**Standard Operating Procedure for Laboratory Procedure**

**(FILL IN NAME)**

**I. Briefly describe the project and the anticipated chemistry/research. Include thermodynamics if available. If not available, so state.**

**II. Hazard Recognition: List all reagents and solvents that will be used for this project. Attach safety information such as SDSs, toxicity information, reactivity data for all reagents and anticipated products and waste products.**

**Chemical Hazards:**

|  |  |  |  |
| --- | --- | --- | --- |
| **REAGENT** | **CONCENTRATION** | **QUANTITY** | **GHS HAZARDS** |
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**Reaction Conditions (Fill in for worst-case conditions):**

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| --- | --- | --- |
| **Condition** | **LOWEST** | **HIGHEST** |
| **TEMPERATURE** |  |  |
| **PRESSURE** |  |  |
| **REACTION DURATION** |  |  |
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Note: To assist you with the process, refer to the American Chemical Society’s list of “Common Hazards” associated with research activities:

<https://www.acs.org/content/acs/en/about/governance/committees/chemicalsafety/hazard-assessment/tools/common-hazards.html>

**Hazard Assessment:**

|  |  |
| --- | --- |
| HAZARD | Chemical or Part of Process which Drives the Hazard |
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**RISK ASSESSMENT: To the best of your ability, indicate the practical hazards present in this system along with your estimate of the degree of risk associated with that hazard:**

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| --- | --- |
|  | RISK ASSESSMENT |
| HAZARD | LOW | MEDIUM | HIGH |
| Flammable |  |  |  |
| Corrosive |  |  |  |
| Toxic |  |  |  |
| Uncontrolled Rx |  |  |  |
| Pyrophoric |  |  |  |
| Radioactive |  |  |  |
| Pressure > 2 bar |  |  |  |
| Temperature > 60oC |  |  |  |
| System Volume > 1 liter |  |  |  |
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**RISK MITIGATION: For each risk rated as “High,” provide a narrative of how to reduce the risk. For each risk rated as “Moderate,” provide a narrative on how to reduce the risk if possible. If not possible, explain how the risk will be managed. Refer to the American Chemical Society explanation of “Control Methods” as appropriate:**

<https://www.acs.org/content/acs/en/about/governance/committees/chemicalsafety/hazard-assessment/fundamentals/control-measures.html>

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| --- | --- |
| HAZARD/RISK | MITIGATION |
| Flammable |  |
| Corrosive |  |
| Toxic |  |
| Uncontrolled Rx |  |
| Pyrophoric |  |
| Radioactive |  |
| Pressure > 2 bar |  |
| Temperature > 60oC |  |
| System Volume > 1 liter |  |
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**PROCESS DETAILS: Provide a specific and detailed process description. If appropriate, refer to instrument operating instructions**

**WASTE HANDLING: Provide specific, detailed waste handling procedures:**

**OUT OF NORMAL EVENTS:** **Provide a narrative for any unexpected reaction/physical event/situation with details of underlying cause(s), mitigation which are reasonably anticipated.**

**TRAINING: Explain the training requirements for a scientist to undertake the is procedure. Retraining is NOT necessary of the level of skill already exists.**

**REVIEW AND APPROVAL: Each scientist in the chain of responsibility must review and sign:**

|  |  |
| --- | --- |
| **SCIENTIST** | **SIGNATURE** |
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