STANDARD OPERATING PROCEDURE

Use this form to document the Health and Safety information associated with the procedure.

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| **Procedure Title** | | Use of BactiZapper Infrared Sterilizer | | | | | | |
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| **Dept** | ABE | |  | **Bldg/Rm** | Sukup 4210 |  | **Supervisor** | Adina Howe |

**Procedure Overview** (brief description of the project)

The BactiZapper Sterilizer is a gasless, flameless sterilizer for use with platinum inoculating loops, needles, glass tube/pipette mouths and various metal and borosilicate glass instruments. Sterilization is accomplished through infrared heat without the dangerous spattering of microorganisms.

**Health and safety information for materials used (**briefly describe the hazards associated with the materials and/or equipment **OR** document your hazard assessment in Section I)

This equipment can reach temperatures of 500°C on low and 825°C on high in its cylindrical sterilization area used for sterilizing tools. Heated objects can cause burns to tissue or surfaces. Heat can ignite flammable liquids and vapors, for example, ethanol, a common sterilizing solution used in conjunction with tool sterilizers. In addition, the outer shield of the heater element can reach temperatures as high as 400°F.

**Hazard Control Measures**

Please select which type of lab coat, eye protection, and hand protection will be used (Lab coat, eye and hand protection, and closed toe/heel shoes must be selected as required by Section D of the ISU Laboratory Safety Manual.)

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|  | Latex gloves |  | Insulated gloves |  | Face shield |  | Respirator |
|  | **Nitrile gloves** |  | **Safety glasses** |  | **Lab coat** |  | Fume hood |
|  | Neoprene gloves |  | Vented goggles |  | Apron |  | Biosafety cabinet |
|  | Vinyl gloves |  | Splash goggles |  | Dust mask |  | Glove box |
|  | **Fully enclosed shoes** | | |  | Flame resistant lab coat | | |

***Other Control Measures***

This tool is most commonly used in a biosafety cabinet. Should materials ignite, close the shield and turn off air circulation. Many but not all biosafety cabinets will turn air circulation off automatically when shield is closed.

**Methods** (Include step by step instructions detailing the process or attach this document to an existing method.)

See excerpts from the manual appended to the end of this document for operating instructions.

When finished, turn off, unplug, and carefully move it to the bench. Place a sign nearby warning others that the device is HOT.

**Waste Disposal Procedures**

No waste is generated by this process.

**First Aid Procedures**

Minor burns are typically small, red, have swelling, and can blister. Cool burns with cold water and continue until the pain lessens. After cooling, cover with a dry, sterile bandage or clean dressing. Consult a physician as needed. Report all injuries to a supervisor.

All accidents and injuries occurring at work or in the course of employment must be reported to the employee's supervisor as soon as possible (even if no medical attention is required).

**Spill/Release Containment, Decontamination, and Clean Up Procedures**

Not applicable

**Using Substances Requiring Special Procedures?** No X Yes

(If Yes; identify authorized personnel, designate a use area and specify specialized safety precautions here. Refer to Section B in the ISU Laboratory Safety Manual for details.)

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| **Written By** |  |  | **Date** |  |
|  |  |  |  |  |
| **Approved By** |  |  | **Date** |  |

(PI or Lab Supervisor)

1. **HAZARD ASSESSMENT**

Use the hierarchy of controls to document the hazards and the corresponding control measure(s) involved in each step of the procedure.

Consider *elimination or substitution* of hazards, if possible.

***Engineering Control(s):*** items used to isolate the hazard from the user (i.e. fume hood, biosafety cabinet).

***Administrative Control(s****):* policies/programs to limit the exposure to the hazard (i.e. authorizations, designated areas, time restrictions, training).

***Required PPE***: indicate PPE including specific material requirements if applicable (i.e. flame resistant lab coat, type of respirator or cartridge).

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| **Task** | **Hazard** | **Engineering Control(s)** | **Administrative Control(s)** | **Required PPE** |
| Sterilizing tools | Tissue burns from hot objects | Use tools with insulated handles. | Training in proper tool use |  |
| Sterilizing surfaces around hot equipment | Ignition of ethanol,  Ignition of ethanol leading to ignition of other flammable objects nearby | Use in biosafety cabinet with stainless steel surfaces.  Keep work area uncluttered | Training in proper methods of surface sterilization | Biosafety cabinet |
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1. **TRAINING RECORD**

Use the following table to record the training associated with this Standard Operating Procedure.

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| --- | --- | --- | --- |
| **Print Name** | **Signature** | **Trained By** | **Date** |
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**How to use the BactiZapper Infrared Sterilizer**

Diagram

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Table

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