

SOUTH PORTLAND FIRE DEPARTMENT

STANDARD OPERATING GUIDELINES

SOG #:	6.617	Effective Date:	2/17/2022
Title:	Response to a Mercury Release	# of pages:	4
Category:	Hazardous Materials Response	Classification:	Red

1. **PURPOSE:** This Standard Operating Guideline (SOG) defines and describes how the South Portland Fire Department (SPFD) will respond when a mercury release occurs at a commercial facility or in a residential setting, including the interior of apartments.

2. **PROCEDURES:**

Facts about Mercury:

There are three types of mercury; the two most common types are elemental and inorganic mercury.

Elemental Mercury (Hg^0): The most common sources of elemental mercury are blood pressure cuffs, oral and rectal thermometers, and in laboratories. Elemental mercury could also be found in the same processes where inorganic mercury may be used (see below).

Symptoms of initial toxic exposure to elemental mercury include fever, chills, dyspnea, and headache within several hours. Emergency care is supportive with transport to a hospital.

Inorganic Mercury (HG^+ , HG^{++}): The most common sources of inorganic mercury are scientific instruments, electrical equipment, felt making, and the manufacturing of caustic soda and disc batteries (watches).

Acute effects include, but are not limited to, burning mouth, sore throat, nausea and vomiting with severe gingivitis. Emergency care is supportive with transport to a hospital.

The third type of mercury and the least common is:

Organic Mercury (CH_3Hg): The most common sources of organic mercury are in mining, smelting, or refining operations.

Symptoms include, but are not limited to, hearing defects and loss of concentration.

Mercury Release at a Commercial Facility:

Initial Action Required by Fire Department/IC

- Upon the arrival of Fire Department units, Command should:
 - Contact the on-site responsible party
 - Determine the amount of mercury released
 - Determine the mercury source and, if possible, secure the source to prevent further mercury loss
 - Determine the size of affected area

**AT NO TIME SHALL THE FIRE DEPARTMENT
ATTEMPT TO CLEAN UP A MERCURY RELEASE!!!**

- Command is also responsible to:
 - **EVACUATE** the affected area/building
 - **ISOLATE** the affected area utilizing hazard line tape
 - **DENY ENTRY**
 - Request, through Dispatch, that **MAINE DEP** personnel respond

To reduce the possibility of contamination to Fire Department personnel, FIRE DEPARTMENT MEMBERS:

- WILL NOT ENTER THE REPORTED SPILL AREA, UNLESS FOR RESCUE OR TREATMENT.
- Shoes, carpet, etc., are easily contaminated. Not entering the reported spill area will reduce the potential spreading of the mercury.
- WILL NOT ATTEMPT TO CLEAN UP EVEN THE SMALLEST AMOUNT OF MERCURY RELEASED OR ANY OTHER HAZARDOUS MATERIALS RELEASE.
- WILL NOT TAKE POSSESSION OF THE MERCURY.
EXCEPTION:
 - When a resident brings mercury to the fire station, personnel may take possession of the mercury.
 - Fire Department members shall not take possession of mercury generated from a commercial business.
- WILL NOT TRANSPORT ANY QUANTITY OF MERCURY, OR ANY OTHER HAZARDOUS MATERIALS.

Known/Suspected Contaminated Persons

Until proven otherwise through appropriate meter readings, Command shall isolate persons who are suspected to be contaminated.

Based on the contractor's meter readings, the contractor may require:

- Decontamination; or
- Clean clothing be provided for the known/suspected contaminated persons.

Known/Suspected Contaminated Clothing, Shoes, Miscellaneous Items

Based on test results, the contractor, not the Fire Department, shall determine when removal of contaminated items and confiscation of contaminated items may be necessary.

In the event clothing, shoes, jewelry or miscellaneous items, are removed from a person, place the items in a plastic bag, tie off, and place a name tag on the bag identifying the owner's name. DO NOT USE BIOHAZARD BAGS BECAUSE THE CONTRACTORS CANNOT ACCEPT IT; THERE ARE DIFFERENT FEDERALLY MANDATED DISPOSAL REQUIREMENTS THAT MUST BE COMPLIED WITH RELATING TO MERCURY AND BIO-HAZARDOUS WASTE.

In addition, based on meter readings, decontamination may be required, at which time the Fire Department's decontamination procedures shall be initiated.

Mercury Release in a Residence:

It has been determined that any mercury release that occurs in a residence, including the interior of apartments, is household hazardous waste. This does not, however, eliminate the need for response, evaluation of the hazard, and educating the homeowner/occupant.

Note: A mercury release in common public areas such as pool-side or exit corridors at apartment complexes, condominiums, etc. would require compliance with the commercial facility section of this management procedure.

When responding to the report of a mercury release in a residence, including the interior of apartments, the Fire Department shall:

- Upon the arrival, Incident Command shall:
 - Contact the homeowner/occupant
 - Determine the mercury source and the amount released
 - Determine the size of affected area

AT NO TIME SHALL THE FIRE DEPARTMENT ATTEMPT TO CLEAN UP A MERCURY RELEASE!!!

- Command is also responsible to:
 - **EVACUATE** the affected area/building
 - **ISOLATE** the affected area utilizing hazard line tape
 - **DENY ENTRY**
 - Request, through Dispatch, that **MAINE DEP** personnel respond

Note: The Maine DEP has a Mercury Meter located at its Portland facility. The SPFD currently has no meters capable of determining airborne Mercury levels. Women and children are more prone to mercury exposure issues than men and should not reenter the residence until DEP has cleared the location. Maine DEP additionally has a mercury vacuum in Augusta that they will use to mitigate the spill/leak.

Household Florescent Lamps (CFLs)

- In the event of a florescent lamp (CFL) breaks the following procedure should be followed (or recommended to the homeowner) CFL lamps contains a small amount of mercury, but you can clean this up yourself if you do the following:
- Do not use a vacuum cleaner to clean up the breakage. This will spread the mercury vapor and dust throughout the area and could potentially contaminate the vacuum.
- Keep people and pets away from the breakage area until the cleanup is complete.
- Ventilate the area by opening windows, and leave the area for 15 minutes before returning to begin the cleanup. Mercury vapor levels will be lower by then.

- For maximum protection and if you have them, wear rubber gloves to protect your hands from the sharp glass.
- Carefully remove the larger pieces and place them in a secure closed container, preferably a glass container with a metal screw top lid and seal like a canning jar.¹ A glass jar with a good seal works best to contain any mercury vapors inside.²
- Next, begin collecting the smaller pieces and dust. You can use two stiff pieces of paper such as index cards or playing cards to scoop up pieces.
- Pat the area with the sticky side of duct tape, packing tape or masking tape to pick up fine particles. Wipe the area with a wet wipe or damp paper towel to pick up even finer particles.
- Put all waste and materials into the glass container, including all material used in the cleanup that may have been contaminated with mercury. Label the container as “Universal Waste - broken lamp.”
- Remove the container with the breakage and cleanup materials from your home. This is particularly important if you do not have a glass container.
- Continue ventilating the room for several hours.
- Wash your hands and face.
- Take the glass container with the waste material to a facility that accepts “universal waste” for recycling. To determine where your municipality has made arrangements for recycling of this type of waste, call your municipal office
- When a break happens on carpeting, homeowners may consider removing throw rugs or the area of carpet where the breakage occurred as a precaution, particularly if the rug is in an area frequented by infants, small children or pregnant women.
- Finally, if the carpet is not removed, open the window to the room during the next several times you vacuum the carpet to provide good ventilation.

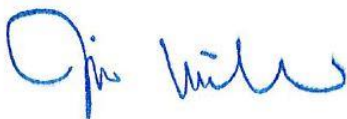
¹Other jars that are made of glass and also work are pickle, peanut butter and applesauce jars. Not ideal, but also a good choice for containing breakage is a heavy duty #2 plastic container with either a screw lid or push-on lid such as a joint compound bucket or certain kitty litter-type containers.

²If the only suitable jar available has food in it; you may need to empty it into another container before using it.

3. REFERENCES:

- Phoenix Fire Department SOG M.P. 202.04 Mercury Releases
- Maine Department of Environmental Protection Website
<http://www.maine.gov/dep/homeowner/cflbreakcleanup.html>

By Order Of:



James P. Wilson
Fire Chief