



Hazards	Inhalation of toxic chemical vapors Exposure to unknown chemical, biological or radioactive (?) substances Contact between skin or clothing and dangerous substances
Tools/Equipment	
Employee Group(s)	Facilities Management – Mechanical & Electrical

Required PPE:



Safety Shoes



Eye Protection



Gloves



Protective Suit

SAFE WORK PRACTICES

- Do not perform the procedure or operate the equipment until you have been appropriately trained and authorized to do so by your supervisor.
- Inspect required personal protective equipment (PPE) and replace if required.
- Ensure that users are aware that no work or experiments requiring exhaust are conducted in a malfunctioning fume hood or when a shutdown of the exhaust system is necessary.
- All chemicals that present a hazard to maintenance workers must be removed from the fume hoods prior to maintenance work being done. This is to prevent worker exposure.
- Ensure you understand the hazards of chemicals in the work area. Check with fume hood user for more information.
- Know the emergency contact information for the laboratory area where you are working.
- Perform Energy Isolation as required.

PROCEDURE

Communication between Users and Facilities Management (FM)

Hood not functioning properly:

1. Users will contact FM when they suspect a fume hood is not working properly by email to fm@stfx.ca.
2. FM will affix “Out of Service” stickers (see page 5 of this SOP) on the fume hoods sash while they are being repaired, and until they are deemed safe to use by the FM competent person. Once deemed safe to use, the sticker will be signed by the FM competent person and placed on the side of the fume hood.
3. FM will send an email to the building’s Administrative Assistant to advise when the work is complete, whether there are any changes the user should be aware of, and that the fume hood is safe to use.

FM notices alarms in unsafe range:

1. FM will affix “Out of Service” stickers (see page 5 of this SOP) on the fume hoods sash while they are being repaired, and until they are deemed safe to use by the FM competent person. Once deemed safe to use, the sticker will be signed by the FM competent person and placed on the side of the fume hood.
2. FM will send an email to the building’s Administrative Assistant to advise when the work is complete, whether there are any changes the user should be aware of, and that the fume hood is safe to use.

NOTE: All PPE, tools and equipment shall be used in accordance with provincial OH&S legislation, manufacturer’s specifications, applicable standards and codes of practice.



System shutdowns:

1. An email will be sent to the Administrative Assistant in the affected building prior to turning off exhaust system for repair, maintenance, or other operations. The Administrative Assistant will confirm that the communication has been sent to all users prior to shutdown.
2. Sufficient notification (to avoid disruption of teaching labs) of exhaust system shutdown will be provided, except for emergency shutdowns, in which cases the notice period may be brief, or in the event of a power disruption there may be no warning. The safety of all affected persons shall be priority during all shutdowns.

Power outage:

1. When there is a power bump, the two running strobic fans (lead) will drop out and upon return to power the two back-up strobic fans will start.
2. FM will schedule the lead units to go back in service. There will be some fume hood alarms during the 3-5mins for this action.

Preventive Maintenance

Daily (by User):

The following shall be verified daily for all fume hoods in use, as applicable, by fume hood users:

1. The work surface, baffles and sash are clean
2. Controls for services such as water, natural gas and compressed air are labelled and functional
3. General illumination, indicator lights and associated switches are in working order
4. Sink drains are functional
5. The sash is operable
6. The airflow alarm/fume hood controller is operational
7. Perform test on the GFCI receptacles, press trip then reset (*during the first daily check each month*)
8. For the Perchloric acid fume hood, the wash down system should be operated at least once per day, when the hood is used, until a thorough cleaning is accomplished. 5-15 minutes will probably be sufficient depending on flow rates achieved by the in-duct portion of the system. The perchloric acid fume hood is in 3037. Contact FM to turn on internal water flow.
9. Complete daily checklist
10. Report concerns, malfunctions, or deficiencies to FM@stfx.ca



Every six months (by Facilities Management typically Nov/Dec):

The following items shall be inspected and tested every six months:

- a) Fan – Monitor fan operation by monitoring for sound/vibration.
- b) Motor – Monitor motor operation by monitoring for sound/vibration.
- c) Drive belt and Shafts – Where accessible, monitor for condition.
- d) Bearings, including machine guards – Where accessible, monitor for condition/vibration.
- e) Switch the lead Strobic fans (1/3) off and let the back-up units (2/4) start-up. Let these run for 24 hours then switch back to lead units.
 - o *Shutdown of the exhaust systems may be required for preventive maintenance (see Communication between FM and Users)*

Every 12 months (by Facilities Management typically May/June):

The following tasks shall be performed, as applicable, every 12 months:

1. Inspect the sash mechanism (including the sash and cables) for corrosion, damage, lubrication, proper operation, and broken glass
2. Inspect the fans (including the integrity of the fan blades, motors, drives and bearings) for proper operation and corrosion
3. Inspect the integrity of the fume hood liner.
4. Check the stability and condition of the discharge stack, including guy wires if installed
5. Inspect the condition of the exhaust ducting, particularly the integrity of the joints where visible in penthouse
6. Check the laboratory makeup air balance and its temperature (the quantity of makeup air to the auxiliary air fume hoods shall be measured and adjusted as necessary) – **(Siemens during annual certification)**
7. Check the operation of Strobic balancing dampers
8. Repair defects and lubricate as necessary
9. Face velocity testing **(Siemens during annual certification)**
10. Shutdown of the exhaust systems may be required for preventive maintenance (see Communication between FM and Users)

Face Velocity Testing (done by Siemens)

Fume hoods must be tested for minimum control functions and face velocity as follows:

1. After new installation
2. After any repair or modification are made to the fume hood or exhaust system
3. At least once per year

Face Velocity will include:

- a) Measure the fume hood face velocity, comparing the measurement to fume hood specifications and correcting as necessary
- b) Measure the average face velocity of the fume hood when the sash is fully open
- c) Determine sash height at which the average face velocity is 100 fpm, unless otherwise specified.
- d) Verify the calibration of the airflow monitor

Record Keeping

Detailed records of fume hood maintenance will be kept by FM and will be available for review by the OH&S Officer.

NOTE: All PPE, tools and equipment shall be used in accordance with provincial OH&S legislation, manufacturer's specifications, applicable standards and codes of practice.



Inventory of Fume Hoods

Number	Building	Room	Type
FHC-101	PSC	1085	Lab
FHC-102	PSC	1092	Lab
FHC-103	PSC	1080	Lab
FHC-104	PSC	1050	Lab
FHC-105	PSC	1060	Lab
FHC-201A	PSC	2015	Lab
FHC-201B	PSC	2015	Lab
FHC-202	PSC	2010	Lab
FHC-203	PSC	2010	Lab
FHC-204	PSC	2010	Lab
FHC-205	PSC	2010	Lab
FHC-206	PSC	2051	Lab
FHC-207	PSC	2016	Lab
FHC-208	PSC	2024	Lab
FHC-301A	PSC	3006	Lab
FHC-301B	PSC	3006	Lab
FHC-302A	PSC	3010	Lab
FHC-302B	PSC	3010	Lab
FHC-303A	PSC	3017	Lab
FHC-303B	PSC	3017	Lab
FHC-304A	PSC	3066	Lab
FHC-304B	PSC	3066	Lab
FHC-304C	PSC	3066	Lab
FHC-305A	PSC	3066	Lab
FHC-305B	PSC	3066	Lab
FHC-305C	PSC	3066	Lab
FHC-306A	PSC	3050	Lab
FHC-306B	PSC	3050	Lab
FHC-307A	PSC	3020	Lab
FHC-307B	PSC	3020	Lab
FHC-308A	PSC	3020	Lab
FHC-308B	PSC	3023	Lab
FHC-309A	PSC	3018	Lab
FHC-309B	PSC	3018	Lab
FHC-3010A	PSC	3037	Lab
FHC-3010B	PSC	3037	Lab
FHC-3010C	PSC	3037	Lab
FHC-3012A	PSC	3049	Lab
FHC-3012B	PSC	3049	Lab
FH-EF1	JBB	213	Lab
FH-EF12	JBB	330	Lab

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FH-EF	JBB	335N	Lab
FH-EF15	JBB	314	Lab
FH-EF16	JBB	327	Lab
FH-EF	JBB	337D	Lab
FH-EF2	JBB	409	Lab
FH-EF3	JBB	411	Lab
FH-EF13	JBB	423	Lab
FH-EF14	JBB	427	Lab



**OUT OF SERVICE
DO NOT OPEN**

This fume hood has been sealed by Facilities Management for maintenance, servicing, or repairs. This seal may not be removed except by maintenance personnel and only after it has been determined safe for use. Use of fume hood during maintenance could result in an exposure of harmful substances to you, others working in the area and/or maintenance personnel.

Fume Hood ID: _____

Sealed
Date/Time: _____

By: _____

Questions
Call FM at 902 867 2149

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