

Use of the laboratory microwave oven

Our microwave oven is a conventional appliance, which is not equipped with temperature, pressure control, or venting devices beyond the ones typically present in a domestic microwave oven.

Operation

Open door to place item(s) into oven, close the door. Program microwave intensity and time. Start oven. Stop oven manually or wait until time program is ended. Open door and remove hot items.

Safe operation and precautions

1. Never use the microwave to heat food for human consumption.
2. Do not operate the oven if it is damaged. The door must close properly and there must be no damage to the door seals, hinges, and latches.
3. Do not slam the door, since this may damage the latches and seals.
4. Do not heat combustible, flammable, or radioactive materials in the oven, or solvents with low boiling points, or volatile hazardous chemicals.
5. Do not heat sealed containers, as they may explode. Containers must have their tops/caps/closures fully loosened.
6. Avoid standing right in front of the microwave during use, in case there is an explosion. But stay nearby, in case there is a problem.
7. To avoid a pressure build-up, do not heat frozen solutions unless the radius of the frozen material is less than the radius of the container opening.
8. Care must be taken when heating solidified agar/agarose. Either chop up the material first with a spatula, or heat at a maximum of 40% power until the radius of the solid material is less than the radius of the container opening. The goal is to prevent boiling until there is a route for releasing pressure.
9. Do not microwave any aluminum foil or metal container, utensil, or object, including those with a metallic trim.
10. When removing a bottle, flask, or similar container, point its opening away from you and nearby people, to prevent spattering of the material onto any person.
11. When removing items from the oven, use proper gloves.
12. When removing items from the oven, use eye protection, unless you have let the item sit and cool for a minimum of two minutes.
13. Be careful when agitating liquids, as these may be superheated and boil once moved.
14. Clean up any spills, including materials on the walls of the chamber.