

Plant – **Designated plant**

12.02.10

Portable steam sterilizers >

This information bulletin has been produced to inform industry and workers of the safety requirements when using electronically heated portable steam sterilizers.

General

Sterilizers (autoclaves) are used to kill heat susceptible bacteria.

They are found in a wide range of workplaces such as laboratories, plant nurseries, medical and allied health establishments, tattoo shops and dental and veterinary surgeries.

There are different types of sterilizers but this bulletin is specifically about **electrically heated portable steam sterilizers**. As these sterilizers use steam under pressure, operators or others nearby are at risk of serious burns if the sterilizer is faulty, breaks down or is not used properly.

Remember

- read and understand the manufacturer's handbook;
- do not place materials on top of the sterilizer;
- use the sterilizer only for its intended purpose;
- open the chamber door only when the chamber has been depressurized;
- ensure the person opening the door is standing to the side of the chamber and not in front of it; and
- use appropriate personal protective equipment such as heat resistant gloves - the chamber and inside of the door will be hot for some time after the end of the cycle.

Employers should

- ensure any purchased sterilizer is suited to the needs of their workplace;
- purchase sterilizers which meet Australian or other equivalent standards;
- ensure any sterilizer is properly installed and tested before use;
- ensure regular and effective maintenance is carried out;
- provide training to enable employees to work safely with the sterilizer; and
- keep appropriate records.

putting safety first >



Installation and testing

Sterilizer installation should be carried out by a competent person and in accordance with the manufacturer's instructions.

Employers should also ensure

- the unit is placed on a bench in a workplace leaving a minimum of 150 mm access to the back and sides. The bench should be about waist height;
- the unit is situated in an appropriate work area so that staff are not normally close to it. For example do not place the sterilizer in a thoroughfare, an amenity area such as a kitchen, or an area where space is limited;
- levelling bolts are adjusted after the sterilizer has been correctly positioned;
- the electrical plug is located away from the back of the sterilizer. This will minimise the risk of burns from steam escaping from the safety valve or vent;
- a drip tray is in place for water collection when the door is opened, if this is necessary; and
- the unit and components are inspected and tested by an electrician.

Operation and maintenance

Daily operations

- Remove any excessive condensate remaining in the chamber after a cycle has been run.
- Remove from the chamber any pieces of sterilizer tape, glass, etc as these may interfere with the operation of the sterilizer - ensure that no material falls into the chamber exhaust line as this may affect the operation of the chamber exhaust valve.
- Examine the door seal for dirt - the chamber must be air tight when the door is closed.

Weekly operations

- Clean the interior of the chamber with a mild detergent solution. - *Steel wool must never be used* - if cracks are noticed in the chamber, cease use of the sterilizer until a service technician is able to investigate;
- Run a cycle with no load;
- Check the door seal for possible leaks; and
- Check that the pressure gauge and temperature gauge is operating correctly.

Half yearly maintenance

Half yearly maintenance is to be carried out by a suitably qualified service technician and in accordance with the manufacturer's instructions.

If no such instructions are available, maintenance should be in accordance with other proven and tested procedures.

Training

Employers must provide relevant employees with adequate training, instruction and supervision to enable them to safely operate the sterilizer.

Employees who should be trained include:

- those who operate, inspect, or maintain the sterilizer;

- those who train others to operate, inspect or maintain the sterilizer; and
- those who work near the sterilizer.

Training should include

- risks associated with the sterilizer - for example burns;
- control measures in place to minimise these risks;
- task specific training such as loading, unloading and maintaining the sterilizer;
- use and maintenance of personal protective equipment; and
- First Aid in the event of burns.

Records

Records are one way of keeping useful information about the workplace sterilizer. Records should be current, retained for the life of the sterilizer and be available as required, for instance if a NT WorkSafe Officer visits.

Records should include

- the identification number of the sterilizer;
- date, type and cost of any maintenance, repairs or modifications;
- who carried out the maintenance, repairs or modifications;
- dates and results of inspections and tests; and
- details of training programs.

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