

Safe Use of Fume Hoods



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Don't let this be your fume hood

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The intent of this Fact Sheet is to promote safe operation of fume hoods and to educate users on good and bad practices. A properly designed and operated fume hood reduces exposure to volatile and airborne contaminants by removing them with a continuous flow of air that directs them out the building's roof stack.

Before starting to work in a fume hood, verify that the exhaust system is operational by either checking the fume hood's air flow monitor or by taping a strip of paper or ribbon at the face of the hood, which will indicate the direction of air flow. Use the fume hood when working with flammable, corrosive, toxic, and/or reactive materials.

Note: Read the Material Safety Data Sheet (MSDS) to learn what personal protective equipment and procedures should be utilized to safely handle all materials being used.

Good Practices

- **Always** set up equipment at least six (6) inches from the sash within the fume hood to ensure safe and efficient ventilation. The sash must be kept between 12 and 16 inches when setting up, running, or dismantling any experiment.
- **Always** elevate hot plates, ovens, and other large objects one or two inches above the work surface to ensure adequate air flow under and around them.
- **Always** cap chemical containers after use. Perchloric Acid should only be used in fume hoods labeled and designed for its use. If a fire occurs in the fume hood during a process or experiment, quickly shut the sash if it is safe to do so and immediately contact DPS at x4321.

Practices to Avoid

- **Avoid** overcrowding or cluttering the fume hood. Overcrowding creates vortices and dead spots. Vortices cause hazardous material to flow back out of the fume hood thus exposing the worker. Dead spots may allow ignitable concentrations of flammable and combustible materials to accumulate.
- **Avoid** erecting shelves in a fume hood for the storage of chemicals. Fume hoods should only contain working volumes of chemicals.
- **Avoid** placing electrical receptacles, power strips, or other spark producing sources inside the hood.
- **Avoid** using fume hoods to vent or dispose of hazardous materials through air dilution. This is a violation of the EPA Clean Air Act.
- **Avoid** making rapid movements at or near the hood opening because they can disrupt the hood's air flow, resulting in possible worker exposure.

Fume Hood Inspection

EH&S inspects and certifies fume hoods annually (every six months for those designated for radioactive work). The average face velocity for normal use is 100-125 feet per minute (fpm) and 125-150 fpm for radioactive and/or highly toxic materials. Contact EH&S or Facilities Management Services at (213) 740-6833 to report a non-functioning fume hood.

EH&S Fact Sheets are intended to facilitate team discussions in your department. Post the monthly topic on your departmental bulletin board.