A Standard Operating Procedure (SOP) is a broad overview of safety procedures for hazardous chemicals. SOPs act as a resource for students and faculty when handling unfamiliar chemicals in a lab setting. These documents will also create a standard throughout the University for disposing and handling of hazardous chemicals.

Chemicals can be broken up by hazard class instead of creating individual SOP for each chemical. Most of this information is found in SDS and you can use that to help fill out these forms. Please be as clear and descriptive as possible and use full sentences. These forms should be approved by the PI or lab supervisor and sent to the Environmental Coordinator (borderbl@udmercy.edu) for final approval and to be added to the website.

SOPs have 7 sections that include: approval/ training requirements, chemical properties & hazards, personal protective equipment, engineering controls, disposal & storage and finally, accident and injuries. Below is the breakdown of what content should be in each section.

**Approval and Training**. In this section, you will list the trainings or supervision required to handle this chemical/process. Should they have the general lab training? Is it required to have a faculty member present? Should they be approved before using this chemical? By whom?

**Chemical properties and hazards.** In this section, you will explain in what form(s) the chemical would be in and hazards associated with this chemical. Is this chemical in solid, liquid, gas and/or plasma form? Does it have a smell or a specific color worth noting?

Is it corrosive, flammable, water reactive etc.? What sorts of chemicals react violently with this one? These things can be found in a SDS.

**Personal Protective Equipment.** What equipment needs to be worn to be safe while handling this chemical or while completing this process? Are gloves, a lab coat, steel toed shoes etc. required?

**Engineering Controls.** What tools have been given to minimize exposure? Most common examples are: Fume hoods, Paint hoods, desiccator, glove box etc.

**Storage and handling.** Explain storage requirements for this chemical. Does this chemical belong in a flammable cabinet? Desiccator? Does this chemical require secondary containment? Should this chemical be stored under a certain temperature?

Is this chemical okay to be shaken? Should the container be kept close when not in use? Are there any major hazards with transporting/transferring this chemical? Will heating this chemical cause major injury if certain precautions aren’t taken? Could mixing with a certain chemical cause an explosion/fire?

**First Aid and Spills.** Explain what could happen if an individual was exposed via: skin, ingestion, and inhalation. Also how to extinguish a fire if this chemical combusted or exploded.

Explain what to do in case of a spill. Could a spill cause fire or explosion? Could it cause serious health concerns if fumes are breathed in or skin is exposed to the chemical? Should public safety be called if a spill occurs? Should the PI be called in case of a spill? What could be used to clean up this spill without putting anyone in harm? Use SDS to get info on this.

**Disposal**. Explain how to properly dispose of this chemical. Are there special waste containers available? Can this be neutralized first before pouring down the drain? Is this harmful to the environment? Is there someone to call if there is uncertainty of how to dispose of it?