

# Fume Hood Safety

A laboratory fume hood system is assigned to protect the operator from undesirable substances being used by enclosing, capturing or receiving emitted contaminants. The hood sucks contaminated air away from the breathing zone of the worker and from her/his immediate work area.

A laboratory operator can greatly increase a hood's effectiveness by the way she/he uses it. For hoods which have a movable front sash, keeping the opening as small as reasonably possible usually increases the flow rate through the aperture and enhances effectiveness.

One source of undesirable turbulence results when air entering the hood impacts on the front edge of the floor of the hood. This effect can be minimized by the installation of an airfoil along the front edge of the hood.

It is sometimes difficult to tell whether or not the fan motor is operating. Without the fan, the individual does not have the protection expected from the system. Airflow monitors are available from scientific supply houses.

Pedestrian traffic in front of the hood induces turbulence and can pull vapors back out of the hood and into the operator's breathing zone. A painted line or length of tape placed on the floor of the room two feet away from the hood will discourage traffic this close to the hood.

Excessive clutter in the hood increases turbulence and reduces hood efficiency.

## Guidelines for Effective Hood Uses

- Work at least six inches inside hood.  
Keep the amount of material in the hood to a minimum. Keep the hood clear of clutter.
- Keep the sash between your face and the experiment. Lower sash to lowest possible position.
- Avoid traffic in front of and rapid movement in the hood.
- Elevate large equipment off the work surface of the hood to improve air flow.
- Use an airflow indication such as an eight inch strip of light material dangling from the sash.
- Use a safety shield in addition to the hood sash if a danger of explosion is present.
- Run water in hood drains often to keep drain traps full. Insure adequate illumination inside hood.
- For most effective fume hood operation, keep laboratory doors closed.
- Always wear protective equipment such as safety glasses, gloves, lab coat, etc., when appropriate.

Call your campus Chemical Hygiene Officer with questions about the operation of your hood.

Ask your Department of Facilities to call Customer Service if you experience mechanical problems with your hood.

(Our thanks to Tom Shelley, Chemical Hygiene Officer, Cornell University, Retired).

**Ezra Seltzer**  
**Randy Smith**

Reprinted from *TECH TO TECH*, Shelly Mendlinger, Managing Editor

© 2004 Professional Staff Congress/CUNY