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.
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 pre-conditions for subsequent successful disinfection. The RKI (the German Robert Koch Institut) therefore recommends manual pre-cleaning with careful flushing and brushing of the endoscope channels, even when machine chemo-thermal 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. Korsolex-Endo Cleaner can be used also in ultrasonic baths.

**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 lime-scale 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 pre-rinse 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

**Application in EDG-E**
The system of Korsolex Endo-Cleaner and Endo-Disinfectant can be used for the chemo-thermal reprocessing of flexible and rigid endoscopes in machines of the companies Belimed, BHT, Hamo, Olympus, Pentax, Wasserburg und Steelco.

**Efficacy testing for chemo-thermal reprocessing of endoscopes**

For material compatibility reasons, heat-sensitive medical devices such as flexible endoscopes cannot be sterilised with common procedures after their cleaning and disinfection. Hence, in Germany, reprocessing has to be carried out with virucidal products (1). The test for proving virucidal activity is performed in accordance with the German Registered Association for Combatting Viral Diseases (DVV) by means of adenovirus, polyomavirus, polioviruses, and murine norovirus (MNV). If the reprocessing temperature is above 40 °C, the DVV only requires a proof of activity against one test virus, the parvovirus (2, 3). Also EN 14476:2013 demands activity against parvovirus for temperatures above 40 °C. For lower temperatures, this standard requires a proof of activity against adenovirus, poliovirus and norovirus (4). Disinfectants for chemothermal disinfection procedures are verified in quantitative suspension tests. For claiming virucidal activity, they need to achieve a titre reduction of ≥ 4 log₁₀ steps (inactivation of ≥ 99.99 %).

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1 Anforderungen an die Hygiene bei der Aufbereitung von Medizinprodukten. Empfehlung der KRINKO beim Robert Koch-Institut (RKI) und des BfArM. Bundesgesundheitsbl 2012 · 55:1244–1310
4 DIN EN 14476: Chemische Desinfektionsmittel und Antiseptika – Quantitatives Suspensionsversuch zur Bestimmung der viruziden Wirkung im humanmedizinischen Bereich - Prüfverfahren und Anforderungen (Phase 2, Stufe 1); Deutsche Fassung EN 14476:2013

Research for infection prevention. www.bode-science-center.com
Korsolex® Endo-Cleaner
Cleaner for the chemothermal reprocessing of endoscopes.

Advantages at a glance
• excellent solving capacity for oil, dirt, blood and biofilm
• high degree of material compatibility for machine and endoscope
• little foaming
• phosphate-free
• compatible with Korsolex Endo-Disinfectant

Application
Korsolex Endo-Cleaner is a cleaner for the automated reprocessing of flexible and rigid endoscopes as well as for the manual pre-cleaning of these instruments. Korsolex Endo-Cleaner can also be applied for reprocessing of other medical devices, e.g. for manual cleaning.

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.

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

Spectrum of effect
The exceptional cleaning power of Korsolex Endo-Cleaner has been confirmed in many studies.

Microorganism reduction and macroscopic cleanliness
In a study[1] 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 best. 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 log 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 study[2] 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 log steps. This is a significant cleaning result with regard to biofilms.

Proven efficacy
Application solution:
0.5 % – 5 min at 45 – 55 °C

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

Related products

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 chemothermal 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.

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Korsolex® Endo-Disinfectant
Disinfectant for the chemothermal reprocessing of endoscopes.

Advantages at a glance
• high degree of material compatibility for machine and endoscope
• compatible with different water qualities
• virucidal
• formaldehyde-free
• compatible with Korsolex Endo-Cleaner

Application
Korsolex Endo-Disinfectant is suitable for the chemothermal disinfection within the automated reprocessing procedure of flexible and rigid endoscopes. Korsolex Endo-Disinfectant is a residue-free, exceptionally material-compatible disinfectant for chemothermal reprocessing of endoscopes.

Composition
Active ingredient in 100 g: Glutaral 20.0 g.

Microbiology
• bactericidal
• fungicidal
• mycobactericidal
• virucidal against enveloped viruses (incl. HBV, HIV, HCV)
• virucidal
• also effective against antibiotic-resistant organisms
• 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.

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 [3,4]. It has been demonstrated that the complete reprocessing procedure reduces bacterial spores (B. subtilis) by more than 5 log steps.

Proven efficacy
Application solution:
Bactericidal, fungicidal, mycobactericidal, virucidal against enveloped viruses (incl. HBV, HIV, HCV), virucidal:
1 % - 5 min at 55 °C

Composition
Active ingredient in 100 g: Glutaral 20.0 g.

Related products
• Bomix plus: Aldehyde-free instrument disinfectant with excellent cleaning.

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 log 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).

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2 Gutachten zur Reinigungswirkung des Reinigers zur chemothermischen Endoskopaufbereitung Korsolex Endo-Cleaner im manuellen Tauchbadverfahren gegenüber Biofilm von Pseudomonas aeruginosa. HSK Dr. Horst-Schmidt-Kliniken GMBH Institut für Labordiagnostik, Wiesbaden, 24.01.2002.
Product Presentation

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Please note: that the availability of products in the Korsolex range may vary in different countries and regions. Contact your local distribution partner for more information.

The recommendations regarding our preparations are based on scientific tests and are given in good faith. More detailed recommendations, e.g. regarding material compatibility, are possible only in separate, individual cases. Our recommendations are not binding and do not constitute a guarantee. They do not preclude a company’s own testing for the intended purpose and process. In this respect we cannot accept any liability. This is in accordance with our general conditions of sale and supply.

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