

<b>Johns Hopkins Safety Manual</b>	Policy	<b>HSE 510</b>
<i>Subject:</i>	Review Date	09/16/05
<b>Use of Gas in Biological Safety Cabinets</b>	Page	1 of 1

## POLICY

It is the policy of Johns Hopkins to minimize the risks of open flame usage in Biological Safety Cabinets. When flame is required in Biological Safety Cabinets, a pilot-less Bunsen burner controlled by a momentary, foot-actuated pedal must be employed as the flame-source to eliminate the potential for unattended flame and reduce the risk of gas and/or heat build-up within the confines of the Cabinet. **No other use of gas is permitted in Biological Safety Cabinets without prior approval from HSE.**

## GUIDELINES

The use of gas in Biological Safety Cabinets is not recommended due to the potential for uncombusted gas build-up and the hazards commonly associated with the use of an open flame-source. Although the sterile environment created within a properly functioning Biological Safety Cabinet should allow one to perform most experiments without the use of flame, the Biosafety Office acknowledges that some investigators may still wish to utilize flame in their protocols for technical and/or historical reasons.

A number of foot-actuated, pilot-less Bunsen burner units are currently commercially available that greatly minimize the dangers of handling flame in Biological Safety Cabinets. The mechanisms of these devices all operate in a similar fashion. Gas is prohibited from entering the burner housing unless the foot pedal is actuated. When the foot pedal is actuated, gas is allowed into the housing and a piezo-based spark is generated for ignition. Flame is produced for the duration of foot pedal actuation and is extinguished when the foot pedal is released. As a safety feature, gas is automatically shut off if spark fails to produce flame on actuation or if the flame extinguishes prior to foot pedal release.

The only units approved by the Biosafety Office are those that are dedicated to momentary foot pedal actuation. Units that are equipped with manual over-ride capabilities or those that can be triggered by a form of proximity sensor are not authorized for Biological Safety Cabinet use. Gas supply lines or hoses that deliver gas to the burner must be secured with tight-fitting hose clamps. In addition, gas supply valves must be turned off when the burner is not in use.

A list of approved units will be maintained by the Biosafety Office. **Violations of this policy may result in the loss of gas service to the laboratory's Biological Safety Cabinets.**

**Compliance with this new policy is required by the end of calendar year 2005.**

## RESPONSIBILITIES

Principal Investigators/Lab Managers	Assure compliance with the policy through the purchase and proper installation of approved Bunsen burners in all Biological Safety Cabinets in which gas is used.
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Health, Safety and Environment	Monitor practices to verify that gas use in Biological Safety Cabinets is in accordance with JHU policy.
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## REVIEW CYCLE

Annually