

# Fume Cupboard

## Safe Use of Fume Cupboard



Illustration of a fume cupboard

Fume cupboard is essentially a ventilated enclosure designed to **Contain** and **Exhaust** airborne contaminants  
**E.g. Chemical Fumes, Vapours, Gases, Particulates, Dust, Etc.**

- Comes with a sash (adjustable work opening)
- Prevent accumulation of toxic or hazardous airborne contaminants
- Controlled release of airborne contaminants via exhaust system
- Additional auto sash system installed
- Additional CO2 fire suppression system for SPMS fume cupboards



Illustration of a fire suppression system for a fume cupboard

*It is important for fume cupboard users to understand how to use it effectively to achieve the required protection against the hazardous contaminants*

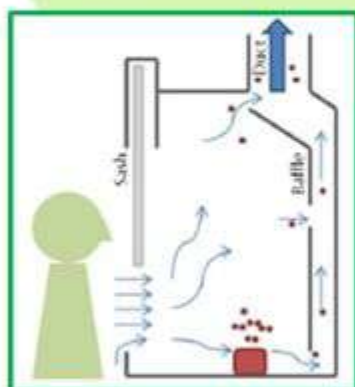
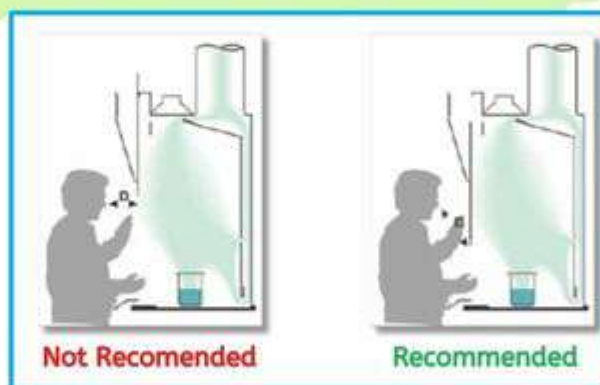


Illustration of how a fume cupboard works (ducted type)



**Effect with the sash lowered:**  
Can you see the difference on the user's exposure to the chemical fumes with the sash at different height?

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Before using the fume cupboard, check the following:

✔ Check that the exhaust fan is working

✔ Check the monitor for sufficient flow rate of air, average 0.5m/s flow



✔ Check that there is a sticker (usually on the top right side) that the fume cupboard has been maintained and the date still valid.



**Notify SPMS Facilities immediately if noted any fume cupboard with expired date.**

✔ Check that there is no warning lights or alarm. If so, report the fault immediately (call FRC (6790 4777) or SPMS Facilities (65378686))

✔ Check that the lights are working



✔ Check for hazards such as any incompatible items/materials with what you will be working with, e.g. heating source if you intend to work with flammables

### Never do these

✘ Put your head into the fume cupboard, especially when there is hazardous materials placed in it

✘ Do not place any source of ignition in the fume cupboard when flammables are present, e.g. the hot air gun, heater unit, etc

✘ For optimal operation, avoid placing large appliance or equipment in the fume cupboard as it will disrupt the air movement leading to poor discharge of hazardous fumes/ vapours



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### Things to note when using a fume cupboard

- ✔ Position your apparatus and materials in the **centre** and **back** of the fume cupboard to minimize disturbance to the airflow
- ✔ Keep your apparatus and materials at least **15cm inside** the plane of the sash to ensure good containment
- ✔ **Avoid sudden rapid movements** in front of the fume cupboard as these can cause turbulence and drawing the airborne containments out of the fume cupboard
- ✔ **Clean up** any accidental spill of chemicals immediately
- ✔ **Avoid storage** flammables or hazardous chemicals inside fume cupboard used for experimental work
- ✔ **Clean up** the fume cupboard after each use



**Bad**



**Better**



**Best**

Proper setup:  
Maintain at least **15cm** clearance from the plane of the sash.