



Fume cupboards

Fume cupboards are essential for researchers to safely handle substances like acids, solvents, and volatile organic compounds. However, fume cupboards are also energy-intensive and expensive to operate as conditioned air is constantly being exhausted to maintain safe flow rates, putting a strain on a building's heating, ventilation and air conditioning systems.

Fast facts

- Each fume cupboard consumes **3.5 times more energy** than an average house.
- According to a Harvard report, 44% of the energy used in their labs is directly related to ventilation.

Sash height stickers

- Estate Management (EM) have installed fume cupboard stickers to encourage users to keep the sash low.
- Installing the stickers has decreased UNSW fume cupboard sash heights by up to 34%, leading to significant energy savings. Find out more about the program [here](#).

Fume cupboard efficiency

- EM are benchmarking and improving ventilation system performance.

Sash alarms

- The successful trial of a UNSW-designed sash alarm was completed in 2022.
- The device alerts users when a fume cupboard sash has been left open. It can be installed on any fume cupboard type and can be adjusted to meet the needs of the research group.
- An updated version of these alarms is now available to all UNSW labs.

How you can help

- Always shut the sash when not in use.
- Some fume cupboards can be turned off when not in use. Consult your building manager to confirm this action is safe and feasible.
- Keep the sash closed when running unattended experiments.
- Raise the sash as little as practicable when working to ensure maximum efficiency and safety.
- To ensure safety, always keep fume cupboards clear of unnecessary items.
- Avoid evaporating chemicals or reagents in fume cupboards. Put them in appropriate waste containers instead of the atmosphere.
- Work at least 15cm inside the cupboard.
- Ensure all equipment is placed 20cm behind the sash, and 10cm from the side walls.
- If you see a fume cupboard without a sash sticker email LEAF1labs@unsw.edu.au.
- To request a sash alarm installation email LEAF1labs@unsw.edu.au.