**THIS IS A TEMPLATE/BASIC STARTING POINT. CUSTOMIZE THIS TEMPLATE WITH INFORMATION PERTINENT TO YOUR SETUP AND THE PROCEDURE YOU WILL BE USING/YOUR GROUP’S PERSONAL USE.**

STANDARD OPERATING PROCEDURE

|  |  |
| --- | --- |
| **Procedure Title** | Refrigerator/Freezer Usage |
|  |  |
| **Dept** |  |  | **Bldg/Rm** |  |  | **Supervisor** |  |

**Procedure Overview:**

When a chemical may undergo decomposition or other undesired reaction at room temperature, it should be stored in the laboratory refrigerator or freezer. Use the Safety Data Sheet to determine the optimal storage conditions for your materials.

**Health and safety information for materials used**

Always read and understand the safety data sheet (SDS) for a chemical before use or storage.

* Laboratory refrigerators and are **NOT** to be used for food storage.
* Improperly closed or broken containers could pose a respiratory threat as their vapors concentrate in the enclosure.
* Do not store flammable/volatile materials in non-approved refrigerators/freezers. Sparks from motor/electronics can ignite vapors and result in an explosion.
* Do not modify a domestic unit in order to store flammables/explosives.
* Ensure that your refrigerator/freezer has the appropriate warning stickers (No food/drink, No volatile/flammable materials, etc.). Stickers can be requested from EH&S (ehsinfo@iastate.edu)
* Do not perform work with hazardous materials inside a walk-in freezer or cooler without appropriate controls in place. The ventilation is not adequate for working safely. Contact EH&S for more information.

**Hazard Control Measures**

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

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| [ ]  | Latex gloves | [ ]  | Insulated gloves | [ ]  | Face Shield | [x]  | Respirator\* |
| [x]  | Nitrile gloves | [x]  | Safety glasses | [x]  | Lab Coat | [x]  | Fume hood |
| [ ]  | Neoprene gloves | [ ]  | Vented goggles | [ ]  | Apron | [ ]  | Biosafety cabinet |
| [ ]  | Vinyl gloves | [x]  | Splash goggles | [ ]  | Dust mask | [ ]  | Glove box |
| [x]  | Fully enclosed shoes | [ ]  | Flame resistant lab coat |

**OPERATING PROCEDURE**

* Clean all spills immediately.
* Do not use cardboard in refrigerators or freezers – it is not appropriate secondary containment (does not hold liquids), and encourages mold growth.
* All chemicals should be labeled with (at minimum) the full chemical name, hazard statements, and signal word.
* Chemicals must have appropriate, sealable lids.
* Hazardous liquids in storage must have compatible secondary containment.
* All refrigerators and freezers should be regularly inspected. Mislabeled containers, spills, mold growth, defrosting, inappropriate storage, etc. should be addressed as a group or by the appropriate individual.
* The need for defrosting will be assessed by the supervisor and will involve removal of the contents to another refrigerator or cooler and the following of defrosting procedures as stated by the manufacturer of the equipment.

**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.) These will vary, depending on the chemicals that your lab stores in fridges/freezers. Customize for your group.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **[ ]**  | **Latex gloves** | **[ ]**  | **Insulated gloves** | **[ ]**  | **Face Shield** | **[ ]**  | **Respirator** |
| **[ ]**  | **Nitrile gloves** | **[x]**  | **Safety glasses** | **[x]**  | **Lab Coat** | **[ ]**  | **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** |

**Spill/Release Containment, Decontamination, and Clean Up Procedures: CUSTOMIZE, DEPENDENT ON YOUR CHEMICALS/MATERIALS**

Spills should be immediately cleaned up following the appropriate procedure (<http://www.ehs.iastate.edu/laboratory/spills-leaks>). Contact the PI/supervisor after all spills.

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

(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.)

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

 (PI or Lab Supervisor)

**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).

|  |  |  |  |
| --- | --- | --- | --- |
| **Hazard** | **Engineering Control(s)** | **Administrative Control(s)** | **Required PPE**  |
| Chemical hazards  | ***customize*** | ***customize*** | ***customize*** |
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**Training Record**

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

|  |  |  |
| --- | --- | --- |
| **Print Name** | **Signature** | **Date** |
|  |  |  |
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