

## **University of Wisconsin-Madison Application for Use of a Flame- or Heat-generating Device Inside a Biological Safety Cabinet (BSC)**

Heat from flame-generating devices (e.g. safety Bunsen Burner, alcohol lamp, torch or heat-generating devices (e.g. Bacti-Cinerator, bead sterilizer) affect the protective air flow in BSCs and as a result can compromise containment and increase contamination. There are fire and explosion hazards from the use of flame-generating devices in a BSC. Fires and explosions can occur by ignition of built-up gas when a shut-off valve is inadvertently left on, when the flame is blown out by the turbulent environment, or from using faulty tubing, connections, or shut-off valves.

Use this form to request approval for the use of a flame- or heat-generating device inside a BSC. Use of non-flame and non-heat generating alternatives should be explored before requesting approval for the use of flames or heat inside a BSC.

Please complete the following and submit to the Office of Biological Safety ([biosafety@fpm.wisc.edu](mailto:biosafety@fpm.wisc.edu)).

PI's Name:

Biosafety Protocol Number:

Building:

Room Number(s) Where Device is Used:

New Use of Device

Continued Use of Device

Device to Be Used:

Manufacturer and Model Number:

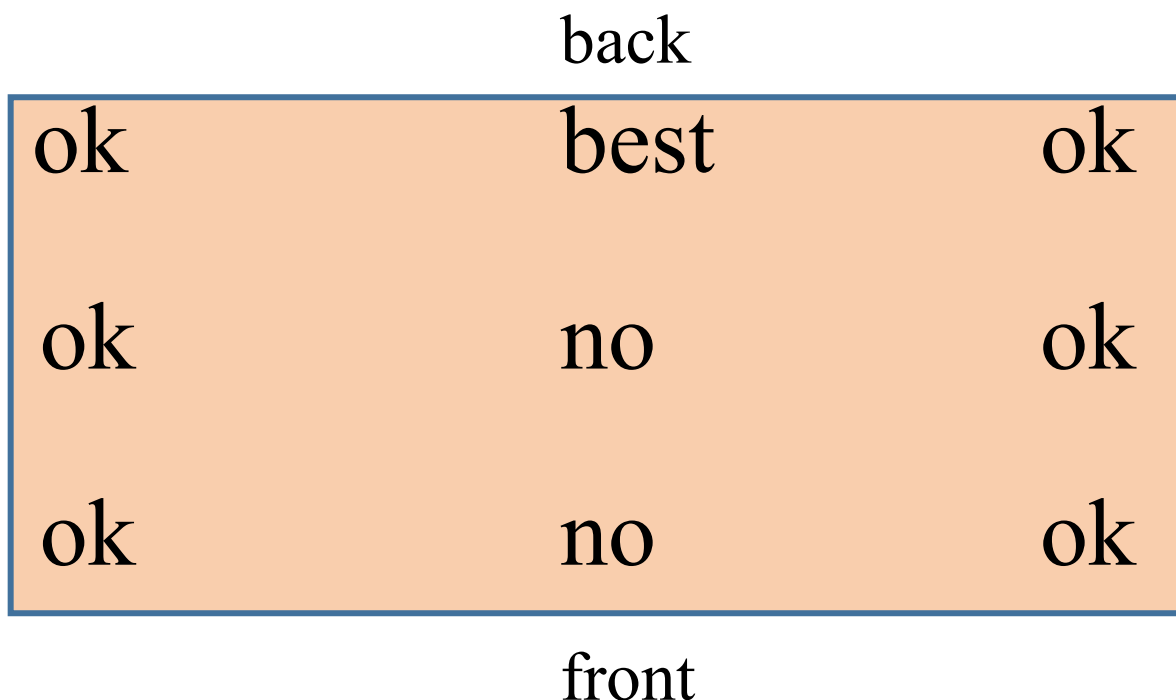
Please explain what alternative products that were considered or tried and why these product(s) are not viable options for the lab:

If the BSC is required to be hooked up to gas, please indicate the location of all shut off valves including the location of the emergency shut off valve:

**Training:**

Training that the lab provides to users for all flame- or heat-generating devices must include the correct use and the proper placement of the device in a BSC to minimize the impact of heat on BSC airflows. Figure 1 illustrates the placement locations with the best location in the center at the back wall. The device should never be placed in the center or center of the front row.

Figure 1: Correct placement of flame- or heat-generating devices in a BSC.



If the lab is seeking approval for the use of flame-generating devices, it should have procedures in place for the safe operation of the device and users be trained on the procedures in order to minimize the risk of fire or explosion in a BSC. In the event of a fire and the shut-off valve inside the BSC is not accessible, it is important that users are familiar with the location of all shut-off valves including the emergency shut-off valve. The training on the safe operation of the device should include the following:

- Verification that gas valves are closed before and after use
- Inspection for faulty or damaged gas lines prior to use
- Locations of all shut-off valves including emergency shut-off valve are known

Optional training that should be considered for all labs and not just those that use flame-generating devices is fire extinguisher training offered through Environment, Health & Safety. More information on the training including how to register can be found at <https://ehs.wisc.edu/training/> under Fire & Life Safety.

PI Signature:

By signing this form, you are certifying that lab personnel are using the device in the BSC as described in your biosafety protocol (if applicable), the device is only used in the areas of the BSC as designated in Figure 1, and users are trained on the correct and safe operation of the device as outlined above.

(For OBS/IBC Use)

**OBS/IBC Assessment and Decision:**

**Expiration Date of Approval:**

**Name of Person Completing Assessment:**

**Date:**