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| ISU |  |

1. STANDARD OPERATING PROCEDURE

Use this form to document the Health & Safety information associated with the procedure.

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| **Procedure Title:** | Synthesis of small organic molecules |
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| **Dept:** |  |  | **Bldg/Rm:** |  |  | **Supervisor:** |  |

**Procedure Overview:** (brief description of the project)

Synthesis and purification of organic molecules.

**Health and safety information for materials used:** (briefly describe the hazards associated with the materials and/or equipment **OR** document your hazard assessment in Section II)

Safety hazards include working with potentially toxic substances, flammable solvents, cryogens, and compressed gas cylinders.

**Hazard Control Measures:**

(Lab coat, eye and hand protection, and closed toe/heel shoes must be selected as required by Section D of the ISU Laboratory Safety Manual.)

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| --- | --- | --- | --- | --- | --- | --- | --- |
| **[ ]**  | **Latex gloves** | **[ ]**  | **Insulated gloves** | **[ ]**  | **Face Shield** | **[ ]**  | **Respirator** |
| **[x]**  | **Nitrile gloves** | **[x]**  | **Safety glasses** | **[x]**  | **Lab Coat** | **[x]**  | **Fume hood** |
| **[ ]**  | **Neoprene gloves** | **[ ]**  | **Vented goggles** | **[ ]**  | **Apron** | **[ ]**  | **Biosafety cabinet** |
| **[ ]**  | **Vinyl gloves** | **[ ]**  | **Splash goggles** | **[ ]**  | **Dust mask** | **[ ]**  | **Glove box** |
| **[x]**  | **Closed Toe/Closed Heel Shoes** | **[ ]**  | **Flame Resistant Lab coat** |

***Other Control Measures:***

No open shoes. Lab goggles to be worn at all times in the lab. Lab coat and gloves required when performing experiments. While lab benches can be used for performing non-hazardous procedures (e.g. Preparing brine solutions, notebook writing), fume hoods are to be utilized whenever working with hazardous substances.

**Waste Disposal Procedures:**

Quenched organic wastes (such as organic solvents) are to be disposed of into appropriately labeled containers (Organic waste). Quenched aqueous waste will be disposed of into appropriately labeled containers (Aqueous waste). Solid waste is to be placed into labeled, sealed containers for collection by EH&S.

**Decontamination Procedures:**

If a spill occurs on the skin, flush with water. Remove clothing if needed. In serious cases, use the safety shower. For eye exposure, use the eye wash for at least 15 minutes. Report all contaminations.

**All accidents and injuries occurring at work or in the course of employment must be reported to the employee's supervisor as soon as possible (even if no medical attention is required).**

<http://www.ehs.iastate.edu/occupational/accidents-injuries>

**Spill/Release Containment and Clean Up Procedures:**

Non-hazardous spills (e.g. salt solutions) can be cleaned up using the laboratories spill kit. In case of a hazardous spill, exit the lab immediately and contact the professor in charge to arrange clean up.

**Using Substances Requiring Special Procedures?** No [ ]  Yes [x]

(If Yes; identify authorized personnel, designate a use area and specify specialized safety precautions here. Refer to Section B in the ISU Laboratory Safety Manual for details.)

See laboratory specific SOPs.

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| **Written By:** |  |  | **Date:** |  |
|  |  |  |  |  |
| **Approved By:** |  |  | **Date:** |  |

 (PI or Lab Supervisor)

1. **HAZARD ASSESSMENT**

Use the hierarchy of controls to document the hazards and the

corresponding control measure(s) involved in each step of the procedure.

Consider *elimination or substitution* of hazards, if possible.

*Engineering Control(s):* items used to isolate the hazard from the user (i.e. fume hood, biosafety cabinet).

*Administrative Control(s):* policies/programs to limit the exposure to the hazard (i.e. authorizations, designated areas, time restrictions, training).

*Required PPE*: indicate PPE including specific material requirements if applicable (i.e. flame resistant lab coat, type of respirator or cartridge).

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| **Hazard** | **Engineering Control(s)** | **Administrative Control(s)** | **Required PPE**  |
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1. **Training Record**

Use the following table to record the training associated with this Standard Operating Procedure.

|  |  |  |
| --- | --- | --- |
| **Print Name** | **Signature** | **Date** |
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**Note: Attach to or file with written materials and methods**