

Burns caused by handling hot glassware or equipment and by touching hot surfaces are common accidents in laboratories. Accidents caused by the ignition or explosion of flammable liquids when working with flames are comparatively rare, but when they do occur, they are catastrophic, resulting in severe injuries. Reviewing the safety precautions every time you work with a Bunsen burner will reinforce safe laboratory practices, increase safety awareness, and reduce the risk of accidents.

Basic Precautions:

- Remove flammable and combustible materials from the lab bench and surrounding work area when Bunsen burners will be used. Do NOT use a Bunsen burner in any lab when working with flammable liquids or solvents.
- Inspect the burner, attached tubing, and gas valve before use. Check for holes or cracks in the tubing and replace the tubing if necessary.
- Never heat a closed system.
- Use caution whenever working with heat or flames-most minor laboratory burns result from carelessness when touching hot objects.
- Never leave a lit burner unattended. Always turn off the gas at the source when finished using a Bunsen burner.

Tips for Working Safely with a Bunsen Burner:

- Use only heat-resistant, borosilicate glassware when using a Bunsen burner. Check the glassware for scratches, nicks or cracks before use and discard defective glassware - cracked glassware may shatter without warning when heated.
- Wear chemical-splash goggles whenever working with chemicals, heat or glassware in the science lab. Tie back long hair when working with a Bunsen burner, and do not wear loose, long-sleeved clothing. Never reach over an exposed flame!
- Use the proper procedure for lighting a Bunsen burner. Close or partially close the air vents on the burner to make it easier to light. Turn on the gas and bring a lighter alongside the barrel of the burner, then slowly raise the flame over the top of the burner from the side
- Adjust the air supply to obtain a small, bright blue, cone-shaped flame. For slow, uniform heating, brush the burner flame across the bottom of glassware when starting to heat.
- Rapid change in temperature can damage glassware. Heat and cool slowly.
- Do not overfill glassware. Use the appropriate size vessel for what you will be heating. Never fill vessel more than 1/2 of the way full.
- Use care when removing hot glassware or when pouring hot liquids. Use tongs or heat-resistant gripping devices/gloves, and remember that glassware may stay hot for some time.
- Never look directly into a container that is being heated. When heating a test tube, make sure that the mouth of the test tube is not pointing at anybody (including yourself)!

Additional safety information on heat producing appliances can be requested by contacting the PSU Environmental Health & Safety Department.