

# MBAA Safety Tool Box Talk



## Lab Safety

### Overview

Brewery QA labs can be an overlooked area of safety concern in the brewing industry. While many of the hazards they present are in common with the wider brewery, the lab represents a concentrated microcosm in which many hazards are present in a small area. For example, a typical QA lab may use and stores more diverse range of hazardous chemicals than the rest of the brewery combined. Labs may also present some unique hazards such as those posed by needles, glassware and biological agents. Given the overlap in hazards found breweries and brewery QA labs this tool box focuses on hazards found primarily in the lab. For information on chemical and electrical hazards, PPE and fall protection please refer to the applicable tool box talks.

### Glassware

Glassware presents several hazards including explosions, cuts and chemical cross contamination. These hazards should be mitigated by venting glassware that may become pressurized or under vacuum. Thoroughly clean glassware after use to avoid cross contamination and the inadvertent mixing of chemicals that could produce a toxic or explosive reaction.

### Fire Safety

The typical brewery lab features the potentially dangerous combination of flammable chemicals (iso-octane, acetone, ethanol, iso-propyl alcohol), and numerous ignition sources (gas burners, electrical sparks, friction from oscillating and rotating equipment), making fire safety a genuine concern. Have a fire extinguisher in your lab, keep it certified and know how to use it before for you need it. If emergency services are called meet them and let them know where the fire is located and inform them of any flammable, toxic or explosive substances in the lab.

### Biohazards

The antibiotics used in making up microbiological media or in prepared media can be extremely toxic in very small amounts. Precautions that should be taken include using gloves, eye protection and face shields. All glassware and surfaces that the antibiotics contact need to be thoroughly cleaned after media is prepared. Care should be taken to wash hands after handling antibiotics, particularly before eating. Avoid eating or storing food where these antibiotics are being used or stored.

### Compressed Gas

Gas cylinders can become missiles if punctured and therefore need to be treated with caution. Cylinders should be secured in an upright position with a chain or hasp, away from any objects that could fall and strike them. When moving cylinders use a hand truck and secure the cylinder to it with a chain. Remove regulators and cap the cylinder when not in use. Ensure labels are maintained and do not store more compressed gas than is immediately needed in your lab.

### Autoclaves

Autoclaves present a number of potential physical hazards including burns from direct contact with the autoclave itself or with hot items being autoclaved, burns from the steam exiting the autoclave when opened and exploding glassware during opening and unloading of the autoclave. Precautions to take include using only autoclave safe glassware, insulated gloves, ensuring all containers placed in the autoclave are vented. Stand well clear when the autoclave is opened.

### Centrifuges

Rotor wear or imbalanced loading can result in catastrophic rotor failure. Centrifuges should be maintained in good working order

and care taken when loading the rotor so that it is in balance. Do not slow or stop the rotor spinning with your hands while unloading non braked centrifuges. Take the extra time to let it come to rest.

### Fume Hoods

Fume hoods are designed to mitigate potential inhalation of hazardous fumes. To ensure fumes are retained in the unit turn on the ventilation fan, ensure vents are free of obstructions and the materials you are working with are not preventing a free flow of air. At minimum, materials and equipment should be at least 6 inches inside the hood. Avoid forcing air from the hood with rapid motions. Keep electrical connections outside the fume hood. Work with the sash as low as practical for protection from splashes, fumes and explosions.

### Needles

Needles used to collect microbiological samples come with the risk of spreading blood borne illness. Use a sharps container to dispose of used needles. Although re-capping used needles is not recommended, if it is imperative to use the one hand method. With one hand kept behind the back scoop the cap off a flat surface with needle and seat the cap against the surface.

### Links

[ASBC Lab Safety Checklist](#)  
[OSHA Laboratory Safety Guidance](#)

**FOR MORE INFORMATION ON  
BREWERY SAFETY PROGRAMS,  
PLEASE VISIT THE MBAA SAFETY  
WEBSITE AT**

**[www.  
mbaa.com/brewresources/brewerysafety](http://www.mbaa.com/brewresources/brewerysafety)**