I. **Purpose & Scope**

Beginning in February 2018, the University of Georgia is launching a campus initiative to phase out the use of elemental mercury thermometers. Due to the element’s toxicity and costly remediation, efforts are being made to replace these thermometers with an environmentally friendly equivalent. Though there are many other types of mercury containing equipment: barometers, manometers, sphygmomanometers, float valves, electrical switches, light bulbs, etc., most of these guidelines will only regulate thermometers. The intent is to give recommendations on safe alternatives, proper disposal of mercury thermometers through UGA’s Universal Waste Program, or guidelines on the appropriate spill kit the lab must maintain if mercury equipment remains necessary for research.

II. **Mercury Initiative Details**

   a. All laboratory spaces will voluntarily dispose of intact elemental mercury thermometers through the UGA Universal Waste Program or by contacting Research Safety and requesting a pick-up.

   i. To dispose of a thermometer through Universal Waste, secure thermometer to prevent breakage and contact the building maintenance supervisor and request a Universal Waste pick up.

   ii. To dispose of a thermometer through Research Safety, secure the thermometer to prevent breakage, then call the main office at 706-542-5288 to request a pick up. Please include the building where you are located and the room where the thermometers can be found.

   iii. PLEASE NOTE: All broken mercury thermometers must be properly remediated, bagged, and all mercury contaminated materials must be disposed of through the UGA Hazardous Waste Program. **The Office of Research Safety should be contacted if a mercury thermometer has broken in laboratory equipment or if the spill is more than a few drops.**

   b. Any laboratory in the process of closing will not be permitted to transfer mercury containing equipment to another lab without the permission of Research Safety. The accepting lab must have the appropriate spill kit in place before transfer can be approved.

   c. Any laboratory that requires mercury thermometers must sign an agreement declaring they assume remediation responsibilities of any broken thermometer, while being stored or used. The PI and Lab Manager are also responsible for training all staff on how to safely remediate small amounts of mercury.
d. Any laboratory that requires mercury equipment (barometers, manometers, sphygmomanometers, float valves, etc.) must sign an agreement declaring they will contact the Office of Research Safety should one of these instruments break. These items contain more than a trace amount of mercury and could be dangerous for lab staff to remediate.

e. Any laboratory that requires mercury thermometers must purchase a mercury spill kit and post detailed instructions on how to safely clean spilled mercury. After the spill is contained, Research Safety will come to verify the absence of mercury vapors. It will be assumed the broken mercury thermometer will be replaced with an environmentally friendly equivalent. If an environmentally friendly option is not available, a new mercury spill kit must be ordered with the mercury thermometer.

f. An additional inspection item has been added to the Chemical Lab Assessment, inquiring about mercury containing thermometers/equipment. If mercury is present, the lab must have a mercury spill kit as part of the chemical spill kit and post the Mercury Spill Procedure sign.

III. Mercury Alternative and Spill Kit

<table>
<thead>
<tr>
<th>Item</th>
<th>Brand</th>
<th>Vendor</th>
<th>Estimated Price</th>
<th>Catalog #</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-Mercury Thermometer</td>
<td>Fisher</td>
<td>Central Research Stores</td>
<td>~$5.50</td>
<td>CRS Cat # 951825</td>
<td>Total Immersion, Range: -20/110°C</td>
</tr>
<tr>
<td>Emergency Mercury Cleanup</td>
<td>Grainger</td>
<td>iLabs/UGAmart</td>
<td>$18.00</td>
<td>1A-20759</td>
<td>Adequate for small mercury spills</td>
</tr>
</tbody>
</table>

Please note: These prices are subject to change.
Elemental Mercury Spills

Elemental mercury is a shiny liquid that is often found in thermometers, switches, and pressure gauges. Exposure to liquid mercury and its vapor is toxic. Spills of greater than a few drops must be reported to Research Safety at (706) 542-5288.

Laboratory personnel should be able to clean up small spills of mercury (a few drops or less) with the appropriate supplies.

**When a Spill Occurs**
- Isolate the area and keep lab personnel away. Remember mercury beads tend to scatter
- Inform others in lab of the spill
- For spills of a few drops or less, use a mercury spill kit
- For larger spills or if lab personnel are unable to perform a cleanup, call 911 and request assistance

**Spill Cleanup Procedure**
- Wear gloves
- Turn off lights and shine flashlight along the spill surface to locate mercury beads
- Use index cards to push beads together and an eyedropper or pipette to pick them up
- Place mercury into a plastic bag
- Sprinkle zinc flakes on the spill area and moisten with water
- Use index cards etc. to clean up the mercury zinc mixture
- Place the mercury zinc mixture, gloves, broken thermometer etc. into bag(s) and zip shut
- Place bag(s) into a secondary container and seal shut
- Label the container as “Hazardous Waste, Toxic, Mercury Spill Materials”

**Spill Control Supplies**
Use either a mercury spill kit or make one using the following:
- Nitrile gloves
- Zinc flakes
- Eye dropper
- Plastic bags
- Index Cards
- Flashlight

- Never touch mercury
- Never use a household vacuum to clean up spills
- Never use a broom

For mercury spills in sinks, carpet, or equipment, call the UGA Office of Research Safety at (706) 542-5288 for assistance
MERCURY THERMOMETER/EQUIPMENT INITIATIVE OPT-OUT FORM

This lab requests to use elemental mercury containing thermometers and/or equipment for the purpose of research. Though the University of Georgia has made efforts to phase out elemental mercury, the research conducted in this lab space requires its use. This lab assumes all responsibility for safely remediating all broken elemental mercury thermometers. An Emergency Mercury Spill Kit will be purchased by this lab in case of accidental release of mercury from a broken thermometer. Guidelines on proper disposal and usage of the Emergency Mercury Spill Kit must be posted in a prominent place within the lab.

If the spill is a result from a larger piece of equipment breaking or small releases into other types of equipment (incubators/refrigerators), immediately contact Research Safety for an emergency spill clean-up response.

Principal Investigator: ____________________________________________________________

Department: ________________________________________________________________________

Building / Room: ____________________________________________________________________

PI Signature: _________________________________________________________________________

Date: ______________________________________________________________________________

Office of Research Safety | 706-542-5288 | https://research.uga.edu/safety/