

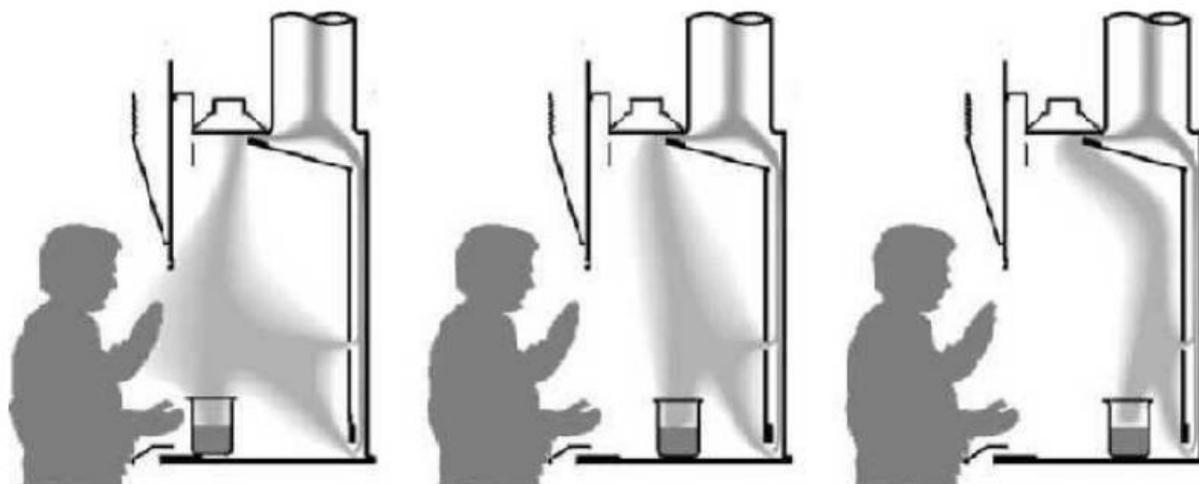
HOW TO USE A FUME CUPBOARD

Certain procedures of analysis involving toxic volatile substances or solids and liquids that may generate aerosols must be carried out under a fume cupboard (e.g. pipette emptying, heating, stirring, pouring, sonication). In order to effectively contain hazardous substances, a chemical fume cupboard must be properly selected, installed, maintained and, of course, used.

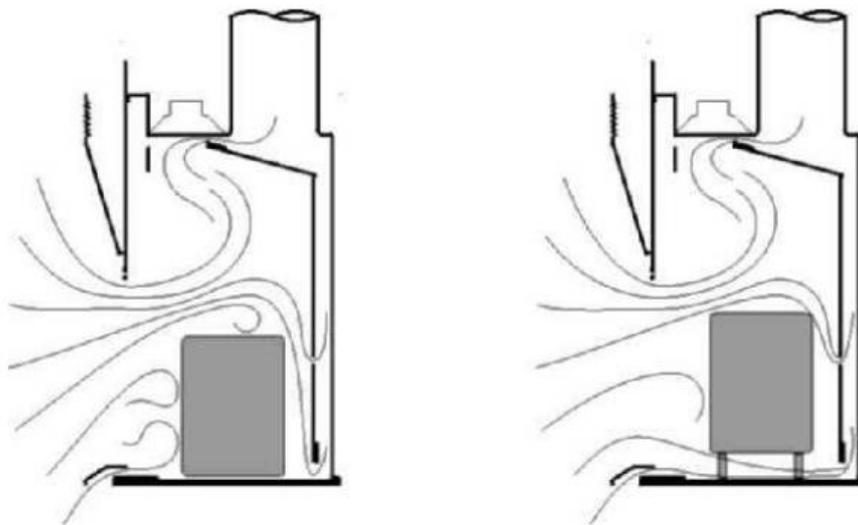
Many factors can jeopardise the efficiency of a fume cupboard. Most of them can be prevented. It is therefore essential to be aware of all the conditions that may affect proper functioning.

Below are some good practice guidelines for using a chemical fume cupboard:

- Keep the ventilation on at all times once activities have started.
- Keep the fume cupboard clean and clear.
- Lower the front sash as much as possible so that you can stretch your arms and work inside the fume cupboard. The front sash provides the first protection in case of accidental explosions, spills or releases of liquids or gases. The lower you keep the sash, the less the fume cupboard is affected by air currents in the room.
- After placing materials inside, lower the sash to about 40 cm from the work surface.
- If the sash has horizontal sliding panels, keep them closed.
- Keep the sash completely down when the fume cupboard is on, but not in use.
- Keep the sash down when the fume cupboard is not in use.
- When working, stand or sit upright – avoid leaning your head towards the work area. Never put your head inside the fume cupboard to check how your experiment is going.
- Stay slightly away with your body from the front sash to avoid generating turbulence.
- Emission sources must be placed at least 15-20 cm inside the fume cupboard.



- Avoid opening or closing the vertical sash rapidly; also avoid moving around and walking near the fume cupboard. These actions can increase turbulence and hinder extraction.
- Separate and elevate each piece of equipment inside the fume cupboard using blocks to allow air to flow in and out. Keep the air intake grilles clear at all times.



- Do not leave bottles or other equipment under the fume cupboard. Only equipment in operation should be left inside the fume cupboard.
- Never use a fume cupboard to dispose of hazardous volatile substances by evaporation.
- Do not tamper with the fume cupboard in any way, e.g. by adding, removing or improperly replacing components, as this may adversely impact performance.

The Prevention and Protection Service has measured the extraction rate of the chemical fume cupboards in use at the University, which have been classified accordingly. Read the indication on the fume cupboard to find out its level of efficiency, decreasing from class A to class C.



Cappa adeguata
all'utilizzo di sostanze
altamente tossiche
(TLV < 1 ppm)



Cappa adeguata
all'utilizzo di sostanze
moderatamente tossiche
(1 < TLV < 100 ppm)



Cappa adeguata
all'utilizzo di sostanze
poco tossiche
(TLV > 100 ppm)

Cappa dedicata all'uso
di agenti cancerogeni
e/o mutageni

To learn more, see the Chemical Laboratory Safety Manual.

