

# How does Agion® work?

## Bacterial colonization starts with the formation of biofilm

Biofilm is a community of microbes that attach to surfaces. After initial colonization, the biofilm creates a "barrier" to protect the bacteria's environment thus allowing microbes to thrive and multiply.

Various factors can increase the risk of colonization and bacterial growth: warm water, water stagnation (dead legs) and nutrients (scale, sediment).

## Agion helps slow down the formation of biofilm on spout-ends

The Agion compound within Careguard® delays the initial colonization with a tri-modal efficacy unique to silver:

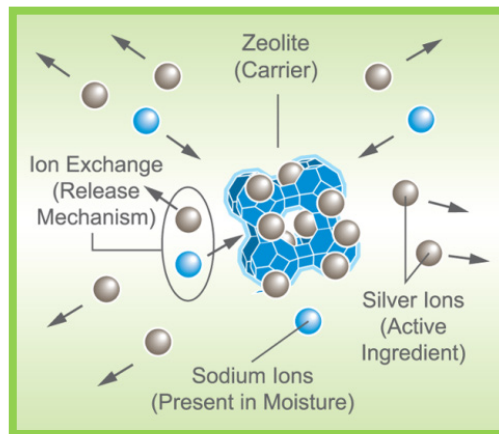
- + attacks bacterial cell wall,
- + interrupts cell metabolism,
- + prevents bacteria reproduction.

The controlled release of silver ions by the zeolite carrier has been engineered to provide continuous antimicrobial product protection. Products protected by Agion have been tested in laboratory to reduce the growth of odor causing bacteria, mold, and mildew on a treated product by as much as 99.999% (log 5 reduction).

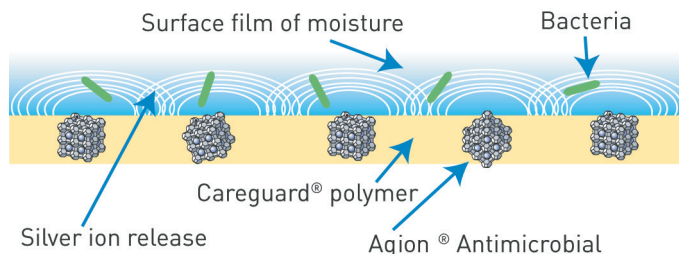


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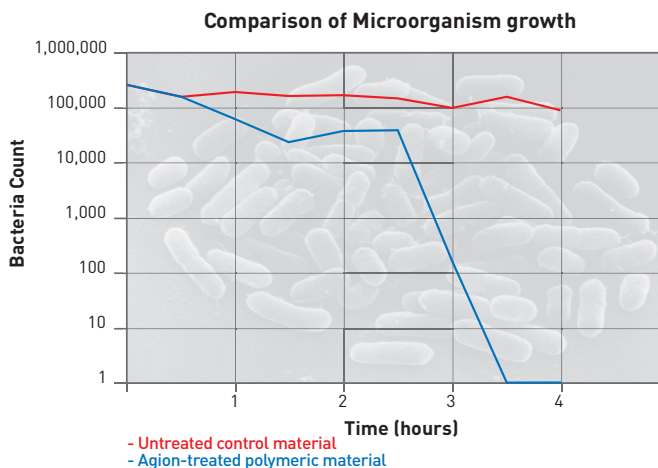
## How is the silver released?



The silver ions contained in the microporous zeolite crystals are slowly released when the surface of the material is wet.



## How quickly is microorganism growth affected?



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NEOPERL's Careguard® laminar faucet attachments incorporate Agion's antimicrobial technology, which is FDA listed and meets all applicable EPA standards. Careguard® delivers built-in product protection to help reduce the growth of odor causing bacteria, mold and mildew within the faucet attachment. Careguard® is not designed to protect the consumer against bacteria, viruses, germs, or other disease organisms. This product does not provide sanitization, disinfection, or elimination of bacteria in the water delivered by the spout. Careguard® is not intended to be an alternative to water treatment systems or established procedures for infection control.

# Agion® Certifications and Applications



The Agion antimicrobial technology is based on naturally-occurring silver.

Agion's silver is not toxic to humans or animals. Studies have shown the Agion compound to be less toxic than table salt.

Silver has NOT been linked to the adaptive resistance seen with other substances like antibiotics.



## EPA

Agion is registered for broad range of uses including food contact, water contact, HVAC, building products, appliances, textiles, cosmetic and personal products.

## FDA

Agion is listed under the FDA Food Contact Substance Notification for use in all types of food-contact polymers under §21 CFR 176.170.

## USDA

Agion is on the USDA list of non-food compounds as maintained by NSF for food processing plants.

## NSF

Products using Agion protection have received certification to:

- + NSF Standard 51 for food processing/food service equipment,
- + NSF Standard 42 for potable water carbon block filter systems,
- + NSF Standard 61 for faucets, spray valves, kitchen/bar devices and spout-end devices (Careguard®).

**Select Models are listed with EPA to WaterSense.**

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