Principal Investigator: Date Approved:

**Flaming Inoculating Loops**

This SOP applies to using a flaming loop with biohazardous materials at BSL2.

Flaming loops used with biohazardous materials generate aerosols, potentially exposing personnel and the environment to infectious airborne droplets. Sterile disposable loops should be used in place of flaming whenever possible. Open flames inside a biosafety cabinet (BSC) can damage the HEPA filter and lead to buildup of flammable materials, as well as cause serious disruption to the airflow, potentially resulting in contamination of materials. In general, flaming is not necessary inside a BSC because the BSC provides a sterile environment. If a flame is required for the procedure, alternative flaming devices are available for use inside the BSC.

**Personal Protective Equipment**

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**Engineering Controls, Equipment, and Materials**

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| **Alternative Flame Device** | Such as Bacti-Cinerator, electric bunsen burner, or glass bead sterilizer |
| **Biosafety Cabinet** | Enclosed, ventilated laboratory workspace that protects the worker from aerosols |
| **Inoculation Loops** | Disposable or inert metal |

**Procedures**

1. Place alternative flaming device in the aerosol containment device and heat according to manufacturer’s directions
2. Heat metal loops according to procedural requirements
3. Cool loop before use
4. Reheat loop after use

**Cautions and Considerations**

* If disposable loops are used, a flaming device is not needed
* Bunsen burners must never be used inside a BSC
* If a flame is absolutely required, use a touch plate microburner or something that only provides a flame on demand
* Follow manufacturer’s directions for use of alternative flame device
* Consult with EHS before employing a flame inside a BSC

**References**

1. University of Utah Fact Sheets on “[Open Flames in Biosafety Cabinets](https://ibc.utah.edu/library.php)”