

SSERC and your chemicals

It should come as no surprise that the use, misuse, storage and disposal of chemicals is one of the main concerns of schools and colleges. This is an area in which SSERC's many years of experience allows us to offer invaluable advice.

In the classroom/laboratory

Our experience with chemicals and the way they are used, particularly but not exclusively, in science and technology departments means that we can offer advice tailored to the type of usage likely in schools, thus limiting unnecessary danger but keeping exciting experiments that might otherwise be banned.

Chemicals are everywhere

Of course, chemicals are not only found in chemistry departments. In fact they are everywhere. Many are entirely harmless such as the sodium bicarbonate used in baking activities in Home Economics but others can be quite hazardous – especially if they were bought many years ago when restrictions were less stringent and have recently been rediscovered during a clear out. SSERC can advise on chemical safety in all areas, not just science departments.



In recent years we have dealt with queries relating to:

- **Safety of disinfectants involved in electrostatic spraying.** A process where a fine mist of disinfectant is electrically charged that allows it to stick to surfaces.
- **Safe storage of flammable hand-sanitiser.** One school called for advice after having a delivery of 2,500 litres of this flammable product!
- Dealing with **spilled mercury** usually from barometers but also from broken projector bulbs and once an antique barometer.
- **Safe use/storage of cleaning chemicals.** These are generally not very high risk but are present in large quantities so there is potential for significant harm.
- **Replenishment/disposal of preserved biological specimens.** While new samples use safer preservatives, many old samples are in formaldehyde, which is significantly hazardous.
- **Safety of clays and pigments used in art departments.** Many old paints and pigments contain dangerous compounds of lead, cadmium, chromium and arsenic and art departments may lack the chemical expertise for dealing with these safely
- **Safety of glues and varnishes in Design and Technology departments.** A similar situation applies as with art departments though the chemicals are different.

Above and beyond that, in a school or college potentially hazardous chemicals can be found in many other areas:

- **They are used in the maintenance of grounds and gardens: pesticides, herbicides fertilisers and more.** A specific issue is with ammonium nitrate fertiliser that can be used for making explosives so security is very important here.
- **Swimming pools** also require treatment with potentially hazardous chemicals. If used carelessly or spilled these can lead to fumes of toxic chlorine or bromine in the air.
- They are used in various **work-related courses** such as:
 - *Hairdressing* – hydrogen peroxide and various dyes. Hairdressers have the highest rate of dermatitis of any profession.
 - *Construction* – sawdust can be carcinogenic and cement or stone/brick dust can cause lung disease. In addition, contact with cement can lead to severe burns.
 - *Photography* is generally fairly safe but concentrated chemicals can be hazardous and there are some processes that use higher hazard substances.
 - and many more.



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It is important that these chemicals are used, stored and disposed of every bit as safely as those found in a laboratory. This is another area where SSERC can offer expert advice.

Storage and disposal

There is a small number of chemicals that should only be stored for a limited period of time before disposal, due to their developing dangerous by-products. SSERC produces a list of these and can advise if old samples are discovered.

Most chemicals cannot simply be poured down the sink or put in the bin. As well as being hazardous to human health, many of these are very damaging to the environment.

When chemicals do need to be disposed of, SSERC can advise on suitable contractors if needed but can often reduce the need for such expensive disposal by advising on methods for recycling, re-using or other DIY solutions. If needed SSERC will arrange a site visit – at no extra cost.

If you are worried about any chemicals, just get in touch via the [website](#).



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