

## USING A MICROWAVE OVEN IN A LABORATORY

### Incident description

A significant incident occurred in one of the laboratories within the University. Whilst heating a buffer solution in a microwave, the microwave door was dislodged. The rotary plate and door were damaged and pieces were scattered into the laboratory (see picture below). It was fortunate that no one was injured from this incident.

An extensive incident investigation was undertaken and the following causes were identified:

- heating time was programmed too long
- screw cap too tightly fixed
- inappropriate selection of bottle size



Figure 1: Scattered microwave pieces



Figure 2: View inside damaged microwave 1

### Corrective actions

As a result of this incident, the following corrective actions have been completed:

- The risk assessment was reviewed and updated to include the following control measures:
  - Remove cap from bottle before heating
  - Select suitable bottle and size for the task
  - Ensure bottle is checked for damage or cracks prior to use
  - Ensure bottle is not overfilled when in use
  - Heat in several short periods and monitor so solution is not overheated
  - Wear heat proof gloves and ensure the container opening is directed away from face and skin, when retrieving hot items from the microwave
  - Inspect microwave for damage, before use.
- The standard operating procedure was updated to include the controls
- The standard operating procedure includes tagging out faulty microwaves and report to Laboratory Manager
- The staff and students were familiarised with the updated risk assessment and standard operating procedure