• This symbol means biohazard. A biohazard is a live agent which can cause infection and disease in humans and animals.

• Chemicals are not biohazards

### Types of Biological Agent Use Labs at the U of M

<table>
<thead>
<tr>
<th>Type of Lab</th>
<th>Types of agents used</th>
<th>Possible effects of exposure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clinical Space</td>
<td>Conduct routine procedures involving human blood and bodily fluids.</td>
<td>Human blood and body fluids are not normally dangerous by themselves but they may carry human diseases such as HIV, Hepatitis B and C or others.</td>
</tr>
<tr>
<td>Containment Level 1</td>
<td>Uses biological agents that pose a low risk to people and the community.</td>
<td>Agents used do not normally cause disease in healthy humans or animals.</td>
</tr>
<tr>
<td>Containment Level 2</td>
<td>Use biological agents that pose a risk to individuals and a low risk to the community.</td>
<td>Agents used are not expected to be hazardous by themselves but can be contaminated with pathogens. The presence of these pathogens may not be readily documented or recognized but can cause disease in humans and animals.</td>
</tr>
</tbody>
</table>
Types of Biological Agent Use Labs at the U of M

**Containment Zones**

These zones establish security protocols to prevent the theft and/or illegal use of pathogens and toxins. These zones and security protocols are mandated by federal government regulations.

### Containment Level 2R

Use pathogens that pose a risk to individuals and a low risk to the community. The use of these pathogens are controlled by the Federal Government.

These pathogens are known to cause disease in humans and animals but the disease is not expected to be life threatening for otherwise healthy patients.

### Containment Level 2R (RG3)

Use pathogens that pose a high risk to people and a low risk to the community.

These pathogens cause serious life threatening infections which may or may not be treatable. Infection is not easily transmitted from person to person.

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**SPECIAL PRECAUTIONS**

CONTAINMENT ZONE ENTRANCE. AUTHORIZED PERSONNEL ONLY. KEEP DOOR CLOSED

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Protection Against Biological Hazards

- Hygiene
  - Wash your hands
  - Remove contaminated clothes and wash separate from your regular laundry
- Personal Protective Equipment
  - Gloves
  - Cover street clothes
  - Respirator
  - Safety glasses/face shield

How to become infected by biohazardous agents:

- Inhale (breathe it in)
- Inject (cut or poke by contaminated sharps)
- Ingest (eat or drink it)
- Contact (get it on your skin)
- Mucus membranes (rub your eyes)

Signs of infection:

- Fever
- Headache
- Dizzy
- Extreme tiredness
- Upset stomach
- Rashes or sores
- Muscle weakness
- Tingling or paralysis

Types of biohazardous agents are:

- Biohazardous in nature
  - Bacteria
  - Viruses
  - Fungi
  - Mold
  - Protozoa
  - Parasites
- Contaminated with Biohazards
  - Human Blood
  - Human Body Fluids
  - Sewage
  - Contaminated sharps (needles and scalpels)
Physical Security and Access Control

Physical security refers to barriers or measures put in place to prevent unauthorized access to a facility using pathogens and to protect against damage, theft, or misuse. These measures are implemented to minimize opportunities for the unauthorized entry of individuals into containment zones and the unauthorized removal of pathogens and toxins. Authorized personnel are individuals who have been granted unsupervised access to the containment zone by a designated authority. This is dependent on workers completing training requirements and demonstrating proficiency in standard operating procedures, pertinent to work in the facility.

**Physical barriers to prevent theft and unauthorized entry are:**
- Walls
- Lockable doors
- Windows (sealed or lockable)
- Lockable freezers

**Access controls are:**
- Controlled entry points to containment zones
- Limited distribution of keys/card access/door codes
- Direct supervision of visitors
- Security clearance procedures

**Security measures:**
- Access to bioagent use facilities should only be granted according to the University Building Access Policy
- Access to bioagent use facilities should be revoked when workers are no longer working in the facility.
- Do not loan keys
- Doors to be closed at all times
- Doors must be locked when the lab is not attended by authorized lab personnel

**Containment zone signage:**
- Biohazard icons will be black
- Icon background colours will be red or purple
- The Special Precautions section of the door sign will identify the area as a containment zone
- See above for examples

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