



## Control approach 2



This guidance sheet is aimed at employers to help them comply with the requirements of

the Control of Substances Hazardous to Health Regulations 2002 (COSHH) by controlling exposure to chemicals and protecting workers' health.

The sheet is part of the HSE guidance pack *COSHH essentials: easy steps to control chemicals*. It can be used where the guide recommends control approach 2 (engineering control) as the suitable approach for your chemical(s) and task(s).

This sheet provides good practice advice on using a fume cupboard or a back ventilated workbench. It can be applied to many small-scale tasks using solids or liquids, eg weighing or mixing. It describes the key points you need to follow to help reduce exposure to an adequate level.

It is important that all the points are followed.

Some chemicals can also be flammable or corrosive. Where they are, your controls must be suitable for those hazards too. Look at the safety data sheet for more information.

Depending on the scale of work, releases into the atmosphere may be regulated within the pollution prevention and control (PPC) framework. You should consult your local authority or the Environment Agency. In Scotland, consult the Scottish Environment Protection Agency (SEPA). They will advise you if PPC legislation applies to your company, and about air cleaning and discharging emissions into the air. Otherwise, minimise emissions into the air.

# Fume cupboard

## Engineering control

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### Access

- ✓ Restrict access to the working area to authorised staff only.

### Design and equipment

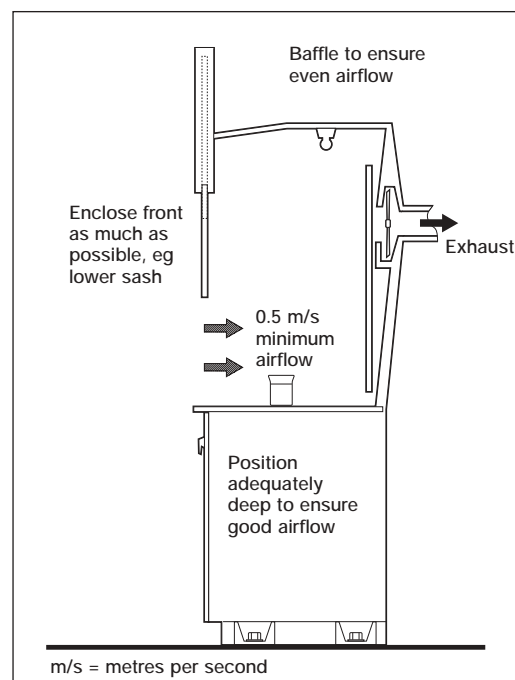
- ✓ Ensure fume cupboards are designed to recognised standards.
- ✓ Airflow at the opening of the cupboard should be at least 0.5 metres per second for vapour and 1 metre per second for dust.
- ✓ Make the cupboard deep enough to comfortably contain equipment and materials.
- ✓ Keep the opening as small as possible, but allow enough room to work safely. Keep the sash down as far as possible.

- ✓ Provide good lighting. It should be suitable for the chemical(s) or task(s), eg dust tight or flameproof.
- ✓ Where possible, site the work area away from doors, windows and walkways to stop draughts interfering with the ventilation and spreading dust or vapour.
- ✓ Have an air supply coming into the workroom to replace air extracted by the fume cupboard.

- ✓ Keep ducts short and simple, and avoid long sections of flexible duct.
- ✓ Provide an easy way of checking the equipment is working, eg manometer, pressure gauge or tell-tale.
- ✓ Discharge extracted air to a safe place away from doors, windows and air inlets.
- ✓ With exposure to dusts you can re-circulate clean, filtered air into the workroom.
- ✗ With exposure to vapours, re-circulation is not recommended.

### Maintenance

- ✓ Maintain the equipment as advised by the supplier/installer, in effective and efficient working order.



## Examination and testing

- ✓ Get information on the design performance of the equipment from the supplier. Keep this information to compare with future test results.
- ✓ Visually check the equipment at least once a week for signs of damage.
- ✓ Have the equipment examined and tested against its performance standard - generally at least every 14 months (see HSE publication HSG54).
- ✓ Keep records of all examinations and tests for at least five years.

## Cleaning and housekeeping

- ✓ Clean equipment and the work area daily. Clean other equipment and the workroom regularly - once a week is recommended.
- ✓ Deal with spills immediately.
- ✓ Store containers in a safe place and dispose of empty containers safely (see CGS 101).
- ✓ Put lids on containers immediately after use.
- ✗ Don't clean up with a dry brush or compressed air. Vacuum or wet clean.

## Personal protective equipment (PPE)

- ✓ Chemicals in **hazard group S** can damage the skin and eyes, or enter the body through the skin and cause harm. See CGS S100 and S101 for more specific advice. Check the safety data sheets to see what personal protective equipment is necessary.
- ✓ Ask your safety clothing supplier to help you select suitable protective equipment.
- ✓ Respiratory protective equipment shouldn't be needed for routine tasks. It may be needed for some cleaning and maintenance activities, eg dealing with spills.
- ✓ Keep any PPE clean and replace at recommended intervals.

## Training

- ✓ Give workers information on the harmful nature of the substance.
- ✓ Provide them with training on: handling chemicals safely; checking controls are working and using them; when and how to use any PPE you provide; and what to do if something goes wrong.

## Supervision

- ✓ Have a system to check that control measures are in place and being followed.

## Further information

- Safety data sheets
- *Maintenance, examination and testing of local exhaust ventilation* HSG54 (second edition) HSE Books 1998 **ISBN 0 7176 1485 9**
- *An introduction to local exhaust ventilation* HSG37 (second edition) HSE Books 1993 **ISBN 0 7176 1001 2**
- Control guidance sheets 101, S100 and S101

## Employee checklist for making the best use of the controls

- Make sure the ventilation equipment is switched on and is working.
- Make sure it is working properly; check the manometer, pressure gauge or tell-tale.
- Look for signs of damage, wear or poor operation of any equipment used. If you find any problems, tell your supervisor. Do not carry on working if you think there is a problem.
- Make sure that paper bags and other waste aren't drawn into the ventilation system.
- Make sure large items don't obstruct the opening to the cupboard.
- Wash your hands before and after eating, drinking or using the lavatory.
- Don't use solvents to clean your skin.
- Clear up spills immediately. For liquids, contain or absorb spills with granules or mats. For solids, use vacuum cleaning or wet mopping. Dispose of spills safely.
- Use, maintain and store any PPE provided in accordance with instructions.



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