

# Cleaning and Decontamination of the epT.I.P.S.<sup>®</sup> Box

Kornelia Ewald<sup>1</sup>, Detlef Hempfling<sup>2</sup>

<sup>1</sup>Eppendorf AG, <sup>2</sup>Eppendorf Instrumente, Hamburg, Germany

## Introduction

Various procedures are available for cleaning and decontamination of the epT.I.P.S. Box. While the box is typically decontaminated via autoclaving or UV irradiation, various cleaning agents are used to clean it in the laboratory. The chemical resistance of the box is crucial when using such chemicals for these cleaning procedures.



## Introduction

During routine lab work, various chemicals are used for the regular cleaning and decontamination of the epT.I.P.S. Box. However, the use of these materials can have a variety of effects on the stability of the plastics in the box. Two of the most important factors are the concentration and length of exposure of the chemicals.

The initial goal of the experiments described here was to verify whether the epT.I.P.S. Box exhibits chemical resistance when cleaning and decontamination agents are used. During the second step, an assessment was made to determine whether cleaning, and subsequent autoclaving, can lead to changes in the material.

## Materials and Methods

### Materials

- > epT.I.P.S. Box (for epT.I.P.S 10-300 µL)
- > 3150EL autoclave, SN 2308046, Systec
- > Cleaning and decontamination agents:
  - > DNA AWAY (Molecular BioProducts Inc., lot 07050513)
  - > Hexaquart® S (B. Braun Melsungen AG, lot 61941121)
  - > COUNT-OFF™ (Perkin Elmer Inc., lot 120-061101)
  - > Dismozon® pur (Bode Chemie GmbH, lot 643194)
  - > Helipur® (B. Braun Melsungen AG, lot 64651110)
  - > Hi-Tor Plus (Huntington Laboratories Inc., U.S., lot 61027145)
  - > Korsolex® basic (Bode Chemie GmbH, lot 255571)
  - > Meliseptol® (B. Braun Melsungen AG, lot 64821104)
  - > Fermacidal D2 (IC Products SA, Switzerland, lot 58485)
  - > Descosept AF (Dr. Schumacher GmbH, Melsungen, lot 415659)

### Method: Wipe test

#### Procedure

- > Soak a paper towel in cleaning or decontamination agent.
- > Wipe off the lid and all surfaces of the lower part of the box by applying pressure.
- > Inspect the parts for chemical resistance.

### Method: Chemical resistance in conjunction with autoclaving

- > Place the lid and lower part of the Box in a tray.
- > Fill the lid and lower part of the Box with cleaning and decontamination agent to a filling height of approx. 5 mm; fill the bottom of the tray with cleaning and decontamination agent.
- > Allow it to react for 24 h.
- > Assemble the lid and lower part.
- > Pour approx. 50 mL of cleaning and decontamination agent into the lower part of the Box.
- > Place the Box in an autoclaving bag and seal the bag.
- > Autoclaving.

#### Parameter

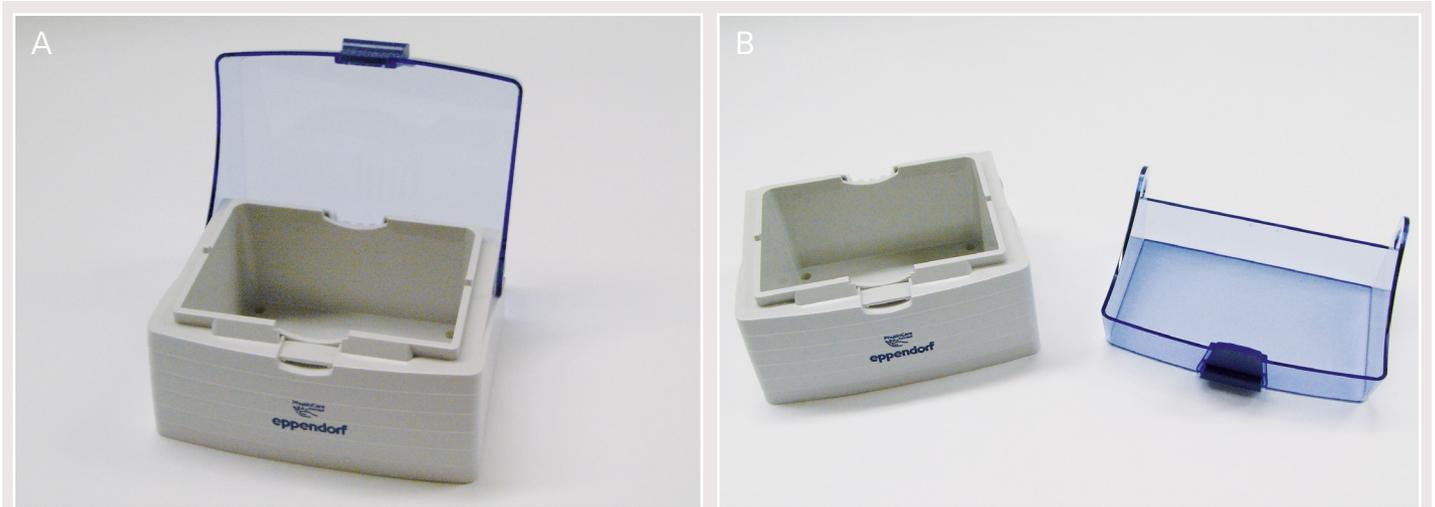
Sterilization temperature	121 °C
Sterilization pressure	1 bar
Sterilization time	20 min.
Unloading temperature	50 °C

#### Program run

- > Sterilization chamber fills with demineralized water, which is then heated to reach the sterilization temperature.
- > After the sterilization temperature has been reached, it remains constant throughout the set sterilization time.
- > Slow release of steam; steam is released from the chamber until the atmospheric pressure is reached.
- > The sterilization chamber is heated for 20 min. with reduced heating capacity.
- > Remove the Box from the autoclaving bag, wash it and, if necessary, wipe it with a damp cloth.

## Results

The lid and lower part of the epT.I.P.S. Box were resistant to all tested cleaning and decontamination agents during the wipe test (see Fig. 1a-b).



**Figure 1a-b:** Results of the wipe test: Box and lid are resistant to the cleaning agents used.

**Table 1:** Resistance of epT.I.P.S. Box and lid to cleaning agents, in conjunction with autoclaving.

	Wipe test		24 h test and autoclaving	
	Box	Lid	Box	Lid
Hexaquart S	r	r	r	r
DNA AWAY	r	r	r	r
Descosept AF	r	r	r	c
Hi-TOR Plus	r	r	r	c
Meliseptol	r	r	c	r
Dismozon pur	r	r	r	n
Fermacidal D2	r	r	r	n
Korsolex basic	r	r	r	n
Count off	r	r	n	n
Helipur	r	r	n	n

■ r = resistant ■ c = conditionally resistant ■ n = non resistant



**Figure 2a-d:** Decontamination by reagents in connection with autoclaving: Examples of box and lid not being resistant against tested reagents.

## Conclusion

As demonstrated by the wipe test, the epT.I.P.S. Box can easily and safely be cleaned and decontaminated using the tested cleaning agents (Fig. 1). In the second test the reagents were in direct contact with the box and lid during autoclaving. Here, the box only exhibited resistance against DNA AWAY and Hexaquart S cleaning and disinfection agents. They are therefore well suited for cleaning in conjunction with autoclaving (Tab. 1). With seven of the ten tested cleaning agents, the lid, in particular, demonstrated medium to strong instability when used together with autoclaving (Fig. 2 and Tab. 1).

The box and lid should not be autoclaved together with the tested decontaminating reagents. As shown by the wipe test, the surfaces are chemically resistant against the tested reagents. Thus we recommend to rinse off the reagents by distilled water before autoclaving.

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