

MABAS Division II Mercury Response Guideline # 26S

PURPOSE:

The purpose of this procedure is to establish and document guidelines to be used by the MABAS Division II Hazardous Materials Response Team when a mercury release occurs at a commercial facility, or in a residential setting, including apartments / multi-family occupancies.

On receiving a mercury spill notification personnel should attempt to obtain the following information:

- What was the source and amount of the mercury that was spilled?
 - If mercury was spilled from a small broken thermometer, ask where the thermometer was obtained, using a checklist that includes hospital/physician. (This information may be needed to target other preventative actions.)
 - If the mercury was from a source other than a thermometer, continue with the questions.
 - Where was the mercury spilled? What is the type and condition of the surface that the spill has occurred on?
 - When was the mercury spilled?
 - Does anyone who may have been exposed have any physical symptoms or has anyone been seen by a physician?
 - What is the name, age, sex of each resident or individual who may have been exposed to the mercury? Is it possible that any of these individuals are pregnant?

- *Advise caller to have HVAC shut off to spill area, reduce temp in room to below 70° F, vent to outside if possible.*

PROCEDURE FOR MERCURY RELEASE AT COMMERCIAL FACILITY:

Initial Action Required by Fire Department:

- Upon the arrival of Fire Department units, Command shall:
 - 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.
 - **ISOLATE** the affected area (utilizing hazard line tape, etc.).
 - **DENY ENTRY.**
 - Request, through Dispatch, that the on-duty Hazmat Technicians respond. If unavailable, circumstances may require a Division Team response.

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FIRE DEPARTMENT PERSONNEL:

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

- **SHALL NOT:** enter the reported spill area, unless for victim rescue or treatment.
 - Shoes, carpet, etc., are easily contaminated. Not entering the reported spill area will reduce the potential for spreading of the mercury.
 - If the need for rescue is required, all personnel should be in full PPE. This is to include turn-out gear, boots, SCBA, mask, and gloves.
 - Gross Decontamination should be set-up, and after exiting the building, crews will need to bag their gear for sampling and cleaning.
 - Personnel should also be medically evaluated for possible contamination or exposure.
- **SHALL NOT:** clean-up even the smallest amount of mercury released or any other hazardous materials release...
- **SHALL NOT:** take possession of any mercury
- **SHALL NOT:** transport any quantity of mercury or any other hazardous materials

HAZMAT TEAM RESPONSIBILITIES:

On-Duty Hazmat Technicians / Team may, depending upon each incident:

- Respond to the incident location to verify for the incident commander that all safety procedures are employed.
- Assist the Incident Commander by verifying that the Fire Department's decontamination procedures are initiated and followed.
- Make or verify that all appropriate notifications are made and notify the Incident Commander when complete.

In all situations, the first notification should be with the local Office of Emergency Management, i.e., Kane County OEM; DuPage County OEM, Cook County OEM, etc. The Emergency Coordinator will advise, and in most cases make the necessary further notifications.

- Requesting contact to Illinois State Emergency Response Commission (SERC) (1-800-782-7860) *They will make all notifications.*
- Requesting contact to Illinois Environmental Protection Agency (**through the SERC**)
- Request MABAS Division 2 Hazmat Team response. (Hazmat Box if needed)

Upon notification of Hazmat Team, the Team may, depending upon each incident.

- Respond to the incident location to document the requirement for notification of a clean-up contractor with the appropriate equipment to clean-up the mercury spill and to verify that the requirement is complied with.
 - It shall be the responsibility of the spiller to contact a clean-up company from approved contractors list. **At No Time** is the Fire Dept. or Hazmat team to contract a clean-up company.

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- Shall advise the local EMA and EPA of the incident and remain on scene until appropriate agencies have responded.

RESPONSIBLE PARTY

The responsible party shall:

- When required, contact, and employ a contractor who has the appropriate equipment to cleanup and transport the mercury for proper disposal. The Fire Department / Hazmat Team **shall not** make the contact for the responsible party because the Fire Department / MABAS Division II Hazardous Materials Response Team does not want to incur the costs associated with the response or cleanup by a contractor; this is the sole responsibility of the spiller.
- Determine the names of person / persons who are known or suspected to have been possibly exposed or contaminated by the mercury.
- Make any other contacts deemed appropriate for the situation. (i.e., building owner, business owner, insurance company, etc.)

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 can 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.** 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 MABAS Division II Hazardous Material's Response Team decontamination procedures shall be initiated.

MERCURY RELEASE IN A RESIDENCE

The Environmental Protection Agency has determined that a mercury release that occurs in a residence, including the interior of apartments, is household hazardous waste. As a result, the release is exempt from cleanup requirements and homeowners may follow the Illinois Environmental Protection Agency Guideline for Handling and clean-up of a mercury spill in the home, as prescribed on the www.epa.state.il.us web site; or they may contact the Illinois Department of Public Health Mercury Hotline at 217-782-5830. Pamphlets and handout Information can also be found in lobbies

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of most Fire Stations for use by the public. 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 poolside or exit corridors at apartment complexes, condominiums, etc. would require compliance with the commercial facility section of this management procedure.

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 - If the mercury was from a source other than a thermometer, continue with the questions.
 - Where was the mercury spilled? What is the type and condition of the surface that the spill has occurred on?
 - When was the mercury spilled?
 - Does anyone who may have been exposed have any physical symptoms or has anyone been seen by a physician?
 - What is the name, age, sex of each resident or individual who may have been exposed to the mercury? Is it possible that any of these individuals are pregnant?

Advise caller to have HVAC shut off to spill area, reduce temp in room to below 70° F, vent to outside if possible.

FIRE DEPARTMENT OPERATIONS PERSONNEL

When responding to the report of a mercury release in a resident, including the interior of apartments, the Firefighters/Operations personnel shall:

- Have Dispatch Center Tone for a Hazmat Team Response for the Possible Mercury Spill, if anyone is feeling sick, there is more than a thermometer amount spilled, and/or the spill is on a porous surface.
- Recommend to the homeowner/occupant that no one be allowed to enter the affected area until the hazard has been evaluated.
- Recommend to the homeowner/occupant that they shut off the homes HVAC system or set the thermostat to below 70 degrees to reduce the possible spread of vapors.

HAZMAT TEAM PERSONNEL

- Hazmat Technician shall explain to the Homeowner/Occupant the hazards associated with the release of mercury and that it is the MABAS Division II Hazardous Materials Response Team recommendation that a contractor with the appropriate metering equipment be employed to monitor, clean-up and remove mercury contaminated items.

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- Command shall give copy of approved clean-up contractors list to homeowner/occupant and should advise homeowner/occupant to check with their insurance carrier on coverage before contacting possible clean-up contractor.
- Hazmat technician will assist in evaluation of hazards associated with the release. In addition, the Hazmat Technician will verify that the MABAS Division II Hazardous Materials Response Team decontamination procedures are initiated and followed, when deemed necessary.

FACTS ABOUT MERCURY

Mercury is a heavy, silvery-white metal. As compared to other metals, it is poor conductor of heat, but a fair conductor of electricity. At its melting point (-38.86°C/-37.948°F), the density of mercury is 13.534 g/cm³ CAS # 7439-97-6. Mercury has a Vaporization point of 72°F.

There are (3) Three types of Mercury; the (2) two most common types are elemental and inorganic mercury.

Elemental Mercury (Hg⁰): 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 Inorganic mercury).

Symptoms of initial toxic exposure to elemental mercury include fever, chills, dyspnea, and headache within several hours of exposure. Emergency care is supportive with transport to 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 not limited to, burning mouth sore throat, nausea and vomiting with severe gingivitis. Emergency care is supportive with transport to a hospital.

The Third (3rd) type of Mercury and least common is:

Organic Mercury (CH₃Hg): 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.

HUMAN HEALTH EFFECTS.

The nervous system is extremely sensitive to the toxic effects of all forms of mercury. Exposure to high levels of elemental, inorganic, or organic mercury can permanently damage the brain, kidneys, and the developing fetus. Effects on the brain functioning may result in irritability, shyness, tremors, changes in vision or hearing, and memory problems. Short-term exposure to high levels of metallic mercury vapors also may cause effects on other organ systems, including lung damage, nausea, vomiting, diarrhea, increases in blood pressure or heart rate, skin rashes, and eye irritation. Mercury absorbed through the lungs, gastrointestinal tract or skin can accumulate in the brain and kidney, and slowly excreted from the body through the urine. Exposure to mercury can be verified by testing blood, urine, or hair samples. Individuals who have elevated levels of mercury in their body can be treated with “chelating agents” to increase the rate of excretion of mercury from their body.

Household Hazardous Waste Collections

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Theses long-term facilities are available for disposal of Household Hazardous Waste. Please phone ahead to determine availability and open hours.

Naperville: 1971 Brookdale Rd.; Fire Station #4: Phone # 630.420.4190

Rockford: 3333 Kishwaukee; Rock River Reclamation District: Phone # 815.987.5570

Chicago: 1150 N. North Branch on Goose Island Household Chemicals and Computer Recycling Facility Phone # 311 or for general info: 312.744.7672

Lake County: The Solid Waste Agency of Lake County (SWALCO) currently operates a long-term household chemical waste collection program. Information and a collection schedule can be found on the [SWALCO](#) Web site, or by calling 847/336-9340