



## Mercury Use Minimization/Elimination Program Overview

In 2007 Marquette University embarked on mercury reduction program to address the serious environmental and human health risks posed by the release of mercury into the environment. The program sought to reduce the potential health and environmental risks to the campus and the surrounding community. The program involves replacing mercury thermometers and other mercury containing devices with non-mercury alternatives. Just prior to that time there were a number of incidents resulting in the expensive cleanup of mercury spills.

The Department of Environmental Health & Safety worked with the University's Laboratory Safety Group to ascertain and evaluate all mercury sources on campus and identify ways to reduce the use of mercury. A variety of uses of mercury-containing equipment were found, including fluorescent light bulbs, mercury containing switches, barometers, lamps, laboratory bubblers, and thermometers. Once this list was completed, the equipment was evaluated considering the frequency of use, the ease and efficiency of replacement, the potential for a spill incident to occur, the hazardous waste risk factors, and the potential for a replacement program. There were a number of "old" mercury containing devices which served no practical purpose that Researchers were willing and eager to part with, no replacement required.

It was determined that thermometers were the most widespread source of mercury on campus with the greatest potential for incident and the device with the most readily available alternative. In an effort to significantly reduce the amount of mercury thermometers used on campus a Mercury Thermometer Exchange program was established. The Department of Environmental Health & Safety will provide a 1 to 1 thermometer replacement for mercury thermometers. Existing mercury thermometers are replaced with alcohol thermometers that are safe, non-toxic and environmentally friendly.

To replace a thermometer the requester must complete the Mercury Thermometer Exchange request form:

### **MERCURY THERMOMETER EXCHANGE PROGRAM EXCHANGE REQUEST**

Name: \_\_\_\_\_ Date: \_\_\_\_\_

Telephone: \_\_\_\_\_ Email: \_\_\_\_\_

Room/Lab Number Where We Can Find You:

Principal Investigator:

Department/Group:

Number of mercury thermometers to be disposed of:

Please dispose of all of your mercury thermometers even if you do not need the same number of replacements. Be sure to check the basement and storage area of your lab to dispose all your mercury thermometers. We will inform you of the proper disposal methods after we receive your exchange request.

I will need the following non-mercury replacements:

No. Thermometers Needed	Temperature Range	Total / Partial Immersion	Application	Item Number

*Example:*  
 ... 2                      -20 to 150°C                      partial                      specific application                      item number

We thank you for your support and cooperation!

**\*\* Please Pass Along to Appropriate Laboratory Personnel \*\***

Send the completed form via campus or postal mail, fax, or email to:

Dennis Daye, Department of Environmental Health and Safety  
 Marquette University

Replacement thermometers must be selected from the VWR Product Catalog.

As a part of the EHS department’s effort to minimize (preferably eliminate) the use of mercury devices, a prohibition was placed on the use of mercury- containing compounds, instruments, and measuring devices unless one of the exceptions applies:

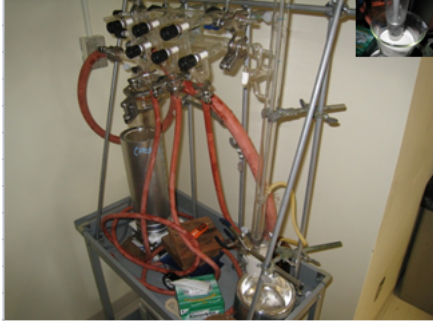
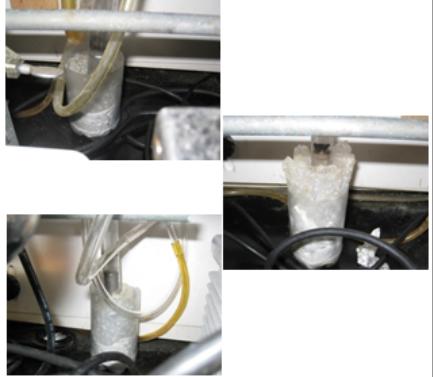

1. No reasonably acceptable, mercury-free alternative exists, in which case the user is responsible for obtaining/using a compound, instrument, or measuring device containing the lowest mercury content available.
2. The purchase of a new mercury-containing compound, instrument, or measuring device is required under federal law.

The purchase of a new mercury-containing compound, instrument, or measuring device that contains mercury must be approved by the Department of Environmental Health & Safety.

In order to determine the extent of mercury still in use at Marquette, the Department of Environmental Health & Safety created a database to inventory all remaining mercury-containing compounds, instruments, and measuring devices. The individuals responsible for the area in which the

mercury is being used is responsible for providing justification for its use. Any costs associated with the disposal or spill clean-up of non-documented mercury sources is charged back to the responsible department.

Information including locations, researchers, and photographs are maintained:

Picture	Location	Researcher
	Chemistry - Rm # 308	Ruchi Shukla
	Chemistry - Rm # 440	Dr. James Gardnier
	Chemistry - Rm # 605	Rajendra Rathore