

ARKANSAS TECH UNIVERSITY HEALTH & SAFETY POLICY

DATE: April 18, 2022

SUBJECT: Mercury Spill Clean-up Procedures

PURPOSE: The purpose of this policy is to ensure that in the event an accidental spill of Mercury occurs employees will know how to properly handle the material to mitigate the hazard while cleaning the spill.

SCOPE: This policy applies to all Arkansas Tech University employees who are either directly or indirectly involved with any mercury spill or exposure.

RESPONSIBILITY: It shall be the responsibility of the occupational safety coordinator to ensure that this policy remains current with all applicable Federal, State, or EPA regulations and best practices to ensure that employees involved in the clean-up of a mercury spill are properly trained. It shall be the responsibility of the supervisors to ensure that employees under their control adhere to all parts of this policy. Finally, It shall be the responsibility of each employee affected by this policy to know, understand, and abide by all procedures of this policy.

INTRODUCTION

Mercury is a liquid metal with properties different from most substances. Small droplets will combine into a larger sphere shape, witch will roll on a flat surface and break back into smaller droplets if

dropped or if pressure is applied. Care must be taken to avoid scattering the mercury or allowing it to roll to a hard-to-reach location.

Exposure to the small amount of mercury found in common devices, such as thermometers, thermostats, or fluorescent bulbs, is not likely to cause serious health problems. Humans are frequently exposed to greater quantities of mercury, much of it methyl mercury, through diet. Nevertheless, all mercury spills, regardless of quantity, should be treated seriously and cleaned up properly.

When liquid mercury is spilled, it forms droplets. These droplets then evaporate and create a vapor that is odorless and colorless. Mercury is toxic to the human nervous system and exposure to the vapor may result in adverse health effects, if exposure is prolonged or high levels of mercury are present in the air.

The clean up recommendations in this document are based on the best management practices used by environmental health practitioners.

Small spills may be safely cleaned up by any employee that has been properly trained and understands these procedures. Small spills are considered to be:

- Less than a tablespoon or 15 ml;**
- Confined to a small area;**
- On a hard surface such as tile, linoleum, or wood;**

- **On a small porous item that can be easily disposed of.**

If there is any uncertainty involving your ability to clean up a mercury spill, contact your Supervisor or the Occupational Safety Coordinator for advice. If the mercury spill has been spread around, tracked throughout a larger area or involves difficult-to-clean items, a contractor skilled in mercury clean up may need to be contacted. Any spill larger than one tablespoon should be reported to the proper authority; professional assistance is required to ensure a thorough clean up.

MERCURY SPILL CLEAN-UP PROCEDURES

- Use proper PPE. Nitrile Gloves, Safety Glasses or Face Shield, Shoe booties or disposable suit, Respirator etc.
- If there are any broken pieces of glass or sharp objects, pick them up carefully. Place all broken objects on a paper towel. Fold the towel and place in a zip locking bag. Secure the bag and label what it contains and dispose of it properly.
- Locate visible mercury beads. Use a squeegee or cardboard to gather mercury beads into small balls. Use slow sweeping motions to keep mercury from becoming uncontrollable. Use a flashlight if necessary, hold it at a low angle close to the floor and look for additional beads that may be sticking to the surface or in small cracked areas of the surface.
- Use an eyedropper to collect or draw up the mercury beads. Slowly and carefully squeeze mercury into a damp paper towel fold the towel and place in a zip locking bag and label the contents of the bag or place into an approved container with a lid and label.

- Use duct tape to dab on the floor to pick up any droplets that can not be seen easily and dispose in the bag or container with a lid.
- Optional step if on hand or in the spill clean-up kit is to use commercially 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.
- Place all materials used with clean-up, including PPE, in a trash bag. Label, and take to secure area for disposal.
- Supervisor or Safety Coordinator will contact local health department or waste disposal company for proper disposal.

ADDITIONAL TIPS AND WHAT NOT TO DO AFTER A SPILL

1. Never use a vacuum cleaner to clean up mercury.
2. Never use a broom to clean up mercury.
3. Never pour mercury down a drain.
4. Never walk around if your shoes might be contaminated with mercury.
5. Mercury can be cleaned up easily from the following surfaces: wood, linoleum, tile, and any similar smooth surfaces.
6. If a spill occurs on carpet, curtains, upholstery or other absorbent surfaces, these contaminated items should be disposed of properly.