

The use of open-flame gas burners in a Biosafety Cabinet (BSC) increases the chance of a fire.

OVERVIEW:

The cabinets recycle a percentage of air and can build up gas vapor from tubing leaks and incomplete combustion, and vapor from alcohol and other solvents present. Open flame sterilization of utensils and surfaces in microbiological laboratories is a common practice that unfortunately migrated to Biosafety Cabinets.

Use of a Bunsen burner to flame sterilize bacteriological loops and needles, bottles, tweezers, scissors, and scalpels is unnecessary and presents several hazards: **fire, explosion, disrupted air flow, heat damage to the HEPA filter, and a voided manufacturer warranty.**

DISCUSSION:

The Public Health Agency of Canada and the Canadian Food Inspection Agency of Canada prohibit the use of open flames in BSCs.

Autoclaving or using disposable sterile loops are preferred alternatives. When absolutely necessary, use on demand open flames such as a touch-plate microburner. This type of burner produces a flame only when the user's hand rests on a connected platform.

RECOMMENDATIONS:

- Use disposable sterile loops
- Autoclave utensils and equipment
- Replace Bunsen burners with electrical incinerators for sterilization
- Minimize combustibles in the BSC: keep only amounts needed for the shift
- If a flame is absolutely necessary, use a touch-plate microburner

Potentially dangerous experiments should never be left unattended, especially when an open flame is involved.



Don't let this be your BSC!!

Contact EH&S for an evaluation prior to the use of hazardous substances in your BSC.