UNMC

ENVIRONMENTAL HEALTH
AND SAFETY

SAFETY GUIDELINE
Laboratory Fume Hoods

A laboratory fume hood is a ventilated enclosure designed for exhausting chemical fumes or vapors. The purpose of the hood is to capture, contain, and remove contaminants, preventing their escape into the laboratory. The combined use of appropriate personal protective equipment (PPE), good safety practices, and laboratory fumes hoods are essential elements in protecting laboratory workers from potentially hazardous exposure.

The level of protection afforded by a fume hood is affected by its use, so follow these guidelines:

1. Before working in the hood, make sure the hood has been inspected and certified within the last 12 months.
2. Read the Safety Data Sheet (SDS) for materials you plan to use in the hood.
3. Wear the appropriate PPE at all times, regardless of the protection afforded by the fumehood.
4. Never allow your head to enter the plane of the hood opening.
5. When working in the fume hood, keep the sash closed as much as possible while still allowing comfortable working conditions (never more than 18”). Proper sash height is essential to maintaining adequate velocity to pull hazardous fumes from the hood (see page 2).
6. For your protection, keep the sash closed as it acts as a shield in the event of an explosion.
7. Keep all equipment and materials inside the fume hood at least 6” from the sash opening, hood slots, and airfoils, to maintain proper airflow in the hood.
8. Elevate equipment and containers 2 to 3 inches above the working surface to allow airflow under and around the equipment.
9. Do not tamper with any fume hood alarms or sensors.
10. Do not permanently store chemicals inside the fume hood. Store chemicals in the appropriate locations, such as a flammable cabinet, and bring them into the fume hood as needed.
11. Keep chemical bottles closed when not actively using them.
12. Always close the sash completely at the end of the day, when leaving experiments or chemicals unattended, and when the hood is not in use.

Why should I “Shut the Sash”?

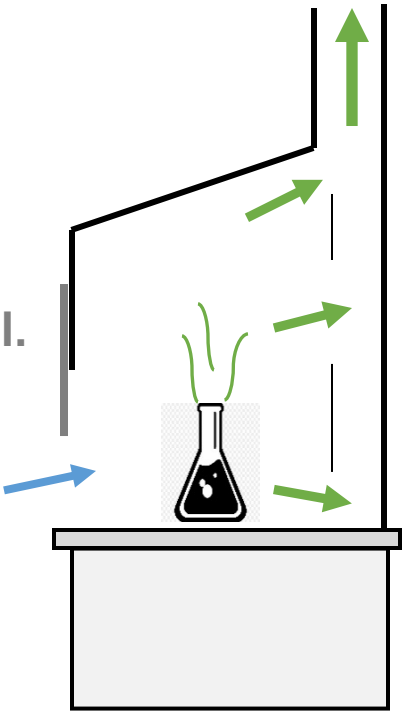
Fume hoods operate by pulling air from the laboratory space into the fume hood and out of the building. While this function is vital to reduce chemical fumes in labs, it also uses a lot of energy. Closing fume hood sashes minimizes the amount of air pulled from the building, which results in energy savings. Keeping the sash closed also helps contain gases and fumes until the hood can adequately remove them from the building. For more information, please read Live Green’s Shut the Sash article.

Using the Fume Hood Sash at Operating Level

Sash at operating level.

Less air is pulled from the room in through the face of the hood.

Provides a more effective control, when the sash is at operating level.

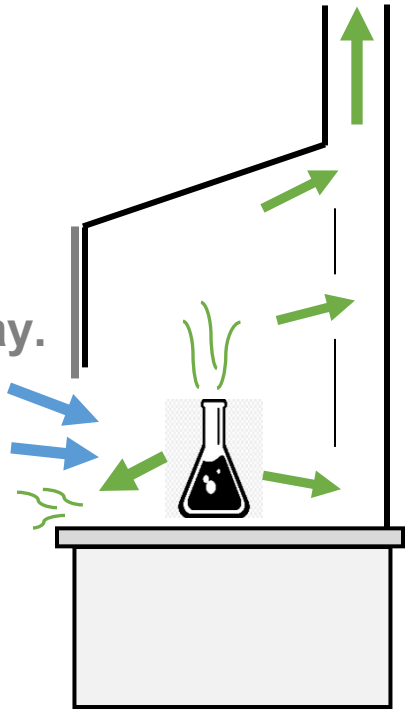


Fumes and vapors are contained within the hood and exhaust to the outside of the building.

Sash open all the way.

More air is pulled from the room in through the face of the hood.

Less effective control, when the sash is all the way open.



Fumes and vapors can flow over the front air foil and into the room air.

Example of Kewaunee Fume Hood in Durham Research Center I

Fume Hood Occupancy Sensor

Annual Certification Label

Rear Baffles

Sash Level Indicator

Fume Hood Monitor

Front Air Foil Sill

Corrosive Chemical Storage Cabinet

Flammable Chemical Storage Cabinet

Example of unsafe fume hood.

Fume hood etiquette plays an important role in the safe operation of using a fume hood.

- Keep all equipment and materials inside the fume hood at least 6” from the sash opening, hood slots, and airfoils, to maintain proper airflow in the hood.

- Elevate equipment and containers 2 to 3 inches above the working surface to allow airflow under and around the equipment.

- Do not permanently store chemicals inside the fume hood. Store chemicals in the appropriate locations, such as a flammable cabinet, and bring them into the fume hood as needed.