

Revision : ----	Document Code : WI- ML-6188	Document Title: Standard Operating Procedure (SOP) for Iranian Teeb Zaeem 25L Autoclave	 دانشگاه علوم پزشکی و خدمات بهداشتی و درمانی آستان قدس اسلامی
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Standard Operating Procedure (SOP): 25-Liter Autoclave (Iranian Tab Zaeem)

1. Objective

To define the standard operating procedure for the operation and maintenance of the 25-liter autoclave manufactured by Iranian Tab Zaeem for the effective sterilization of laboratory equipment and media.

2. Scope

This procedure covers the sterilization process using pressurized steam to eliminate all forms of microbial life, including spores, from inanimate objects.

3. Responsibility

The responsibility for implementing this procedure lies with the designated laboratory experts.

4. Operating Procedure

1. Preparation:

- Open the autoclave lid and remove the internal basket.
- Fill the chamber with water (a mixture of distilled and tap water) up to the **MAX** fill line.
- Place the basket back into the unit and arrange items inside. Ensure the lid is securely closed.

2. Execution:

- Switch the **ON/OFF** button to the **ON** position.
- Press **START** to initiate the cycle.

3. Cycle Monitoring & Completion:

- The **WATER** and **HEATER** indicator lights will remain illuminated during the heating phase.
- Once the temperature reaches **121.5°C**, the **HEATER** light will turn off, the **COMPLETE** light will illuminate, and the timer will begin a countdown.

4. Post-Cycle:

- Once the timer expires, switch off the device.
- Open the steam release valve on the lid to allow all steam to escape.
- Do not** attempt to open the lid until the pressure gauge reads zero.

5. Safety Precautions

- Loading:** Arrange items with adequate spacing for steam circulation. Avoid overfilling the chamber.
- Prohibited Items:** Never autoclave corrosive agents, volatile solvents, or radioactive materials.
- Sealing:** Verify the lid is correctly sealed and locked before starting the cycle.
- Opening the Unit:** Open the lid slowly after the cycle. Keep your head and face away from the steam release path to prevent thermal burns.
- Glassware:** Loosen the caps of all glass containers slightly to prevent breakage due to pressure differences.

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- **Materials:** Use only heat-resistant, autoclave-safe containers.

6. Maintenance and Care

- **Power Connection:** The autoclave must be plugged directly into a dedicated wall outlet (avoid multi-plug extension cords).
- **Water Check:** Always verify the water level before powering on the unit.
- **Water Quality:** Use of distilled water is highly recommended to prevent mineral scaling inside the chamber and to mitigate electrical hazards.
- **Pressure Safety:** Never attempt to force the lid open before the internal pressure has reached atmospheric levels (gauge at zero).
- **Air Purging:** The automatic valve on the lid is designed to purge excess air from the start to the end of the cycle.
- **Culture Media Preservation:** To prevent significant evaporation or boiling over of culture media, allow the device to cool down completely before opening the lid.

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