

Cleaning and sterilization of resealable flowcells

Cleaning

The resealable flowcells are produced in cleanroom facilities and clean areas to prevent physical impurities. Nevertheless, some cleaning processes might be necessary to remove for example organic residues. For the cleaning of the resealable flowcells it has to be distinguished between the glass slides with and without a gasket.

Glass slides without gasket:

- Can be cleaned with organic solvents.
- Can be wiped with tissue if not rubbed with too hard, what might cause scratches.
- Physical cleaning of the surface by either heat up to 400 °C or oxygen plasma treatment is possible.
- Alkaline solution can be exploited to clean the surface, e.g. 1 M sodium hydroxide in water can be used.
- Concentrated sulphuric acids could dissolve organic material, but are extremely corrosive, thus it is not advised to use those. Hydrochloric acid could be used for cleaning.

Glass slides with gaskets:

- Can be cleaned with ethanol, isopropanol, and acetone. Therefore the glass slides could be either immersed in the solvents or rinsed with them. Especially for immersion of the gasket in solvents might lead to diffusion of those into the gasket. Thus, it is recommended to rinse the glass slide with the gasket thoroughly with water or buffer to remove residues.
- Must not be wiped with linty tissues, because the sealing might be affected negatively or completely lost if the gasket is covered with lint's.
- It is advised to not wipe the gasket as that might cause scratches or damage of the gasket, reducing the sealing abilities.
- Physical cleaning of the surface by either heat (with a maximum temperature of 140 °C) or oxygen plasma is possible.
- Cleaning with acids or bases was not fully tested.

Sterilization

The resealable flowcells are not sterilized when delivered. Thus, if sterile flowcells are necessary, they need to be sterilized. For the sterilization of the resealable flowcells it has to be distinguished between glass slides with and without a gasket.

Glass slides without gasket:

- Can be sterilized with ethanol.
- Can be autoclaved.

Glass slides with gasket:

- Can be sterilized with ethanol
- It is unknown if the gasket could withstand autoclavation. Dry heat of up to 140 °C can be applied.