

1 USE OF NAKED FLAMES

1.1 The College of Life Sciences understands the serious hazards posed by the use of naked flames within College buildings and the need to control these hazards adequately.

1.2 Use of naked flames is divided into two categories: (1) Use by Contractors or Estates Staff; (2) Use by laboratory staff.

2 CONTRACTORS OR ESTATES STAFF

2.1 The use of naked flames by Estates staff or contractors is tightly controlled by a Permit To Work (PTW) scheme, whereby any work with a naked flame within CLS buildings must be signed off by CLS H&S staff following detailed discussion with Estates or the contractor to ensure safe working practices are employed to minimise the chance of fire occurring and that measures are in place (e.g. the provision of additional fire fighting appliances) to extinguish fire if it does occur.

3 LABORATORY STAFF

3.1 Use of naked flames by laboratory staff must be prevented whenever possible due to the extreme hazards involved (both for personal injury and for damage to the building).

3.2 The default position is that a naked flame will never be used when there is a reasonably practicable alternative (see section 4 for examples). Reasonably practicable alternatives might involve additional cost, time or inconvenience relative to the use of a naked flame, but these costs are insignificant when compared with the potential costs associated with personal injury or building damage resulting from serious fire.

3.3 It is appreciated that there are some situations where use of a naked flame is likely to be the only way that a process can be performed. However, in these situations, it is vital that the hazard is adequately controlled. Where use of a naked flame is proposed, a defined set of procedures must be followed as set out below:

PROCEDURES FOR NAKED FLAME USE

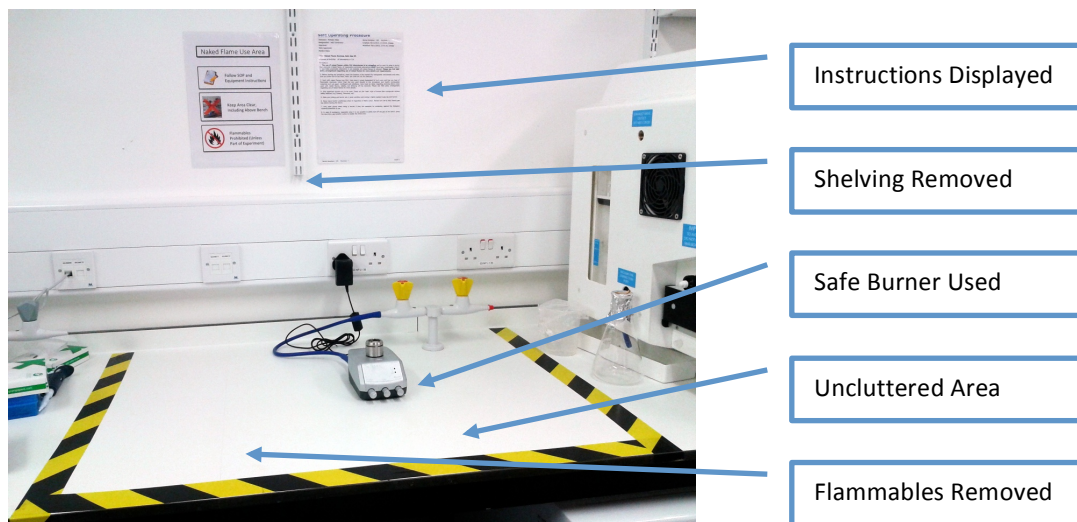
1. The need for use of a naked flame must be justified by demonstration that there is no reasonably practicable alternative.
2. A detailed risk assessment for use of the naked flame activity must be completed and approved prior to the activity being undertaken.
3. The work must follow an approved Safe Operating Procedure (SOP).
4. The naked flame activity must make use of a "safe" flame device (e.g. fireboy™) if at all possible.
5. The naked flame activity must only take place in a "sanitised" work area where all flammable and combustible materials have been removed from the immediate vicinity.
6. Where flammable materials (e.g. solvents) are used as part of the naked flame activity, their use must be strictly controlled and follow the SOP.
7. Operatives undertaking the naked flame activity must have received training in the activity and demonstrated competency to a suitable assessor.

4 EXAMPLES OF REASONABLY PRACTICABLE ALTERNATIVES

4.1 The table below provides details of various activities that have historically been undertaken with the use of a naked flame, together with reasonably practicable alternative method(s).

Naked Flame Method	Flame-Free Alternative(s)
Plating of bacterial transformation mix using a glass plate spreader that is flame sterilised between uses.	<ol style="list-style-type: none"> 1. Plastic disposable single use spreaders 2. Glass bead method
Using a Bunsen Burner flame to provide a sterile environment while setting up cultures	<ol style="list-style-type: none"> 1. Not needed if antibiotic is used 2. If no antibiotic used, laminar flow cabinet to maintain sterile environment
Using a Bunsen Burner to sterilise inoculating loop between uses	<ol style="list-style-type: none"> 1. Plastic disposable single use loop 2. Disposable sterile pipette tip
Flaming culture vessel openings	Laminar flow cabinet
Using a flame to draw out Pasteur Pipettes	Use pre-drawn pipettes or small bore plastic tip

5 WELL LAID OUT NAKED FLAME WORK AREA



- Instructions Displayed
- Shelving Removed
- Safe Burner Used
- Uncluttered Area
- Flammables Removed