Application Note:

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Thermo Scientific Finnpipette F1 antimicrobial feature

Frequently asked questions

The handle and the dispensing button of the new Finnpipette® F1 are made of an antimicrobial polymer.

What is an antimicrobial treatment?

An antimicrobial treatment prevents growth of microbes on a surface. Surface growth on materials, both plastics and textiles, can lead to a high microbe count, foul odors, discoloration, as well as contribute to the material's degradation.

Why do you need one?

Microbes, such as bacteria, fungi and algae, are found everywhere around us, and they are also present on the human skin. Normally they are not harmful, but in some cases they may cause deterioration of the material they grow on. Pipettes are handheld devices and even when the user observes strict cleanliness, microbes from his/her hands may contaminate the pipette. Antimicrobial treatment of the pipette handle parts protects the device from microbial growth on its surface, thus preventing deterioration of the polymer parts.

How does it work?

The active ingredient of the antimicrobial material is silver in the form of silver ions. When the silver comes into contact with microorganisms, the silver ions are taken up by microbial cells and interrupt critical functions, such as DNA replication, resulting in the death of the microbes. The antimicrobial effect of the material used is long-term and silver inhibits the growth of a broad spectrum of microorganisms.

How was the efficacy of the antimicrobial treatment tested?

The antimicrobial effect of the material was evaluated according to ASTM standard E2180. The standard describes a test method to evaluate the antimicrobial effectiveness of agents incorporated or bound into or onto mainly flat hydrophobic or polymeric surfaces. The test organisms used were two different bacteria (*Escherichia coli* and *Staphylococcus aureus*), a yeast (*Candida albicans*) and conidiospores of a fungus (*Aspergillus niger*).

These results showed that the antimicrobial material results in a significant reduction of microorganisms, demonstrating the efficacy of the antimicrobial polymer.

What is the efficacy of the antimicrobial treatment against viruses?

The antiviral effect of silver has not been studied extensively. There is not enough evidence that the antimicrobial treatment is effective against viruses.

Does the antimicrobial treatment replace autoclaving?

No, the antimicrobial treatment prevents the growth of microbes on surfaces. An autoclavable Finnpipette model should be chosen if autoclaving is a prerequisite.

Why is the antimicrobial treatment not certified?

The antimicrobial treatment is a feature of the surface and is achieved by using a silver-containing polymer. There are no specifications for antimicrobial features, and therefore no certificate can be provided. Technical support, however, can be provided on demand.

Is the antimicrobial treatment safe for the user?

The same antimicrobial treatment is used in several medical applications, including wound dressings, creams and eye drops. These products have to obtain their own regulatory approvals (FDA 510k and CE marking in Europe), and therefore are thoroughly assessed to ensure that there is no negative effect on the skin.

The same active ingredient is also approved for food-contact applications in the U.S.A. and EU.

If you are allergic to silver, please test that you can use the product.

Is silver released from the surface?

Silver ions are not released straightaway, only when there are ions in the surrounding atmosphere for ion exchange with silver.

Is it possible that the silver ions from the pipette contaminate samples and disturb the laboratory analysis?

The treatment will protect the pipette, and will have minimal influence on its environment. The fact that silver ions would end up in a test solution, will depend on direct contact of the treated pipette with the solution. Even though the risk is very minimal, if a completely silver-free environment would be requested, then we would advise to use another Finnpipette model.

How can the antimicrobial surface be cleaned?

Common laboratory disinfectants, such as 70% ethanol, Virkon® or 10% sodium hypochlorite, can be used to clean the surface without any effect on the antimicrobial treatment.

Regular cleaning practices should be continued and not be disregarded due to the antimicrobial surface.

How should Finnpipette F1 be disposed of?

For waste disposal instructions, please contact your local environmental agency.

Are there any comparable products with antimicrobial surfaces already in laboratory use?

Some CO_2 incubators for cell and tissue culture have a solid copper interior known to effectively prevent bacterial and fungal growth. Finnpipette F1 is the first pipette on the market with the antimicrobial feature.

What are some other applications of an antimicrobial treatment?

Antimicrobial treatment is, for example, used in bottled water containers, tubings, food processing equipment, sportswear, sheets and blankets.

What are possible application areas for the use of Finnpipette F1?

Finnpipette F1 is well suited for such applications where microbial contamination is harmful. Cell and tissue culture and cleanroom work are some examples of suitable applications.

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