Bunsen Burner Alternatives

**Sterile and Disposable Loops and Spreaders** ($100-$200 for 1000 units)

*For yeast or bacterial colony work*

**Pros:**
- Pre-sterilized and designed for single use
- No risk of cross contamination and no need for flaming
- Surfaces are smooth with no rough edges and no burrs on loop heads
- Flexible enough for streaking, and rigid enough for subsurface inoculation

**Cons:** Creates waste

**Bacti-cinerator** ($250-$600)

*For yeast or bacterial colony work*

**Pros:**
- Sterilizes loops and needles by infrared heat
- Heat is contained in deep ceramic tube to protect laboratory personnel
- Completes sterilization in 5-7 seconds at 1500°F (815°C)

**Cons:** Types of items able to be sterilized are limited

**Glass bead sterilizer** ($400-$500)

*For surgeries or work involving surgical equipment*

**Pros:**
- Ideal for sterilizing surgical instruments with dry heat using glass beads at 233°C
- Can sterilize submerged portion of surgical instrument in 15 seconds
- Replacement glass beads can be purchased separately
- No gas line or open flame needed

**Cons:** Only sterilizes surgical instruments

**Electric Bunsen burner** ($600-$800)

*For work involving test tubes, small flasks, beakers, crucibles, etc.*

**Pros:**
- Ideal for non-contact heating of test tubes, crucibles, small flasks, beakers, etc.
- Vented housing keeps base cool enough to hold during operation
- Burner consumes only 400W of power
- No gas line or open flame needed

**Cons:** Items able to be heated are limited by size

**FIREBOY Safety Bunsen burner** ($700-$800 for unit; butane gas cartridges $263 for 24 from Integra)

**Pros:**
- Automatically tries to reignite the flame if it accidentally extinguishes
- If it is unable to reignite, the safety burner will interrupt the gas supply
- Gas cartridge adapters - independent from gas distribution system
- Has foot switch for gas control

**Cons:**
- Gas cartridges create waste
- Open flame has higher risk of injuries

**FLAMEBOY portable flame sterilizer** ($500-$650 for unit; butane gas cartridges $263 for 24 from Integra)

*For removing bubbles on agar plates*

**Pros:**
- Portable, handheld, battery-free Bunsen burner
- Immediate ignition independent of any power source or battery
- Various gas cartridge adapters for gas connections and cartridges
- Size and temperature of flame can easily be adjusted by an air and gas regulator

**Cons:**
- Handheld flame creates higher risk of injuries
- Gas cartridges create waste