UNIVERSITY OF NORTH CAROLINA CHARLOTTE | ENVIRONMENTAL HEALTH & SAFETY

Standard Operating Procedure

Mercury and Organomercury

Principal Investigator: _____ ***Date Approved:*** _____

This document covers basic chemical safety information for mercury and organomercury compounds. The use of mercury or any organomercury compound is subject to pre-approval by the Principal Investigator (PI) and/or Supervisor. PI and/or Supervisor may use the sheet attached to this SOP to document any lab specific training for Mercury and Organomercury. DO NOT USE MERCURY OR ANY ORGANOMERCURY UNTIL YOU HAVE OBTAINED THE NECESSARY PRE-APPROVAL.

Mercury and Organomercury

Mercury is primarily used in the manufacture of industrial chemicals or for electrical/electronic applications. It can be found in some thermometers, especially older ones or ones which are used to measure high temperatures. Mercury is also found in the gas phase in fluorescent lamps. It is a reproductive toxicant and acutely toxic by inhalation.

Organomercury compounds are substances with at least one mercury-carbon bond. These substances are primarily used in organic synthesis or as antiseptics and fungicides. Low molecular weight organomercury compounds (e.g. dimethylmercury) can easily penetrate human skin and protective materials. Organomercury compounds are acutely toxic by all exposure routes, and dimethyl mercury is also carcinogenic and flammable.

Personal Protective Equipment & Personnel Monitoring			
 **Lab Coat**	 **Gloves**	 **Eye Protection**	 **Face Shield**
Traditional white lab coat. Consider using a flame-resistant lab coat when working with dimethylmercury, as it is flammable.	Nitrile gloves typically provide adequate protection against minor splashes. Silver Shield/4H gloves worn underneath nitrile gloves can provide added protection when handling large quantities – or whenever dimethylmercury is used. **DO NOT WEAR LATEX GLOVES**	ANSI Z87.1-compliant safety glasses or safety goggles, or face shield if a splash hazard is present.	

Labeling & Storage

Store upright & tightly closed in a secondary container located in a cool, dry, and well-ventilated place. Keep away from incompatible materials, light, heat, and (especially in the case of dimethylmercury) ignition sources. Incompatible materials include strong oxidizing agents, ammonia, azides, and copper. Primary containers should be labeled according to the UNC Charlotte Chemical Hygiene Plan. The secondary container's label must contain the chemical name and corresponding hazards. Containers of mercury or organomercury must be stored in

leak-proof secondary containment within a Designated Area. Use an unbreakable secondary container when transporting mercury thermometers or other mercury-containing equipment. Dispense mercury over a secondary container to contain spills. Place a plastic tub under equipment containing large amounts of mercury. Also, if not plainly visible (e.g. through a cabinet window), labeling must be applied to storage locations where these substances are kept to avoid an inadvertent encounter.

Engineering Controls, Equipment & Materials

Fume Hood

Use a fume hood when working with materials which are toxic by inhalation. If your protocol does not permit the handing of such materials in a fume hood, contact EHS to determine whether additional respiratory protection is warranted.

Housekeeping

Spills

Notify others in the area of the spill, including your supervisor. Evacuate the location where the spill occurred. Call 911 from any campus phone (or 704-687-2200 from a cell phone). Report any exposure to EHS at 704-687-1111. Remain on-site (at a safe distance) to provide detailed information to first responders.

Decontamination

Decontamination methods will vary based on the materials handled and equipment being used. Please review the chemical SDS for guidance on cleaning materials.

Waste

Refer to the UNC Charlotte Chemical Hygiene Plan for details.

First Aid & Emergencies

Skin Contact

Immediately remove contaminated clothing and shoes; flush skin with water for at least 15 minutes. Get medical attention immediately.

Eye Contact

Check for and remove contact lenses. Immediately flush eyes with water for at least 15 minutes. Get medical attention immediately.

Inhalation

Move person into fresh air. Get medical attention immediately.

Ingestion

Get medical attention immediately.

Name	Signature	Date