EHSO Guidance Document for Labs

Laboratory Hazard Clearance prior to:
**maintenance, service or moving items**

It is the responsibility of individual laboratories and departments to ensure that hazards are cleared prior to having non-laboratory staff enter the area for service, maintenance or moving of items. Lab staff must be available to assist workers with their job hazard assessment prior to any work being started. In some cases the definition of a laboratory may be stretched to include areas such as chemical storage rooms or shared use spaces where hazardous materials are used or stored.

The following information is intended to assist laboratory staff to ready equipment and clear hazards from the immediate area where maintenance, service or moving activities will be undertaken.

*Only knowledgeable lab staff should be assigned to perform the following*

### General (Apply in all Situations)

- **Decontaminate for Chemical, Biological or Radiological contamination as appropriate.** Consult MSDS or contact EHSO for additional information. Minimum requirement is a wipe down with soap and water of surfaces that workers may contact.

- **Disconnect power and release or restrain any stored energy from equipment before cleaning.** Follow appropriate Lockout/Tagout procedures if applicable.

- **All hazardous materials (chemical, biological, radiological) must be safely relocated or disposed to permit work to proceed.** **No hazardous materials may be in the immediate proximity of where non-laboratory staff are working.**

- **Complete Step 1 and 2 of the Laboratory Hazard Clearance Declaration and submit it to Physical Plant along with the work order requisition.**

- **For items or areas where radioactive chemicals have been used or stored that are marked with the radiation warning symbol , wipe tests must be done and documented according to UM Radiation Safety Manual, RSP-430.** Only persons listed as Designated Workers on a current Radioisotope Permit should be handling (cleaning or performing wipe tests) on potentially radioactive items or areas.

### Fume Hoods

- **Notify Physical Plant and EHSO if the fumehood was used for perchloric acid digestions or any other activities that involved heating perchloric acid.** **No work is to proceed** until a further assessment of the hood is performed jointly by EHSO and Physical Plant.

- **All hazardous materials (Chemical, Biological and Radiological) must be relocated or disposed from the fume hood.**

- **Decontaminate for Chemical, Biological or Radiological contamination as appropriate.** Consult MSDS or contact EHSO for additional information. Minimum requirement is to wipe down with soap and water any surfaces that workers may contact.

### Cold Rooms

- **Decontaminate for Chemical, Biological or radiological contamination as appropriate.** Consult MSDS or contact EHSO for additional information. Minimum requirement is to wipe down with soap and water any surfaces that workers may contact.
### Refrigerators/Freezers

Empty refrigerator/freezer including removing all chemical, biological or Radiological materials.

Decontaminate for Chemical, Biological or Radiological contamination as appropriate. Consult MSDS or contact EHSO for additional information. Minimum requirement is to wipe down with soap and water any surfaces that workers may contact.

If equipment was used in room where biological material was used, wipe down the outside with a 1:5 dilution of bleach solution.

Secure the unit as per manufacturer’s recommendations before moving.

### Sinks and Associated Appliances (faucets, sprayers, washers, etc...)

All hazardous materials (Chemical, Biological and Radiological) must be relocated or disposed from the work area. This will usually include the cabinet below the sink.

Decontaminate for Chemical, Biological or radiological contamination as appropriate. Consult MSDS or contact EHSO for additional information. Minimum requirement is to wipe down with soap and water of any surfaces that workers may contact.

Flush with copious amounts of water for at least 15 minutes. Obviously, if the sink is plugged do not attempt to flush it!

### Lab Furnishings, Cupboards, Shelving, Benches

All hazardous materials (chemical, biological, radiological) must be safely relocated or disposed to permit work to proceed. **No hazardous materials may be in the immediate proximity of where non-laboratory staff are working.**

Decontaminate for Chemical, Biological or Radiological contamination as appropriate. Consult MSDS or contact EHSO for additional information. Minimum requirement is to wipe down with soap and water any surfaces that workers may contact.

### Biological Safety Cabinets

Decontaminate for Chemical, Biological or Radiological contamination as appropriate. Consult MSDS or contact EHSO for additional information. Minimum requirement is to surface clean and disinfect (1:5 dilution of bleach solution or 70% alcohol) all internal and external surfaces that workers may contact.

Contract CON-TEST for internal formaldehyde decontamination if servicing is required inside the unit or if it is to be moved. Post a copy of the Con-Test report on BSC sash. Secure the unit as per manufacturers recommendations before moving.

### Clean Benches (Vertical or Horizontal Laminar Flow Benches)

If this unit was used to prevent the spread of biological agents (*i.e. if bio contaminants were drawn into the unit filters*), Contact CON-TEST for internal formaldehyde decontamination prior to servicing inside of unit or moving it. Post a copy of the Con-Test report on BSC sash.

If this unit was used to prevent the introduction of biological contaminants (*i.e. filters were used to filter room air entering the unit*), decontaminate inside surfaces for chemical, biological or radiological contamination as appropriate prior to servicing inside of unit. Consult MSDS or contact EHSO for additional information.

If this unit was used to prevent the spread of chemical or radiological agents (*I.E. if contaminants were drawn into the unit filters*), contact EHSO to discuss decontamination options prior to moving the unit or servicing filters.

Surface disinfect (1:5 dilution of bleach solution or 70% alcohol) any external surfaces that workers may contact.

Secure the unit as per manufacturers recommendations before moving.
### Liquid Scintillation Counters
- Contact EHSO prior to moving unit a LSC to another room
- Relocate or dispose of any liquids/chemicals in unit
- Decontaminate for Chemical, Biological or Radiological contamination as appropriate.
  - Consult MSDS or contact EHSO for additional information. Minimum requirement is to wipe down with soap and water any surfaces that workers may contact.
- Secure the unit as per manufacturers recommendations before moving.
- Only allow the manufacturer or authorized representative to service the unit.

### Lasers *(Class 3B or 4, open beam or embedded, identified with yellow sticker)*
- Contact EHSO prior to moving a laser to another room
- Decontaminate for Chemical, Biological or Radiological contamination as appropriate.
  - Consult MSDS or contact EHSO for additional information. Minimum requirement is to wipe down with soap and water any surfaces that workers may contact.
- Secure the unit as per manufacturers recommendations before moving.

### X-ray Equipment *(identified with yellow sticker)*
- Contact EHSO prior to moving a laser to another room
- Decontaminate for Chemical, Biological or Radiological contamination as appropriate.
  - Consult MSDS or contact EHSO for additional information. Minimum requirement is to wipe down with soap and water any surfaces that workers may contact.
- Secure the unit as per manufacturer’s recommendations before moving.

### Vacuum Pumps
Most vacuum pumps contain oil that may also contain other contaminants. Remove oil prior to moving or servicing if there is the chance of a leak.

### Balances
*Some balances may contain radioactive anti-static devices (models made by Metzler have been indentified at the UofM in the past).*
- Consult with the manufacturer to confirm the presence or absence of a radioactive source.
- Contact EHSO if radioactive anti-static device is present or if any doubt exists on the presence of a source.
- Decontaminate for Chemical, Biological or Radiological contamination as appropriate.
  - Consult MSDS or contact EHSO for additional information. Minimum requirement is to wipe down with soap and water any surfaces that workers may contact.
- Secure the unit as per manufacturer’s recommendations before moving.

### Centrifuges, Freeze Dryers, Rotaevaporators, Cryostats
- Relocate or dispose of any liquids/chemicals in unit.
- Decontaminate for Chemical, Biological or Radiological contamination as appropriate.
  - Consult MSDS or contact EHSO for additional information. Minimum requirement is to wipe down with soap and water any surfaces that workers may contact.
- Secure the unit as per manufacturers recommendations before moving.

### Small Lab Appliances *(hot plates, stirrer, pH meter, microwaves, etc…)*
- Decontaminate for Chemical, Biological or Radiological contamination as appropriate.
  - Consult MSDS or contact EHSO for additional information. Minimum requirement is to wipe down with soap and water any surfaces that workers may contact.
### Incubators
<table>
<thead>
<tr>
<th>Relocate or dispose of any liquids/chemicals in unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Decontaminate for Chemical, Biological or Radiological contamination as appropriate. Consult MSDS or contact EHSO for additional information. Minimum requirement is to surface disinfection (1:5 dilution of bleach solution or 70% alcohol) any surfaces that workers may contact.</td>
</tr>
<tr>
<td>Ensure all water is removed from water jacket prior to moving.</td>
</tr>
<tr>
<td>Secure the unit as per manufacturer’s recommendations before moving.</td>
</tr>
</tbody>
</table>

### Glove Boxes
| Decontaminate for Chemical, Biological or Radiological contamination as appropriate. Consult MSDS or contact EHSO for additional information. Minimum requirement is to wipe down with soap and water any surfaces that workers may contact. |
| Secure the unit as per manufacturer’s recommendations before moving. |

### Water Baths
| Relocate or dispose of any liquids/chemicals from the equipment. |
| Decontaminate for Chemical, Biological or Radiological contamination as appropriate. Consult MSDS or contact EHSO for additional information. Minimum requirement is to wipe down with soap and water any surfaces that workers may contact. |

### Autoclaves
| Decontaminate unit for any biological contaminants. If unit is operating properly, simply running the unit should suffice for internal decontamination. If the last cycle cannot be proven successful, internal surface decontamination will be required (1:5 dilution of bleach solution or 70% alcohol). For external decontamination the minimum requirement is to surface clean and disinfect (1:5 dilution of bleach solution or 70% alcohol) all surfaces that workers may contact. |
| Decontaminate for Chemical, Biological or Radiological contamination as appropriate. Consult MSDS or contact EHSO for additional information. Minimum requirement is to wipe down with soap and water any surfaces that workers may contact. |
| Secure the unit as per manufacturer’s recommendations before moving. |