

TML\MSH Microbiology Department Policy & Procedure Manual	<b>Policy # MI\LS\37\v02</b>	Page 1 of 2
<b>Section: Laboratory Safety Manual</b>	<b>Subject Title: Ventilation</b>	
Issued by: <b>LABORATORY MANAGER</b>	Original Date: April 20, 2001	
Approved by: Laboratory Director	Revision Date: October 22, 2003	

**Policy:**

Environmental conditions in the laboratory are monitored and recorded to ensure they do not adversely affect the quality of results. Airflow in the laboratory shall avoid dispersion of potentially infectious agents and ensure adequate ventilation disruptions are avoided. The location, design, type of venting of BSC shall be appropriate to level of risk containment required according to Health Canada Laboratory Biosafety guidelines.

**Purpose:**

Proper ventilation ensures a comfortable and safe work environment.

**Responsibility:**

Mangement

**Key Elements:**

- Types of Ventilation Systems
- Biological safety cabinets
- Chemical fume hoods
- Vents

**Related Documents:**

<a href="#">BIOLOGICAL SAFETY CABINETS</a>	MI\LS\09\v01

**TYPES OF VENTILATION SYSTEMS**

There are **2 types** of ventilation systems:

1. HVAC (heating, ventilation, air conditioning) systems are designed primarily for temperature, humidity and air quality movement.
2. Local ventilation systems are designed to remove contaminants generated by work procedures or equipment from the workplace. Examples are biological safety cabinets, chemical fume hoods and vent.

<b>FEATURE</b>	<b>PROCEDURE</b>	<b>PRECAUTIONS</b>
<b>Biological Safety Cabinets</b>	<ul style="list-style-type: none"> <li>• Class I - a primary barrier which offers protection to laboratory personnel and to the environment</li> <li>• Class II - a primary barrier which offers protection to laboratory personnel and to the environment and also provides product protection from external contamination of the material</li> <li>• Class III - a gas-tight (glove box) which provides the highest attainable level of protection to personnel and the environment. Require special design and construction.</li> </ul>	<ul style="list-style-type: none"> <li>• Do not operate centrifuges in a biological safety cabinet since the motor may produce strong air currents and turbulence which may disrupt the laminar air flow</li> <li>• Must be inspected and certified once a year (cabinets are inspected as per hospital contract)</li> </ul>
<b>Chemical Fume Hoods</b>	<ul style="list-style-type: none"> <li>• Lab air flows are balanced at time of fume hood installation to achieve designed fume hood face velocities and uniformity of airflow patterns</li> </ul>	<ul style="list-style-type: none"> <li>• Factors affecting fume hood performance e.g., open doors or windows nearby, room air currents, movement near fume hood face openings</li> <li>• Fume hood should be inspected and certified annually</li> <li>• Routine maintenance is required on exhaust fans</li> </ul>
<b>Vents</b>	<ul style="list-style-type: none"> <li>• Vent at the exterior of the bench connected to an exhaust duct</li> </ul>	<ul style="list-style-type: none"> <li>• For maximum benefit, place work as close to the vent as possible, e.g., urinalysis bench</li> </ul>