



Practical chemistry resources on Learn Chemistry

Standard health & safety guidance

Health and safety in practical chemistry in schools and colleges affects all concerned: teachers or lecturers and technicians, their employers, students, their parents or guardians, as well as authors or publishers.

The Royal Society of Chemistry is a global organisation but the practical chemistry resources on Learn Chemistry were largely developed in the UK. At the time they were first published, they reflected what was considered good practice and were believed to be compliant with the relevant UK legislation. However, an analysis of accidents can sometimes lead to an improvement in practice and in any case standards and practices change over time. It is therefore always important to check when a resource was last revised: be cautious of anything more than a few years old. What was compliant with UK legislation may not satisfy requirements in other countries, although it is generally recognised that the UK sets high standards for health and safety.

All the resources relating to practical activities on the Learn Chemistry website have been (or are being) reviewed. Those which are no longer considered to reflect current good practice and/or UK health & safety legislation or which were unclear have either been removed or have undergone (or are undergoing) an editing process to improve them. Users need to be aware that this is an on-going process and should check the date of the latest review. In a few cases there are links to external websites which are not subject to the same review process and for which the Royal Society of Chemistry accepts no responsibility.

In the UK, an appropriate risk assessment must be conducted before hazardous materials are used or hazardous procedures undertaken. This is the responsibility of the employer and users of resources involving a practical activity need to review and comply with the appropriate risk assessment supplied by the employer. Usually, model risk assessments supplied by CLEAPSS, SSERC (in Scotland), or ASE fulfil the requirements as far as educational employers in schools and colleges are concerned. In rare circumstances, users may need to ask for a special risk assessment from CLEAPSS or SSERC. Some education employers have their own local rules which must always be observed although in training staff they should have taken steps to inform schools what these rules are.

Users outside the UK will need to comply with the relevant procedures in their country.

The Royal Society of Chemistry does not accept any responsibility and shall not be liable to users or any third party for any losses, damages, claims, expenses or outcomes resulting from the use of resources published on Learn Chemistry.

LearnChemistry
Enhancing learning and teaching

Assumptions

It is assumed that unless the activity is specifically and explicitly designed for use in other situations:

- the practical work is carried out or supervised by a qualified science teacher or other responsible adult with adequate knowledge of chemistry and the equipment used;
- practical work is conducted in a properly equipped and maintained laboratory;
- rules for student behaviour are strictly enforced;
- equipment is regularly inspected, properly maintained and appropriate records are kept;
- care is taken with normal laboratory operations such as heating substances and handling heavy objects;
- good laboratory practice is observed;
- suitable eye protection (and other personal protective equipment eg, gloves) are worn whenever risk assessments require it;
- any fume cupboard used operates at least to the current, nationally-accepted standard (eg, in the *CLEAPSS Guide G9A* or an equivalent international standard) and has been tested in accordance with national requirements;
- students are taught safe techniques for such activities as heating chemicals, smelling them, or pouring from bottles;
- hand-washing facilities are readily available;
- eye wash facilities are readily available;
- first aid facilities and a trained first aider are readily available.

Health and safety checking

As part of the reviewing process for the practical activities on this website, the health and safety check has attempted to ensure that:

- all significant recognized hazards have been identified;
- suitable control measures (precautions) to minimise the risks from these hazards are suggested;
- where possible, the procedures are in accordance with commonly adopted UK model risk assessments (largely those of CLEAPSS, SSERC and ASE);
- where UK model risk assessments are not available, procedures are satisfactory and of an equivalent standard;
- health and safety information is communicated in a clear and unambiguous manner.



Videos

This site includes a number of videos of different types, produced for different purposes.

Some of these are intended as **training videos** to show teachers and others appropriate and safe practical techniques. These have been (or are being) checked as above to ensure all the relevant hazards have been identified, appropriate control measures adopted, health and safety information is communicated in a clear and unambiguous manner and that the procedures are compatible with commonly adopted UK model risk assessments

Others, however, are intended more as **demonstration videos**, for example to show activities to students which could not easily or safely be carried out in schools. Although these videos have also been (or are being) checked to ensure they do show safe practice most of them do not identify all the hazards and may not show all the relevant control measures. They are intended to be shown to students to teach chemistry and they may well not give all the relevant health and safety information. For example, they may not give details of how the materials were safely prepared before filming started. In the past, numerous accidents have arisen because teachers copied what they had seen in a demonstration, without being aware of all the relevant precautions. **Teachers in the UK should not attempt to copy what they see in such demonstration videos unless they have checked, reviewed and comply by their employer's risk assessment. Teachers elsewhere should follow local procedures.**

We aim to maintain the highest level of safety advice on all of our practical chemistry resources. Users should notify learn-chemistry@rsc.org of any health and safety issues relating to the use of our resources and we will review such resources accordingly.