

Bunsen Burners

Mindfulness Minute: Incorporate safety into your workflow by considering the hazards associated with your equipment each time you use it.



Bunsen burners have been laboratory staples since their invention in 1855. They can be used in a wide variety of applications, and many researchers have used them since high school. Despite being commonplace in the lab, Bunsen burners can pose burn hazards to people, animals, and surroundings.

Follow this list of dos and don'ts for safe Bunsen burner use:

Do replace Bunsen burners with safer alternatives whenever feasible.

Do carefully check your surroundings before using a Bunsen burner. Clear the area around and above the Bunsen burner of any combustible materials.

Do alert others around you that you are using a Bunsen burner before turning it on. Non-luminous flames can be difficult to see, which could cause others to get burned if they don't suspect the Bunsen burner is on.

Do inspect the tubing connecting your Bunsen burner to a gas source. Repair appropriately or replace if there are cracks or breaks. Select tubing of an appropriate material and thickness (e.g.: butyl, fabric-reinforced PVC, neoprene) for chemical compatibility, leak-resistance, and flexibility.

Do wear a cotton lab coat and eye protection when using a Bunsen burner to avoid contact with splashes, which may be hot, to the skin and eyes. Heating material (like the culture on the end of an inoculating loop) can cause spatters and splashes.

Do secure loose hair, jewelry, and clothing when using a Bunsen burner to avoid accidental contact with flame.

Don't use Bunsen burners without being trained by someone with experience, and ask for help or supervision adjusting the flame height or if you are not confident using Bunsen burners.

Don't troubleshoot problems with the Bunsen burner without supervisor guidance.

Don't use Bunsen burner if tubing does not fit snugly to the connectors on the gas source or the Bunsen burner. This could cause natural gas to escape into the room.

Don't use thin silicon, Tygon, or other tubing not suitable for natural gas, as these can leak natural gas.

Don't use rigid tubing, as it can have coil memory and cause the Bunsen burner to fall over.

Don't store flammables (e.g.: paper or ethanol) above bench space where Bunsen burners are used.

Don't leave a Bunsen burner on and unattended.

Don't use Bunsen burners in a biosafety cabinet due to disruptions in airflow and damaging heat produced by the Bunsen burner.



Although it can be tempting to leave Parafilm strips where they are convenient for use, they could easily reach or be blown into the flame of the Bunsen burner