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Title:	**Chemical Fume Hood Guidelines**		
Program or Department:	Research	**Document Type:**	PROCEDURE
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Next Review Date:	January 01,2016	**Reviewing Body:**	Research Biosafety Committee
Emergency Code:		**Approving Body:**	Research Biosafety Committee
Keywords:	Fume Hood ,Research , Chemicals , Guide , Safety	**Document Number:**	0000001077

Introduction

A Chemical Fume Hood (CFH) consists of an enclosed work area which features an exhaust ventilation system. Air is drawn in through the face opening, ventilating the work area. The flow of area captures any gases, vapours, aerosols or particulates within the enclosure and exhausts them. All CFHs at the LKSKI vent air directly out of the facility. Laboratory fume hoods are primarily used to protect users from hazardous or odorous chemicals.

Chemical Fume hoods are not Biological Safety Cabinets and should not be used to protect users from bio-aerosols.

Associated Procedure

Do not perform work in a malfunctioning CFH. Ensure that the CFH is on before commencing work. CFH at the LKSKI should be kept running at all times.

It is highly recommended that the work with following WHMIS hazard classes should be performed in CFHs.

- Class B; Flammable and Combustible Materials
- Class C; Oxidizing Materials
- Class D1; Materials with Immediate and Serious Toxic Effects
- Class D2; Materials with Other Toxic Effects
- Class E; Corrosive Materials
- Class F; Dangerously Reactive Materials

Always ensure you consult MSDS documentation before using any chemical.

Work procedure

A CFH does not provide absolute containment or protection. Appropriate PPE should always be worn when performing operations in a CFH.

Rapid movement in and around the CFH should be avoided to prevent any cross-drafts,

ch can reduce the effectiveness of the CFH.

Always work with the sash of the CFH at a maximum height of 12 inches. All operations within the CFH should be done at least 6 inches back from the sash

If possible, blocks and racks should be used to raise equipment 1 -2 inches off the CFH deck surface, to allow for easy air flow around the apparatus

Never put your head inside a CFH while operations are in progress

Keep the interior of the fume hood clean and tidy. Perform work on disposable absorbent pads. Clean up any spills immediately

Keep storage in the fume hood to a minimum. The hood should not be used as a storage area for chemicals nor should it be overloaded with unnecessary equipment and materials. The presence of these materials can seriously affect the airflow in the fume hood

Do not use ignition sources in the CFH when flammable or combustible materials are in a CFH
CFHs within the LKSKI should be left running at all times. They aid in exhausting air from the facility and help keep laboratory areas under negative pressure. In the event of a fire, CFHs will assist in removing smoke from the building.

CFH certification and maintenance

- All CFC must be tested on an annual basis to ensure that the face velocity reading is at least 80-120 feet per minute (fpm)
- Clean the CFH with regular soap and water regularly

References

Appropriate Legislation and Guidelines

Public Health Agency of Canada (PHAC) Canadian Biosafety Standards and Guidelines, 1st Ed. , 2014

CSA Standard Z316.5 - 94, Fume Hoods and Associated Exhaust Systems

NFPA 45, Fire Protection for Laboratories Using Chemicals

O. Reg. 851 for Industrial Establishments, Section 128 (3)

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