Standard Operating Procedure
for work with

Chemical name/class: Epoxy Resin Systems
CAS #: various
PI: Mark Walters
Date: November 2, 2018
Building: Fitzpatrick CIEMAS
Room #: Sample Prep
Designated Work: Chemical processing with Acids and Bases

1. Circumstances of Use:
   Epoxy Resin systems are to be mixed and used in the Sample Prep lab of SMIF. They are primarily used for sample preparation prior to imaging or analysis.

2. Potential Hazards:
   Consult the Safety Data Sheet (SDS) for the particular epoxy resin components you are using
   Specific hazards may include:
   - Skin and eye irritation or burns
   - Allergic sensitization from skin contact
   - Respiratory irritation and other respiratory responses
   - Central nervous system depression
   - Epichlorohydrin, contained in trace amounts in many epoxy resins, is a suspect carcinogen.

3. Engineering Controls:
   - Always work with epoxy resin systems in the designated “Vitrobot Hood” in the Sample Preparation Lab.
   - An eyewash and safety shower are available in the immediate area.

4. Work Practice Controls:
   - Use only in a designated Vitrobot Hood” in the Sample Preparation Lab
   - Keep containers closed as much as possible. Only open a container when it is inside the designated Vitrobot chemical hood and you are wearing the proper PPE (section 5).
   - Contaminated items are to be disposed of properly as hazardous waste, following SMIF’s hazardous waste policy (see section 7).

5. Personal protective equipment (PPE):
   - Fastened lab coat
   - Nitrile gloves
   - Safety glasses or goggles.

6. Transportation and Storage:
   - Epoxy resin solutions must be in sealed shatter-resistant containers and stored in the exhausted chemical cabinet designated for acids in the sample Prep lab.
   - Wear the designated PPE (section 5) when transporting a container to the vitrobot hood.

7. Waste Disposal:
   Epoxy waste should be sealed in a shatter-resistant container and then packed into a zip lock bag and properly labeled with the type of waste, your name, and date. The waste bag should be completely sealed.
   - The Bagged, sealed, and labeled epoxy waste should be placed in the acid waste container in the Sample Prep lab for pick-up by SMIF staff.
8. **Exposures/Unintended contact:**

   Contact Employee Occupational Health and Wellness (EOHW) at 919-684-3136 for medical advice on occupational chemical exposures. For an actual chemical exposure
   - Flush exposed eyes or skin with water for at least 15 minutes.
   - If there is respiratory irritation associated with exposure, remove all persons from the contaminated area and contact the OESO spill team.
   - Exposed persons should seek immediate medical attention at the nearest emergency department/
   - Call 911 from a campus phone or 919-684-2444 from any phone to request assistance if needed. Contact Employee Occupational Health and Wellness at 919-684-8115 for exposure-related advice.

   The work-related injury or illness report found at: [http://www.hr.duke.edu/benefits/medical/workcomp/report.php](http://www.hr.duke.edu/benefits/medical/workcomp/report.php) should be completed within 24 hours. Follow-up medical attention should be sought through Duke Employee Occupational Health and Wellness (919-684-3136).

9. **Spill Procedure:**

   In the event of a spill, follow SMIF spill procedures and immediately contact SMIF staff. Only SMIF staff and/or appropriate OESO personnel should clean up spills

   **Spills Contained Inside a Chemical Hood**
   - Avoid breathing vapors from the spill and leave the immediate area of the chemical hood
   - Alert people in the immediate area of the spill
   - Notify SMIF immediately by calling emergency numbers posted near the phone
   - Wait for instructions from SMIF or for SMIF personnel to arrive to complete the clean-up of the affected area.

   **Spills Outside of a Chemical Hood**
   - Attend to injured or contaminated persons and remove them from exposure
   - Press the closest manual alarm button (blue box) and evacuate the lab
   - Make yourself available to the SMIF staff and/or emergency responders and be prepared to tell the following: What chemical(s) are involved, how much was spilled, where the spill is located, nature of any injuries

10. **Training of personnel:**

    - All personnel are required to complete the SMIF General Lab Safety session and the SMIF Chemical Safety and Wet Hood training session.
    - All personnel shall read and fully adhere to the *Wet Hood Operating Procedure* and the *SMIF Lab Safety and Procedures Manual*