Korsolex® Endo-Cleaner
Korsolex® Endo-Disinfectant
Proven and comprehensively surveyed system for the chemo-thermal reprocessing of endoscopes.

High material compatibility. Very good cleaning performance. Broad spectrum of effect including HAV.

Research for infection protection. www.bode-science-center.com
With Korsolex® Endo-Cleaner and Korsolex® Endo-Disinfectant, we provide a system for the chemo-thermal reprocessing of endoscopes that has proved its effectiveness millions of times over more than 12 years. The products are used for the automated reprocessing of flexible and rigid endoscopes and of equipment used in anaesthesia and intensive care.

Above all, the two products convince by their high degree of material compatibility, excellent cleaning power and exceptional efficacy. The system for the chemo-thermal reprocessing of endoscopes has not only proved its effectiveness in practice for more than a decade – its exceptional performance has also been testified in numerous expert reports.

**Manual pre-cleaning**

Careful cleaning provides the preconditions for subsequent successful disinfection. The RKI therefore recommends manual precleaning with careful flushing and brushing of the endoscope channels, even when machine chemothermal endoscope reprocessing is to be carried out. Korsolex® Endo-Cleaner can also be used as a manual pre-cleaning agent for endoscopes and other instruments.

**Manual disinfection**

When using manual disinfectants, only aldehyde-containing preparations may be used. The use of aldehyde-free preparations can result in chemical reactions.

**Chemo-thermal reprocessing**

Korsolex® Endo-Cleaner and Korsolex® Endo-Disinfectant are dosed via the machines’ own pumps. Automated reprocessing begins with a cleaning step. To achieve thorough cleaning, the temperature in the cleaning solution should be 45 – 55 °C. The high compatibility of the two products allows the subsequent disinfection to be carried out in the same solution. This does not influence the microbiological effectiveness. However, separate solutions for cleaning and disinfection are always preferable.

Korsolex® Endo-Cleaner and Korsolex® Endo-Disinfectant contain complexing agents to keep water-hardening agents in suspension and thus prevent limescale deposits in the machine and the endoscopes. The final rinse should be carried out with demineralised water. Follow the machine manufacturer’s recommendations and carry out regular maintenance.

**Machine processes**

The following reprocessing programme is to be preferred:

1. **cold prerinse without the use of product, 1-3 minutes**
2. **cleaning with Korsolex® Endo-Cleaner, dosing at 30 °C, 0.5 %, cleaning at 45-55 °C, 5 minutes**
3. **intermediate rinse**
4. **disinfection with Korsolex® Endo-Disinfectant, dosing at 30 °C, disinfection 1 %, 55 °C, 5 minutes**
5. **intermediate rinse**
6. **final rinse**
7. **drying**

**Change of product**

In case the product is changed, adaptation to the dosing system must be made. The dosing volume must correspond to the product’s density. Follow machine and product manufacturer’s instructions closely.

---

**Efficacy testing for chemothermal reprocessing of endoscopes**

For material compatibility reasons, heat-sensitive medical devices such as flexible endoscopes cannot be sterilised after their cleaning and disinfection. Hence, in Germany, the reprocessing has to be carried out with virucidal products (1). The test for virucidal activity is performed in accordance with the German Registered Association for Combating Viral Diseases (DVV) by means of adenovirus, polyoma, vaccinia and polio-viruses. If the reprocessing temperature exceeds 40 °C, the DVV additionally requires a proof of efficacy against parvoviruses (2).

The EN 14476:2007-02 also demands an activity against parvoviruses, but independent of the reprocessing temperature (3). In this standard, the additional viruses for virucidal testing are polio and adenoviruses.

Chemothermal disinfection procedures are verified in quantitative suspension tests. A procedure is virucidal when it yields a titre reduction of ≥ 4 log10 steps (inactivation of ≥ 99.99 %).

---

3 DIN EN 14476: Chemical disinfectants and antiseptics - Virucidal quantitative suspension test for chemical disinfectants and antiseptics used in human medicine – Test method and requirements (phase 2, step 1).

**Research for infection protection.**
**Korsolex® Endo-Cleaner**

**Product properties**

- excellent solving capacity for oil, dirt, blood and biofilm
- high degree of material compatibility for machine and endoscope
- little foaming
- economical
- phosphate-free
- environmentally friendly
- compatible with Korsolex® Endo-Disinfectant

**Composition**

Surfactants, solvents, dispersants, microencapsulated enzymes, corrosion-inhibitors, complexing agents.

---

**Spectrum of effect**

The exceptional cleaning power of Korsolex® Endo-Cleaner has been confirmed in many studies, e.g.:

**Microorganism reduction and macroscopic cleanliness**

In a study¹ in which for the first time the results of ten commercially marketed cleaning processes in a washer-disinfector were evaluated, Korsolex® Endo-Cleaner came out best². The study investigated and evaluated the macroscopic cleanliness and microorganism reduction achieved with the predominantly enzymatic cleaning products. Dosage, time and temperature were in accordance with the manufacturer’s instructions and the test designs used in Germany. In addition, the cleaning process was also carried out with water only and then evaluated. The use of only water resulted in a microorganism reduction of 1.1 log steps. In contrast, Korsolex® Endo-Cleaner achieved the required microorganism reduction of at least 4 log₁₀ steps in addition to an excellent visual cleanliness.

**Effectiveness against biofilm**

Korsolex® Endo-Cleaner is highly effective against biofilms. This claim was confirmed in a study³ that investigated the product’s efficacy against *Pseudomonas aeruginosa* biofilm. With a concentration of 1 % and a contact time of 5 minutes at 45 °C, Korsolex® Endo-Cleaner reduced the biofilm by 1.85 log₁₀ steps. This is a significant cleaning result regarding to biofilms.

---

**Directions for use**

**Chemo-thermal endoscope reprocessing**

Korsolex® Endo-Cleaner is supplied as a concentrate and is connected to the dosing pumps in accordance with the machine manufacturer’s recommendations. The incorporated surfactants and enzymes permit excellent cleaning power.

**Manual cleaning**

Korsolex® Endo-Cleaner can also be used as a cleaner for manual instrument reprocessing.

**Dosage**

- General: 0.5 % - 5 min at 45 – 55 °C

**Listing**

- CE labelling in accordance with the Medical Device Directive (MDD).

**Chemical-physical data**

- **Appearance**: light yellow, clear liquid
- **Density (20 °C)**: approx. 1.08 g/cm³
- **0.5 % solution**: approx. 6

**Presentation**

5 litre canister, 10 litre canister

---

**Reduction of microorganisms and macroscopic cleanliness**

A study (1) determined the cleaning success of ten available cleaners in a washer-disinfector. When evaluating the results without considering the pre-cleaning cycle with water, Korsolex® Endo-Cleaner obtains the best results. The study examined the enzymatic cleaners’ macroscopic cleanliness and reduction of germs. The use of water yielded reduction factors of 1.1 log₁₀ steps. In the test, Korsolex® Endo-Cleaner not only achieved the required reduction factor but also an excellent visible cleanliness. In addition, it is highly effective against biofilm as proven by an expertise on the efficacy against *Pseudomonas aeruginosa* biofilm (2).

² Gutachten zur Reinigungswirkung des Reinigers zur chemothermischen Endoskopenaufbereitung Korsolex® Endo-Cleaner im manuellen Tauchbadverfahren gegenüber Biofilm von Pseudomonas aeruginosa. HSK Dr. Horst-Schmidt-Kliniken GMBH Institut für Labordiagnostik, Wiesbaden, 24.01. 2002.

---

Research for infection protection. www.bode-science-center.com
Korsolex® Endo-Disinfectant

Product properties

- high degree of material compatibility for machine and endoscope
- compatible with different water qualities
- virucidal
- formaldehyde-free
- compatible with Korsolex® Endo-Cleaner

Korsolex® Endo-Disinfectant is a residue-free, exceptionally material-compatible Disinfectant for chemo-thermal reprocessing of endoscopes. The product achieves a high microorganism reduction and offers staff and patients an effective protection against infection.

Composition

Active ingredient in 100 g: Glutaral 20.0 g.
Other ingredients: Solvents, complexing agents, corrosion inhibitors.

Microbiology

- bactericidal
- fungicidal
- tuberculocidal
- mycobactericidal
- virucidal against enveloped viruses (incl. HBV, HIV, HCV)
- virucidal
- Helicobacter pylori

Effectiveness against bacterial spores has been proven in tests under practical conditions

Spectrum of effect

The broad microbiological spectrum of effect of Korsolex® Endo-Disinfectant has been confirmed in several studies.

Virucidal effectiveness

The effectiveness of disinfectants against viruses has been regulated with the classification “virucidal against enveloped viruses” and “virucidal”. “Virucidal against enveloped viruses” indicates an effectiveness against all enveloped viruses. “virucidal” indicates effectiveness against enveloped and the more difficult to inactivate non-enveloped viruses.

Effectiveness against bacterial spores

Studies under practical conditions (two washer-disinfectors with single channel connection according to EN ISO 15883-4) investigated the effect of the complete standard reprocessing procedure (cleaning and disinfection) on bacterial spores. It has been demonstrated that the complete reprocessing procedure reduces bacterial spores (B. subtilis) by more than 5 log10 steps.

Dosage

- General: 1 % - 5 min at 55 °C

Listing

- CE labelling in accordance with the Medical Device Directive (MDD)

Chemical-physical data

- Appearance: colourless to light yellow, clear liquid
- Density (20 °C): approx. 1.04 g/cm³
- pH-value: approx. 5 – 6

2 Prof. Dr. M. H. Wolff, Universität Witten/Herdecke, Gutachten Viruzidie von Korsolex® Endo-Disinfektant gegen Hepatitis A-Virus, Stamm HM-175/24a
4 Mag. Dr. Miorini; Institut für angewandte Hygiene, Graz; Gutachten Prüfung auf Wirksamkeit des Reinigungs-Desinfektionsverfahrens Korsolex® Endo-Cleaner/Disinfectant in Kombination mit dem Reinigungs-Desinfektionsgerät für flexible Endoskopie Waterstone Wassenburg AdaptaScope; 21.10.2005
5 Mag. Dr. Miorini; Institut für angewandte Hygiene; Gutachten Prüfung auf Wirksamkeit des Reinigungs-Desinfektionsverfahrens Korsolex® Endo-Cleaner/Disinfectant in Kombination mit dem Reinigungs-Desinfektionsgerät für flexible Endoskopie Olympus EDT 3; 11.07.2

Presentation

5 litre canister, 10 litre canister

Note: The recommendations regarding our preparations are based on scientific tests and are given in good faith. More detailed recom-mendations, e.g. regarding material compatibility, are only possible in particular cases. Our recommendations are without obligation and do not constitute a warranty. They do not preclude a company’s own testing for the intended purposes and processes. In this respect we cannot accept any liability. This complies with our general conditions of sale and supply.

Safe reprocessing

Based on the DIN EN ISO 15883-4, the recommendations of the German Association for Hospital Hygiene (DGKH) stipulate a total microorganism reduction of 9 log10 steps for chemo-thermal reprocessing. This total reduction comprises a reduction of at least 4 log10 steps during cleaning and of at least 5 log10 steps during disinfection. Four surveys conducted in accordance with the requirements of the DGKH and the DIN EN ISO 15883-4 demonstrate that the Korsolex® Endo system yields a total reduction of ≥ 9 log10 steps during reprocessing.


11.07.2

For more product information visit www.bode-chemie.com