

# Recommendations for Cleaning and Disinfecting Dräger Alcotest Products

Dräger Alcotest products support users worldwide. They are easy to use and allow the user to collect a breath sample and quickly analyze it. The breath sample is collected in a non-invasive manner and the methodology avoids most hygiene concerns.



## Alcotest Handheld

Single-use mouthpieces and the device designs are built to avoid hygienic concerns for the donor and user. The exhaled breath flows over the top of the device and only a small sample is collected from this flow to be analyzed by the Alcotest device. The position of the disposable mouthpiece and the molded hand grip provide a safe, hygienic distance between the operator's hand and the subject. The mouthpieces have a special spacer to prevent the donor's lips from making contact with the instrument. In addition the Alcotest 7510 has a special mouthpiece ejection system which allows for quick mouthpiece ejection without having to touch the mouthpiece. All mouthpieces are available with a non-return valve which prevents the exhaled breath from being inhaled back in by the donor. Dräger recommends the use of these mouthpieces for the protection of the operator and donor.

## Alcotest Desktop devices

The disposable single-use mouthpiece ensures only hygienic contact between the donor and the instrument. Due to the requirements to collect a breath sample the breath must flow over and into the device but fortunately the use of mouthpieces with non-return valves provides protection for the donor as no sample volume can be sucked back.

## Disinfecting and cleaning

We have experienced an increasing number of questions regarding the cleaning and disinfecting of Alcotest devices. Please refer to the Instructions for Use manual and the following manufacturer's recommendations for help in this process.

## Cleaning of the devices

1. Any disinfecting wipes used should not be wet enough to drip liquid.
2. During the cleaning procedure carefully wipe around the gas inlet. No liquid should enter the gas inlet.
3. The handheld devices should be stored (for a minimum of 2 minutes) upside-down or laying on their side. With the tabletop units the breath house should be move outside its recess for the post-cleaning period. This is to avoid having any cleaning liquids or chemicals entering the gas inlet.
4. After being disinfected with ethanol or other chemicals containing alcohols the device should be stored for at least 15 minutes at room temperature and remain switched off during this time period to avoid error messages when testing. Any alcohol must be evaporated before the next test.
5. Prior to the first breath test procedure after a cleaning it is recommended the user perform a passive test (handheld devices) in an area clean of alcohol. After successfully passing a passive test with a "No Alcohol" result a regular breath test procedure can be started. If the device does not allow for a passive test (desktop devices) a breath test with no alcohol should be substituted (wet bath or dry gas with 0.00 mg/L if possible).

## Recommended chemicals for cleaning and disinfecting

- Alcohol based disinfecting wipes (Ethanol & n- / iso-Propanol)
- Peroxide cleaner
- Wipes with chemicals based on Benzalkonium chloride should be avoided if possible and can only be used if it has a concentration of < 0.5 g per 100 g.

When Alcotest devices are exposed to a peroxide cleaner for an extended period of time the waiting period before using the device to run a breath test is 30 minutes (stored in an environment with clean ambient air).

## Dräger recommendations for disinfectants

### 1. BODE Chemie/Hartmann

Alcohol based cleaner:

- *Sterillium® Protect & Care* (Ethanol based)
- *Bacillol® AF Tissues* (Propanol based)

### 2. DIVERSEY™

Alcohol based cleaner:

- *Suma Alcohol Wipes*

Peroxide based cleaner:

- *Oxivir Excel® Wipes*

These disinfectants have been thoroughly tested by Dräger and an extended test over 14 days did not reveal any material damage to the device.

## Chemicals with a negative impact on Alcotest sensors – not recommended:

- Aldehyde- based cleaner
- Chlorous cleaner
- Wipes with chemicals based on Benzalkonium chloride with a high concentration of > 0.5g per 100g

### Attention:

Cleaners with chemicals based on Benzalkonium chloride can negatively impact measurement accuracy and reduce the sensitivity and lifespan of the Alcotest fuel cell sensor when used too often. Aldehyde-based and chlorous cleaners may not be used for cleaning or disinfecting Alcotest devices.

## Further recommendations

- Don't perform a passive test immediately after the device is disinfected to avoid the possibility of chemical vapor being sucked into the device.
- The waiting time after cleaning is essential especially after disinfecting a device with an alcohol based cleaner. Ethanol based cleaners have the least impact on the long-term viability of the fuel cell but the ethanol must have completely evaporated before performing the next breath test.
- After the cleaning and disinfection process the ambient air is saturated with the disinfectant. Please make sure that the device is not stored near the disinfectant or where the disinfectant has been used. The fuel cell sensor will react with very small amounts of residue. We recommend to keep the devices in ambient conditions with fresh air during the waiting period.
- After cleaning and disinfecting Alcotest devices many times over an extended period the lifespan of the fuel cell sensor may be reduced. Cleaners and disinfectants put stress on the sensor and the sensitivity may be reduced. It is recommended to perform calibration checks and adjustments regularly.
- The device is not ready to be used again until a passive test is completed with a "no alcohol" result.
- A passive test immediately after the device is disinfected can lead to the error message "Overload"/"↑↑↑". This means the sensor is stressed and will need time to recover.

## Special notes for handheld devices

After disinfecting a device with alcohol based cleaners the sensitivity of the fuel cell sensor may still have been reduced even if the passive test is passed. **A waiting period of at least 15 minutes must be observed** to ensure a valid test result.

## Special notes for desktop devices

For desktop devices the recommended waiting period is 15 minutes as the long breath hose prevents cleaners from having much influence on the fuel cell sensor after proper cleaning (see instructions above).