

Electric Space Heater Safety at LBNL (and at Home)

All of the specified requirements for portable space heaters are listed in [PUB-3000, Chapter 12, Work Process I](#).

Work Process I. Use of Portable Heating Devices

Portable heating devices include portable electric space heaters, coffee pots, hot plates, and other such devices. Portable heating devices may only be used when there is no chance of injury or fire occurring from their use. This applies to both Berkeley Lab–provided and personally owned devices used within Berkeley Lab spaces on site and Berkeley Lab–leased spaces off site. Given the widespread use of portable space heaters at Berkeley Lab, detailed information regarding their safe and effective use is included below:

1. Portable Space Heaters

Only electric space heaters are allowed in Berkeley Lab buildings. Space heaters using fuels (propane, kerosene, or solid fuel) are not allowed in operational buildings. On occasion, fuel-fired space heaters are allowed during base build construction of new buildings; however, they require special review and approval by Protective Services and EHS Industrial Hygiene (IH). Contact Protective Services and IH for more information.

To ensure the safe use of portable electric space heaters, the following conditions are required:

Minimum Safety Features

- The heater must be the GROUNDED type (cord with three-prong plug) or double-insulated and must be listed by a Nationally Recognized Testing Laboratory (NRTL), such as Underwriters Laboratories (UL) or Electrical Testing Laboratories (ETL), and shall be marked (e.g., UL Listing Mark).
- The heater must have a maximum rating of 500 watts.
- The heater must AUTOMATICALLY SHUT OFF when it is tipped forward or backward as a minimum. Additionally, the heater:
 - Must have internal overheat shutoff protection or
 - Must be rated for –Zero Clearance from combustibile material by an NRTL (a heater that has a zero clearance rating means the outside of the unit will not get hot. As such, contact with a combustibile material should not produce a fire.)
- The automatic shutoff switch should be tested annually by tilting the space heater while it is turned on. If the switch functions properly, the unit will shut off.
- The heater should be kept clean and must not be covered with dust. Cords must be in good condition and must not be frayed.

SUGGESTED HEATERS THAT MEET THIS CRITERIA

MANUFACTURER	DESCRIPTION	WATTS	NRTL	SAFETY DEVICE	TYPE
NewAir	AH-400	400	YES	Tip-Over Switch	Radiant convection; no fan
iHeater	Micro 250	450	YES	Overheat Protection	Infrared; with fan
Lasko	MyHeat 100	200	YES	Overheat Protection	Infrared; with fan
Cozy Products	Cozy Legs	150	YES	Zero-Clearance	Radiant; no fan
Cozy Products	Toasty Toes	90	YES	Zero-Clearance	Radiant; no fan
Cozy Products	Foot Warmer	90	YES	Zero-Clearance	Radiant; no fan
Cozy Products	Super Foot Warmer	135	YES	Zero-Clearance	Radiant; no fan
Optimus	H-4110	300	YES	Tip-Over Switch	Radiant; no fan
Optimus	H-7800	300	YES	Tip-Over Switch	Infrared; with fan

Contact the Fire Marshal if you have any questions or concerns.

Use

- Always read and follow the manufacturers' operating instructions before operating the heater.
- Always TURN OFF the heater or UNPLUG it when you leave the office for an extended period (e.g., when you leave for a meeting, for lunch, and at the end of the day).
- Do not try to use a portable space heater to heat the entire suite or floor. Portable electric heaters are designed to be used as supplemental heat for a single room or small area. They should provide temporary heat only.
- If the heating requirement is permanent, or if you have found that multiple persons within your office suite or space are using electric portable space heaters to supplement the heat in the same area, please contact the Facilities [Work Request Center](#) at ext. 6274 to have the building's heating system inspected and adjusted.
- If your space heater causes the circuit breaker to trip, please contact the Facilities Work Request Center at ext. 6274 to review the adequacy of the electrical circuit.
- For 24-hour operation (e.g., during construction or maintenance shutdown), obtain a permit by calling Protective Services for the proposed operation. Post the permit conspicuously near the appliance.

Placement

- The heater shall be placed on a level and sturdy surface.
- Do not use a heater where flammable or explosive vapors, or dust, toxic, or radioactive materials, may be present.
- Do not place heaters near combustible materials such as papers, magazines, drapes, or office furniture. Follow manufacturer guidelines for placement of the heater. If no manufacturer guidelines are present, provide at least a 36-inch clearance in front of the heater and an 18-inch clearance from all sides, the top, and the back. (Recommendation: think about putting the heater on a level metal plate so that it cannot set the floor on fire in case of a malfunction).
- Use of heaters in or near wet areas, such as locker/shower rooms, is prohibited.
- Do not place a heater in an exit where the cord can become a tripping hazard.
- Do not plug a heater into extension cords or plug strips. It should be plugged into a permanent wall outlet. If a new wall outlet is needed, contact the Facilities Work Request Center at ext. 6274 to have a wall outlet installed.
- Never run a power cord under the carpet or floor mat.

Go here for a short movie:

<http://electricalsafety.lbl.gov/2014/12/02/electric-space-heater-safety/>