

# Heat Guns – Safety Talk



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**Before using a heat gun, first determine if a safer method can be used!**



Heat guns are frequently used in research labs to dry glassware, heat the upper parts of a distillation apparatus during distillation of high-boiling point materials, and to develop thin-layer chromatography (TLC) plates. Other heat gun applications for removing or softening materials also exist in the lab setting.

## Heat Gun Hazards:

- The heating element in a heat gun typically becomes extremely hot during use; however, the lack of a visible flame can create a false sense of security or false impression of safety and while the danger zone is invisible, it is very active. The combination of sparks and forced ventilation over a glowing filament may lead to fire and/or explosion.
- Heat guns operate at lower air speeds and produce temperature as high as 1200F, hot enough to melt some types of glass.
- The power switches and fan motors are not usually spark-free and can pose a serious ignition hazard.

## Keep the following in mind when using a heat gun:

- Do not use a heat gun near combustible or flammable materials including open containers of flammable liquids, flammable vapors or hoods used to control flammable vapors/atmospheres.
- Be aware of the direction of the heat.
- Always switch the heat gun off before putting it down on any surface.
- Unplug the heat gun when not in use, especially if the lab is unoccupied.
- Always maintain a minimum of one centimeter of clearance between outlet nozzle and work surface.
- Allow the tool to cool before storing it.
- Never touch the hot metal nozzle with clothing or skin.
- Never direct the air flow towards one's body.
- Do not look down the nozzle while the gun is turned on.
- Do not insert anything down the nozzle of the gun.
- Never block the inlet grill or obstruct the air flow of the unit while in operation.
- Do not use an extension cord to power a heat gun because a high current draw can result in overheating and pose risk of fire or electrocution.
- Never hold a sample without forceps while using a heat gun or you will risk direct exposure of the heat to your hand.

**Make sure all heat guns are unplugged when not in use, especially if a lab is unoccupied.**

Below is an example of a heat gun fire that began in a lab. The lab was unoccupied at the time of the fire so a cause could not be determined, however, had the heat gun been unplugged, the potential for a fire would have been greatly reduced. Thankfully, there was minimal property damage and no injuries in this scenario; but we encourage you to take the threat posed by heat guns very seriously and ensure they are unplugged after every use.

