cleaning up Superfund and other hazardous waste sites where mercury is present
- Mercury Response Guidebook (for emergency responders)

## Cleaning Up Spills

### What Never to Do After a Mercury Spill

- **Never** use a vacuum cleaner to clean up mercury. The vacuum will put mercury into the air and increase exposure.
- **Never** use a broom to clean up mercury. It will break the mercury into smaller droplets and spread them.
- **Never** pour mercury down a drain. It may lodge in the plumbing and cause future problems during plumbing repairs. If discharged, it can cause pollution of the septic tank or sewage treatment plant.
- **Never** wash clothing or other items that have come in direct contact with mercury in a washing machine, because mercury may contaminate the machine and/or pollute sewage. Clothing that has come into direct contact with mercury should be discarded. By "direct contact," we mean that mercury was (or has been) spilled directly on the

clothing, for example, if you break a mercury thermometer and some of elemental mercury beads came in contact with your clothing.

- **Never** walk around if your shoes might be contaminated with mercury. Contaminated clothing can also spread mercury around.

## What to Do if a Mercury Thermometer Breaks

**NOTE: these instructions also apply to spills from other sources, if the amount spilled is less than or similar to the amount in a thermometer (see specific information about how to clean up broken fluorescent bulbs)**

- Have everyone else leave the area; don't let anyone walk through the mercury on their way out. Make sure all pets are removed from the area. Open all windows and doors to the outside; shut all doors to other parts of the house.
- DO NOT allow children to help you clean up the spill.
- Mercury can be cleaned up easily from the following surfaces: wood, linoleum, tile and any similarly smooth surfaces.
- If a spill occurs on carpet, curtains, upholstery or other absorbent surfaces, these contaminated items should be thrown away in accordance with the disposal means outlined below. Only cut and remove the affected portion of the contaminated carpet for disposal.

### Items needed to clean up a small mercury spill

1. 4-5 ziplock-type bags
2. trash bags (2 to 6 mils thick)
3. rubber, nitrile or latex gloves
4. paper towels
5. cardboard or squeegee
6. eyedropper
7. duct tape, or shaving cream and small paint brush
8. flashlight
9. powdered sulfur (optional)

## Cleanup Instructions

1. Put on rubber, nitrile or latex gloves.
2. If there are any broken pieces of glass or sharp objects, pick them up with care. Place all broken objects on a paper towel. Fold the paper towel and place in a zip lock bag. Secure the bag and label it as directed by your local health or fire department.
3. Locate visible mercury beads. Use a squeegee or cardboard to gather mercury beads. Use slow sweeping motions to keep mercury from becoming uncontrollable. Take a flashlight, hold it at a low angle close to the floor in a darkened room and look for additional glistening beads of mercury that may be sticking to the surface or in small cracked areas of the surface. Note: Mercury can move surprising distances on hard-flat surfaces, so be sure to inspect the entire room when "searching."
4. Use the eyedropper to collect or draw up the mercury beads. Slowly and carefully, squeeze mercury onto a damp paper towel. Place the paper towel in a zip lock bag and secure. Make sure to label the bag as directed by your local health or fire department.

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5. After you remove larger beads, put shaving cream on top of small paint brush and gently "dot" the affected area to pick up smaller hard-to-see beads. Alternatively, use duct tape to collect smaller hard-to-see beads. Place the paint brush or duct tape in a zip lock bag and secure. Make sure to label the bag as directed by your local health or fire department.

6. **OPTIONAL STEP:** It is **OPTIONAL** to use commercially available powdered sulfur to absorb the beads that are too small to see. The sulfur does two things: (1) it makes the mercury easier to see since there may be a color change from yellow to brown and (2) it binds the mercury so that it can be easily removed and suppresses the vapor of any missing mercury. Where to get commercialized sulfur? It may be supplied as mercury vapor absorbent in mercury spill kits, which can be purchased from laboratory, chemical supply and hazardous materials response supply manufacturers.

**Note:** Powdered sulfur may stain fabrics a dark color. When using powdered sulfur, do not breathe in the powder as it can be moderately toxic. Additionally, users should read and understand product information before use.

7. If you choose not to use this option, you may want to request the services of a contractor who has monitoring equipment to screen for mercury vapors. Consult your local environmental or health agency to inquire about contractors in your area. Place all materials used with the cleanup, including gloves, in a trash bag. Place all mercury beads and objects into the trash bag. Secure trash bag and label it as directed by your local health or fire department.

8. Contact your local health department, municipal waste authority or your local fire department for proper disposal in accordance with local, state and federal laws.

9. Remember to keep the area well ventilated to the outside (i.e., windows open and fans in exterior windows running) for at least 24 hours after your successful cleanup. Continue to keep pets and children out of cleanup area. If sickness occurs, seek medical attention immediately. View information on health effects related to exposures to vapors from metallic mercury. For additional information on health effects, the Agency for Toxic Substances and Disease Registry (ATSDR) provides a Mercury Fact Sheet ~~EXIT Disclaimer~~ that also presents information on health effects related to exposures to vapors from metallic mercury.

**Recommendation:** If there are young children or pregnant women in the house, seek additional advice from your local or state health or state environmental agency.

## **Spills of More than the Amount in a Thermometer, but Less Than or Similar to Two Tablespoons (One Pound)**

### **Cleanup Instructions**

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1. Have everyone else leave the area; don't let anyone walk through the mercury on their way out.
  2. Open all windows and doors to the outside.
  3. Turn down the temperature.
  4. Shut all doors to other parts of the house, and leave the area.  
*Don't vacuum.*
  5. Call your local or state health or environmental agency.

## Spills of One Pound or More (i.e., if it Looks like Two Tablespoons or More)

Any time one pound or more of mercury is released to the environment, it is mandatory to call the National Response Center (NRC). The NRC hotline operates 24 hours a day, 7 days a week. Call (800) 424-8802. Note that because mercury is heavy, only two tablespoons of mercury weigh about one pound.

## Storing, Transporting and Disposing of Mercury

### What to Do if You Have Mercury in Your Home

Many people have containers of elemental mercury in their homes left over from science projects or other sources. If you have elemental mercury in your home, you need to exercise extreme caution with it and package it to prevent any leaks or spills. See the next two sections of this page to find how to package, transport and dispose of mercury.

### Packaging Mercury for Storage and Transportation

- All mercury-containing products or containers of mercury should be placed inside a larger container with a tight fitting lid.
- Kitty litter or oil-absorbent matter should be placed around the product to protect it from breaking or sudden shocks.
- Clearly label storage container as "Mercury - DO NOT OPEN."
- If you must wait for a hazardous waste collection day, store products safely in their original containers with the labels intact, and keep them out of reach of children and pets.
- Transport container to a household hazardous collection center in a cardboard box. Secure them so that they do not tip over. This will minimize shifting or sliding during sudden stops or turns.
- Transport containers in the back of a pick-up truck or in a car trunk. If you must transport in the passenger compartment, make sure there is adequate ventilation.

### Recycling and Disposal Options

Many states and local agencies have developed collection/exchange programs for mercury-containing devices such as thermometers, manometers, and thermostats. Some counties and cities also have household hazardous waste collection programs. For information about these programs, contact your local officials to find out when and where a collection will be held in your area. Earth911 also provides information about local collection programs. EXIT Disclaimer For information on recycling compact fluorescent light bulbs (CFLs) and other mercury-containing bulbs, see Recycling and Disposal After a CFL Burns Out.

**Resource Conservation and Recovery Act (RCRA) recycling and disposal requirements that apply to business and industry.** Under RCRA, some widely generated hazardous wastes, including mercury-containing wastes like certain spent batteries, thermostats, barometers, manometers, temperature and pressure gauges, certain switches and light bulbs, are designated as "universal wastes". Businesses and industries that qualify as universal waste handlers must follow specific requirements for storing, transporting and disposing of these wastes. Households are exempt from these regulations. Find more information about universal wastes and the RCRA regulations that apply to them.

Note that some states and local jurisdictions have elected to pass regulations that are more stringent than the federal hazardous waste regulations. Several states and municipalities do not recognize the exemption for households; others regulate all fluorescent bulbs as hazardous, regardless of their mercury content. For example, Vermont bans all mercury-containing waste from landfills, including mercury-containing waste generated by households. For more information specific to your state, visit [Earth911.com](http://Earth911.com) EXIT Disclaimer to contact your local waste collection agency, which can tell you if such requirement exists in your state or locality.

## Hazardous Waste Site Cleanup

### Cleaning Up Superfund and Other Hazardous Waste Sites Where Mercury is Present

At site cleanups of active facilities or abandoned hazardous waste sites, mercury presents significant environmental challenges because it is difficult to treat, exists in many different forms, is volatile, and can be difficult to analyze. Some mercury contamination sites are also contaminated with oils, radioactive materials and organic compounds that present technical challenges.

Cleaning up mercury contamination at active facilities or at abandoned hazardous waste sites and preparing the land for redevelopment or redeployment happens in a variety of EPA programs. EPA is improving the coordination, speed, and effectiveness of cleanups at the nation's contaminated sites through the One Cleanup Program. This Program is EPA's vision for how different cleanup programs at all levels of government can work together to meet that goal — and ensure that resources, activities, and results are effectively coordinated and communicated to the public. EPA accomplishes this work in partnership with state, local and tribal governments and responsible parties. View more information about the various cleanup programs managed by EPA:

#### EPA Cleanup and Redevelopment Programs

- Superfund is the Federal government's program to clean up the nation's uncontrolled hazardous waste sites.
- RCRA Corrective Action is the program responsible for the cleanup of hazardous waste contamination that may occur as a result of accidents or other activities at active facilities managing hazardous wastes. EPA has authorized most states to implement the Corrective Action Program, and they use it as a tool to address the cleanup and revitalization of our nation's hazardous waste sites.
- The Federal Facilities Restoration and Reuse Program facilitates cleanups at federal facilities, such as Department of Defense and Department of Energy properties.
- EPA's Brownfields program facilitates assessment and cleanup of abandoned or under-utilized sites where actual or potential contamination and liability may be impeding development.
- EPA develops more effective, less costly technologies to assess and clean up contaminated waste sites, soil, and groundwater.
- EPA implements portions of the Emergency Planning and Community Right-to-Know Act (EPCRA). EPCRA establishes requirements for federal, state and local governments, Indian tribes and industry regarding emergency planning and "Community Right-to-Know" reporting on hazardous and toxic chemicals.

## Mercury Response Guidebook (for Emergency Responders)

The *Mercury Response Guidebook*, by EPA's Emergency Response Team and EPA's Region 5 office in Chicago, is designed to assist emergency and remedial professionals coordinate and clean up indoor mercury spills. The principles in this guidebook can also be used at other mercury-contaminated sites.

### Contents:

- **Cover, Inside Cover (PDF)** (2 pp, 2.03MB)
- **Table of Contents, Preface (PDF)** (6 pp, 1.26MB)
- **Section 1: General Information (PDF)** (3 pp, 70K)
- **Section 2: Referral (PDF)** (7 pp, 1.91MB)
- **Section 3: Reconnaissance (PDF)** (13 pp, 1.12MB)
- **Section 4: Relocation (temporary) (PDF)** (11 pp, 604K)
- **Section 5: Removal (PDF)** (27 pp, 3.37MB)
- **Section 6: Replacement/Reimbursement and Restoration (PDF)** (7 pp, 486K)
- **Section 7: Reoccupation (PDF)** (5 pp, 152K)

You will need the free Adobe Reader to view some of the files on this page. See EPA's PDF page to learn more.

### Attachments:

- **Attachment A (PDF)**: Speech Notes on Indoor Air Quality and Elemental Mercury from Thomas A. Baughman, Ph.D. (Illinois Department of Public Health) (19 pp, 110K)
- **Attachment B (PDF)**: Guidelines for Responding to Mercury Spills and Releases in Schools and Residences (10 pp, 101K)
- **Attachment C (PDF)**: EPA letter to State EPA and Health Departments - Mercury Response Matrix (4 pp, 95K)
- **Attachment D (PDF)**: EPA Emergency Response Team's modification of the National Institute for Occupational Safety and Health (NIOSH) Method 6009 (20 pp, 559K)
- **Attachment E (PDF)**: ATSDR Suggested Action Levels for Indoor Mercury Vapors in Homes or Businesses with Indoor Gas Regulators (5 pp, 282K)