Fume Hoods

Standard Operating Procedure

Revision Date: 05/11/22

This standard operating procedure (SOP) outlines the use of fume hoods. Review this document and supply the information required in order to make it specific to your laboratory. In accordance with this document, laboratories should use appropriate administrative controls and personal protective equipment when using fume hoods.

# Description [Provide additional information as it pertains to your research protocol]

Fume hoods (also called Lab Hoods) are local ventilation devices used to limit your exposure to hazardous fumes, vapors, or dusts when handling chemicals.

## Process [Write the steps for using the hood in your research protocol]

# Work Practice Controls [Provide additional information as it pertains to your research protocol]

All personnel using the fume hood must be fully trained in its proper operation.

## Preparing the Fume Hood for Work

* Check for a date on the certification sticker that is within the last year
  + If the previous certification date is more than one year ago, contact EHS at 734-647-1143 before working in the hood
* Check alarms and monitors to indicate proper operation
* Observe noise and air movement to indicate proper operation
* Close all windows and doors in the laboratory
* Set manual controller, if the fume hood has one, to “maximum” for the 100 feet per minute (fpm) position
* Set sash height indicated by the sticker and arrow; when possible, set the sash at the lowest position

**WARNING**: If the alarm sounds or the monitor lights indicate low flow:

1. Stop working
2. Turn off the equipment
3. Lower the sash
4. Notify all individuals in the lab to leave the area if highly toxic or volatile chemicals are being used

**NOTE**: Although it is not the most scientific, a simple way to tell if the fume hood is working is to tape a piece of tissue to the bottom of the sash. This will act as a wind sock to indicate the direction of air flow. When the hood is operating properly, the tissue should be pulled into the fume hood.

## Working in the Fume Hood

* Monitor the fume hood when performing ongoing or reactive experiments
* Keep pedestrian traffic in front of the hood to a minimum
* Avoid rapid or excessive movement in front of the fume hood
* Place:
  + Experimental materials and equipment at least 6 inches back from the face
  + Large objects two to three inches above the work surface
* Keep rear baffle openings clear
* Keep papers, paper towels, work surface diapers, vials, and other small objects from being drawn into the hood’s ventilation system

## After using the Fume Hood

Fully close the fume hood sash

## Other Precautions

* Keep fume hood alarms or monitors on
* Avoid putting one’s head in the fume hood
* Do not use fume hood as permanent storage for chemicals or equipment
* Cap or cover chemical containers when they are not being used
* Properly label chemical containers

# Cleaning the Fume Hood [Provide additional information as it pertains to your research protocol]

Clean the interior and exterior surfaces and sash periodically, and after spills, using deionized water; then wipe the areas down with a soap solution and rinse.

**NOTE**: Personnel should wear appropriate PPE when cleaning the fume hood to protect themselves from the chemicals.

# Alarms or Monitors

Laboratory fume hood alarms or monitors should never be turned off. If the alarm sounds or the monitor lights indicate low flow, work should be stopped, equipment turned off, and the sash lowered. Lab personnel should leave the area if highly toxic or volatile chemicals are being used. Report all problems to the Facilities Service Center at (734) 647-2059.

# Manual Controllers

Laboratory fume hoods with manual controllers should be set to proper operating position before beginning work. Contact EHS at (734) 647-1143 for assistance.

# Standards

* The face velocity, which is the air moving into the fume hood entrance or access opening, should be 100 fpm for standard fume hoods.
* No other types of exhaust can be connected to the fume hood exhaust system without a proper engineering assessment by Plant.
* Use of heated perchloric acid requires a special fume hood. For more information, contact EHS at (734) 647-1143.

# Maintenance

* If the fume hood is not functioning, call Facilities Service Center at (734) 647-2059.
* If the fume hood is working but you are not sure it is operating correctly, or if you have questions regarding the fume hood operation or safety, call EHS at (734) 647-1143.
* After maintenance work is performed on an existing hood (new motor, repairs, modifications, relocation, etc.), EHS must check the air flow and recertify the fume hood.
* All chemicals must be removed from the fume hood prior to maintenance work being done. This is to prevent worker exposure.

# Protective Equipment [Provide additional information as it pertains to your research protocol]

Appropriate personal protective equipment (PPE) must be worn. Lab coats must be buttoned. Gloves should be pulled over the wrists of the coat, not worn inside the coat. Additional PPE to be used as recommended.

# Fume Hood Certification

All fume hoods must have the air flow checked and be certified once a year by EHS. The date of most recent certification can be found on a tag on the front of the hood. If there is no tag, or the most recent certification date is more than a year, call EHS at (734) 647-1143.

# Training of Personnel

All personnel shall read and fully adhere to this SOP when using a fume hood.

# Certification

I have read and understand the above SOP. I agree to contact my Lab Director if I plan to modify this procedure.

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### Major Revisions (Tracking purposes only -- Do not print as part of SOP)

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| Date | Revision |
| 09-21-18 | EHS name and logo were added, updated the formatting, and revised the content under Exposure/Unintended Content (AKJ). |
| 03-04-19 | Reviewed and updated. |
| 05-11-22 | Reviewed and added information regarding checking the certification sticker for a date within the past year, and what number to call if it is past due. Removed emergency response section. (LGS) |