



Safe Use of Microwave Ovens in Laboratories – Rev 1

Purpose of the safety bulletin: Prevent incidents from unsafe use of microwave ovens in KAUST Laboratories.



Laboratories at KAUST use specific microwave ovens for sample preparation, reactions or for heating to accelerate reactions; some of the hazards include burns, electric shocks, pressure build-up in sealed containers or fires. To minimize the risk of these hazards, lab users must:

- **Not** use FULL-Power setting – use 'defrost', 'reheat', etc., to allow time for even distribution of heat.
- **Never** leave a microwave oven **running unattended**. It is **very easy to apply too much heat**.
- **Keep** vents clear of papers, books or equipment.
- **Never** heat **flammable, hazardous or radioactive materials**.
- **Be aware** that overheated liquids may **spontaneously boil** – causing a severe burn hazard.
- **Never** defeat the interlock switches that prevent operation with the door open.
- **Not** feed any wires, cables, tubing etc., between the door and the seal.
- **Check** sealing surfaces are clean and undamaged. Arcing or burn marks may indicate leakage.
- **Never** use a lab microwave oven for food preparation (or vice versa).
- **NOT** heat sealed or closed containers. All caps or lids must be removed completely, **before** heating.
- **Not place metal objects of any kind in a microwave oven**. This includes aluminum foil and plastic-coated magnetic stirrer bars.
- **Wear** heat-protective gloves when removing items from a microwave oven.

Emergency procedure:

In case of fire, keep door closed and unplug if possible. Call **911** from a landline or **012-808-0911** from a mobile phone.

Small spills: clean up immediately by trained people using appropriate personal protective equipment.

Large spills: call **911** or **012-808-0911** for hazmat help. Inform others about the spill.

Report defects/difficulties promptly to the Labs Safety Representative, Lab Manager/Supervisor, and Lab Equipment and Asset Management lem@kaust.edu.sa

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If you have any questions, contact: Researchsafety@kaust.edu.sa