

## Working with Open Flames and Bunsen Burners

### 1.0 Introduction

This document explains the procedure for working with open flames and Bunsen burners in the lab. Bunsen burners present fire hazards. They produce an open flame and burn at a high temperature, and as a result, there is potential for an accident to occur.

For the safety and convenience of everyone working in a laboratory, it is important that the following guidelines be observed.

In case of a fire, activate the nearest fire alarm station and evacuate the building. Flames are used during any bacterial work that is carried out in the laboratory. Only nominated staff in the NDMRB may work with open flames and Bunsen burners, to become a nominated you must undergo relevant training and supervision. Use of open flames and Bunsen burners must never happen out of hours.

All unused containers must be stored in flammable liquid storage cabinets and all used pressurised containers must be disposed of via the lab manager.

***This replaces TDI-SOP-013***

### 2.0 general Rules

1. Place the Bunsen burner away from any overhead shelving, equipment or light fixtures by at least 12 inches
2. Remove all papers, notebooks, combustible materials and excess chemicals from the area.
3. NEVER use flammable substances in the vicinity of the Bunsen burner. If you need to sterilise the area using ethanol, wipe down the area and allow to dry thoroughly before setting up the Bunsen burner. Ensure that any ethanol (and other flammable liquids) are completely clear from the area before proceeding.
4. Use a conventional bunsen burner on a heat proof mat and not directly on the benches. If you are using the canisters that have the burner attachment a heat proof mat is not required.
5. Tie back long hair, do not wear dangling jewelry or loose fitting clothing. Lab coats and safety glasses must be worn at all times.

6. Check that the Bunsen burner is in good repair before use – if you are unsure about it being fit for purpose then do not use – report to the lab manager.
7. Notify people around you that you are going to be using the Bunsen
8. Use a sparker/lighter with extended nozzle to ignite the burner. Never use matches to ignite the Bunsen. Ensure that this is to hand before turning on the gas.
9. Adjust the intensity of the flame by turning the collar to regulate the air flow and produce an appropriate flame
10. NEVER leave open flames unattended and NEVER leave the laboratory whilst the burner is on
11. Shut off all gas and turn of Bunsen when work is complete
12. Allow the burner to cool before handling and ensure that the gas is off before leaving the laboratory.
13. Store all canisters and burners in a cool dry place well away from all sources of ignition.
14. As always, when working at the bench all PPE must be worn including eye protection, gloves and a labcoat.

## **2.1 Other risks**

The use of the Bunsen burners which use the gas cartridge involve the use of gas which is under pressure. Users of this system must read NDMRB-SOP-001 Safe movement and handling of Compressed Gas Cylinders and its associated risk assessment NDMRB-RA-065

## **3.0 Risk Assessment**

NDMRB-RA-0071 Working with open flames and Bunsen burners

## **4.0 Review**

The information in this document will be reviewed and amended if necessary every 3 years by the laboratory manager or alternative relevant personnel.

## **5.0 References and further reading**

[www.hse.gov.uk](http://www.hse.gov.uk) Controlling fire and explosion risks in the workplace