

**LOCAL JOINT HEALTH AND SAFETY COMMITTEE
DEPARTMENT OF BIOMEDICAL SCIENCES
STANDARD OPERATING PROCEDURE**

1. SAFE USE OF ALCOHOL BURNER

Effective Date: September 2002

Author: R. Braham (taken from Boekel Industries, Inc. Directive)

Purpose: To promote the safe handling and use of Alcohol Burner in the lab

Approvals Required: Faculty Supervisor, Local JHSC, EHS

2. DEFINITIONS:

Alcohol Burner: The alcohol burner has replaced the natural gas Bunsen burner in the laboratory for purposes such as flaming microbiological loops. This open flame device is a potential hazard and should be used with care and respect for health and safety.

Flash Point: The minimum temperature at which a liquid within a container gives off vapour in sufficient concentration to form an ignitable mixture with air near the surface of the liquid.

Flammable Liquid (Class I): Liquid with a flash point of less than 37.8°C (e.g. acetone, ethanol, toluene, hexane, carbon disulphide, gasoline, camp stove fuel).

3. REQUIREMENTS:

Applicable Legislation: Occupational Health and Safety Act (OHSA), R.S.O. 1990, Sections. 25-28, 36-38 and 42

Ontario Regulations 860, R.R.O. 1990, - WHMIS

Ontario Fire Code (Ontario Regulations 388/97, Part IV)

Ontario Fire Code, O. Reg. 388/97, Section 5.6

UoG Safety Policy 851.08.06

Persons handling flammable and combustible solvents shall be WHMIS trained with yearly WHMIS reviews, and receive department safety orientation.

4. HAZARDS:

Physical Properties: Absolute ethyl alcohol (ethanol) is a clear, colourless, very mobile **flammable liquid** with a pleasant odour and a burning taste, and has a **FLASH POINT OF 9-11°C**.

Toxic Properties: Absolute ethyl alcohol absorbed, inhaled or ingested may cause nausea, vomiting, flushing, mental excitement or depression, drowsiness, impaired perception, in coordination, stupor and death.

5. DESCRIPTION OF THE TASK:

- ***Wear an all cotton or fire retardant labcoat as the basic personal protective tem of clothing when handling flammable solvents or combustible liquids.***

- Wear safety glasses.

- Fill the burner to between ½ and full in the fumehood away from open flame using a funnel of appropriate size. **DO NOT** overfill the burner by attempting to decant directly from a large size solvent container into the burner reservoir. If necessary transfer the alcohol to a small beaker first.

- Always cap the source of the fuel and return the bottle or can to the flammable storage cabinet. (Other burner fuels such as methanol {flash point 12°C} or isopropanol {flash point 11.7°C} may be substituted for ethanol).

- Transfer the filled and cupped burner to the location where it is to be used. This area should be away from shelving, chemicals and equipment and not cluttered with Class A flammable material such as paper, books and cardboard.
- Before lighting the burner keep long hair tied back and labcoat cuffs rolled up.
- Light the burner at this location only using matches or a barbecue lighter. **Do not attempt to light the burner from another lit burner or carry a lit burner to another location. NEVER, NEVER, NEVER ATTEMPT TO REFILL OR TOP-UP A LIT BURNER!**
- Avoid working over the burner flame.
- Extinguish the burner flame with the burner cup. When not in use, store the cupped and cooled burner in the flammable storage cabinet.

6. CONTINGENCY PLAN AND REPORTING:

Refer to SOPs for Flammable Solvent Management and Use of Fumehoods.

Know the location and use of fire extinguishers.

Know the procedure in case of fire.

Know the location of the nearest fire alarm pull station.

Know the location and use of the Solvent Spill Kit.

In an emergency phone x52000 for assistance.

Report problems to immediate supervisor and if necessary fill out and submit an Injury/Incident Report form.

7. WASTE MANAGEMENT:

There should be no solvent waste from the alcohol burner.

8. REFERENCES:

Material Safety Data Sheets

WHMIS Regulations

Occupational Health and Safety Act

Ontario Fire Code, Part 4

UoG Safety Policy 851.08.06

Solvent Spill Handler Directions

9. DISTRIBUTION OF COPIES:

Technicians, Graduate Students, Project Students, other University of Guelph employees working in the lab.

Dr. _____, Faculty Supervisor

Environmental Health and Safety

Local JHSC, Department of Biomedical Sciences

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Authorization: Faculty Supervisor

Date: