

# **Michigan Technological University**

## **Department of Physics**

### **WORK PRACTICES FOR LABORATORY FUME HOODS**

Laboratory fume hoods are designed to provide protection for the user from chemical and radiological contaminants which are used inside the hood. Use of toxic and/or volatile chemicals should always occur in the fume hood, NOT on an open bench. It should be noted that though fume hoods are designed to protect the user from the hazardous substances being used, fume hoods DO NOT absolutely eliminate exposure even under ideal conditions. Careless work practices can cause considerable exposure to a user who may believe s/he is protected.

**To optimize the performance of the fume hood, the following work practices must be adhered to:**

**1. Ensure that your fume hood has a current inspection sticker (dated within the last year). The Office of Occupational Health and Safety (OHS) measures fume hood velocities during the summer months. The face velocity (which is written on the sticker) should be between 80 and 120 lineal feet per minute (fpm). Contact your departmental Chemical Hygiene Officer if the face velocity is not within these limits. They can arrange to have the fume hood exhaust system repaired.**

**2. Verify that the fume hood is drawing air by checking the fume hood monitor, if there is a monitor, or by taping a "Kimwipe" to the sash and checking its position. If the draw does not seem sufficient, check the fume hood inspection sticker. If the sticker indicates that the hood maintained adequate flow when it was inspected, have the hood checked again by OSH (7-2118). OSH does not charge to check face velocities, but will not repair the hood.**

**3. If there is a fume hood monitor which alarms during normal use, mute the alarm (if possible), and contact OSH to check the air flow or have your department business office arrange for repair to the monitor or hood exhaust system.**

**4. Utilize the hood with the sash positioned no higher than the arrow on the fume hood inspection sticker (usually 18 inches in height). This will ensure adequate face velocity and allow the sash to act as a protective shield. If this height is not appropriate for you, contact OSH to measure the face velocity when the sash is in your preferred position.**

**5. Do not put your head in the hood when contaminants are being generated. Though this sounds incredibly basic, it is a common mistake.**

**6. Perform all the work and keep all apparatus at least six inches into the hood.**

**7. The fume hood is NOT a storage cabinet! DO NOT store chemicals or apparatus inside the hood. These stored materials can obstruct the air flow or exacerbate an incident or emergency in the hood.**

**8. Do not block the slots in the hood baffle with containers or apparatus. If small amounts of chemicals or reagents must be stored in the hood, have shelves installed on the sidewall of the hood. If large equipment is used in the hood, place the equipment to the bottom slot of the baffle.**

**9. Electrical receptacles (including power strips) must be located outside of the fume hood. Ensure that there are no sources of ignition or sparks, including variable transformers (Variacs), when flammable liquids or gases are present.**

**10. DO NOT use perchloric acid heated above ambient temperature in a fume hood unless it is specifically designed for this use, e.g. it is equipped with a water wash down system or a scrubber system is used.**

**11. Keep fume hood sashes closed down to about a six inch opening when the hood is not in use. This will conserve energy in variable air volume systems and act as a shield in the event of an unexpected release.**

For additional information about fume hood use and general laboratory safety refer to the Chemical Hygiene Plan.

Questions about these work practices can be directed to the Office of Occupational Safety and Health @ 7-2118.

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