

FIRE RISK MANAGEMENT

Fire risk management is essential for ensuring personal safety and preventing catastrophic damage to buildings. Many aspects are included in an assessment of fire risk but a central theme is the control of ignition sources to prevent fire from starting.

Ignition sources and fuel, especially solvents and other flammable items, are present in abundance within CLS and cannot be removed completely, but can be kept under control. **Two such control measures are presented below:**

1. Within CLS, Bunsen Burners are used extensively and represent a **major ignition source**. There have been **various incidents** involving these burners (see below). Ideally, the risk from use of naked flames will be removed by banning naked flames in the lab. However, it is appreciated that this will not always be possible. Substitution with a safer alternative is a reasonably practicable step. Fire Boy™ burners (or similar) have safety features not present on basic Bunsen Burners and will help to reduce fire risk.
2. Use of solvents with naked flames is especially dangerous (see accident stats). A notable example of this is for flame sterilizing glass spreaders used during molecular biology work. An alternative and highly effective alternative is to use glass beads for spreading bacteria. **It is faster and much safer, so should be adopted as the default method instead of alcohol flaming.**

FIRE SERVICE OPERATIONS

Life and property safety is the primary role of the fire service. Both of these core principals must be considered alongside firefighter safety at all times. When considering a serious fire within life sciences, it is my view that, a “defensive” method would be adopted (considering the amounts of flammable and other hazardous materials stored).

Defensive firefighting incorporates primarily external application of water or other extinguishing mediums, which increases considerably the severity of damage to the building and its contents from direct burning, heat and smoke spread together with water and other damage resulting from the effects of firefighting from this defensive approach.

Therefore CLS must ensure that serious fires are not allowed to occur. Whilst the frequency of serious fire is low, the consequences will be enormous.

FIRES AT STRATHCLYDE AND SOUTHAMPTON UNIVERSITIES

In *2005* there was a massive fire that destroyed a leading computer science research unit at the University of Southampton. This fire incurred £50 million of damage, was caused by a **gas leak** and was the biggest academic insurance claim in UK history.

In *Feb 2012* a serious fire badly damaged lecture theatres and classrooms within a Strathclyde University chemical and mechanical engineering departments. Reports have suggested the fire may have been **caused by chemicals**.