



Guidance Document

Fume Hoods

Fume hoods are used when handling toxic or hazardous chemicals. Harmful gases, vapors and fumes can be safely captured and exhausted to the outside. Fume hoods are very effective if installed, maintained and used properly. Because fume hoods are integral components of a building's ventilation system, they can affect your safety and the safety of others in the building.

A fume hood should be used in the following situations:

- when handling chemicals with inhalation hazards such as toxic gases, chemicals which emit toxic vapors, volatile radioactive material, respirable toxic powders
- when performing experiments which could result in strong exothermic reaction
- when handling chemicals with high vapor pressure
- when releasing chemical vapors which could ignite
- when working with compounds with offensive odors

Good work practices include:

- Check the airflow rate on the monitor/alarm to ensure that the hood is functioning properly. The face velocity should be about 100 fpm.
- Do not raise the sash above the maximum safe mark (provided by Facilities Management during annual test)
- Use secondary containment (a shallow trap) whenever practical. This will contain minor spills and prevent spillage onto your feet and onto the floor.
- Keep chemicals and apparatus at least six inches back from the plane of the sash. This maximizes capture and reduces the risk of turbulence which could push contaminants back toward you.

- Limit traffic near the hood. Pedestrian traffic can cause turbulence and lessen capture of contaminants.
- Do not store large quantities of chemicals and equipment in the hood. Excess chemicals can be a hazard in themselves. Excess containers and equipment can impede airflow.
- If hoses or cords must be inserted from the exterior of the hood, run them underneath the airfoil so that you can close the sash completely.
- When working in the hood, position the sash as low as possible to minimize risk of exposure. The sash acts as a safety shield for your face and upper body.
- When you are not using the fume hood, lower the sash as low as possible. This provides better contaminant capture of experimental chemicals, erects a shield between you and the materials in the hood, and conserves energy.
- Evaporation and digestion with perchloric acid should only be done in specially constructed hoods with a wash down function. Perchlorates could accumulate in ductwork as shock-sensitive salts. Contact your advisor or EHS if you will be heating perchloric acid.
- Never use the fume hood to evaporate waste chemicals as a means of disposal. Rather, submit all waste to EHS for proper handling.
- Never make changes or modifications to the fume hood without permission from EHS.
- Call EHS or Facilities Management if a hood is not functioning properly