

## ANTIBACTERIAL PRODUCT – technical information

<b>Chemical construction</b>	Quaternary ammonium organosilane
<b>Appearance</b>	Transparent colourless liquid
<b>Storage</b>	Stable for at least 12 months, stored in a suitable way (sealed containers and temperatures between 5 and 35°C).

### Properties

<b>Density</b>	0.99 – 1.01 g/ml at 20°C
<b>pH</b>	6.5 – 7.5 at 5% in water at 20°C
<b>Solubility</b>	It is soluble in water, methanol, and other solvents
<b>Ionicity</b>	Active cation
<b>Stability</b>	Stable to hard water and weak acids and alkalis
<b>Ecology</b>	Easily biodegradable over 70% (OECD 302B) APEO free

### Actions & advantages

Applied on all fabrics granting permanent protection against a wide range of microorganisms.

These effects are independent to the type of fibres used.

The most outstanding characteristic of this new biocide is that its no migration.

This product is static, remaining attached to the fibre, and its activity is exclusively developed on the support material.

Most biocides on the market are dynamic. Due to their high migration ability, they not only act on the substrate they protect but also on the surrounding area,

creating an influence or protection zone. This entails several problems. On one hand, the product is removed by migration as well as by washing. On the other hand, this migratory ability endangers surfaces that must be protected, such as human skin for example, as it can remove the flora from the surface.

For this reason, most current dynamic biocides are being ruled out from industry.

If the compound is applied in a suitable way, it is fast to continuous washing cycles and has no influence on its surroundings.

Especially suitable for textile treatment of fabrics that are in contact with the skin.

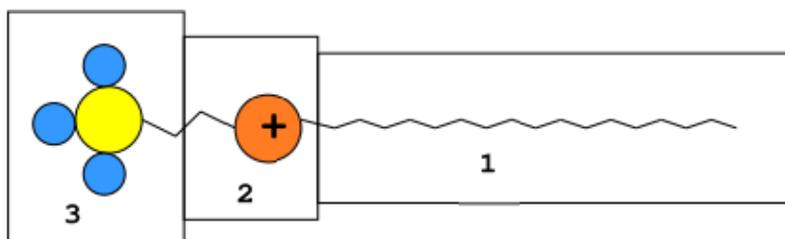
Treated goods maintain their freshness and above all prevents the odour caused by bacteria and fungi.

Improves the shelf life of the goods treated.

Applied correctly it remains fast a lot of washing cycles.

## Working procedure

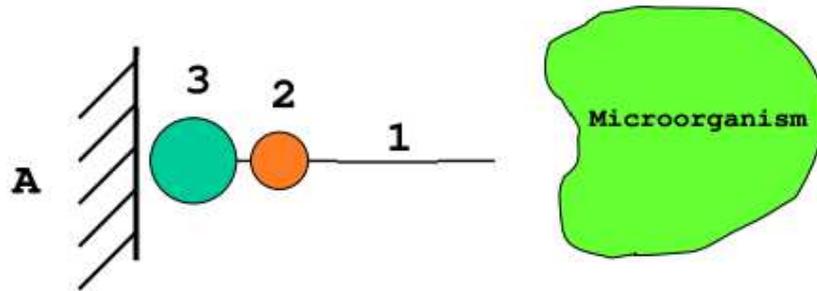
It is a unique product thanks to its special composition. Each part of the molecule serves a specific purpose.



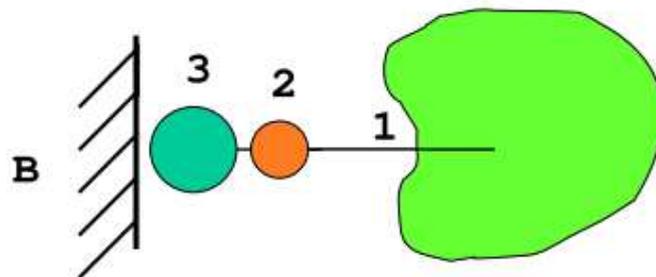
**Part 1** is formed by a more or less long aliphatic chain, which has an affinity for the cellular membranes.

**Part 2** has a strong positive charge

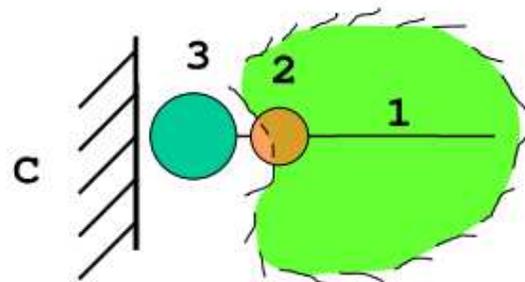
**Part 3** is an organosilane group that allows polymerizing, and to obtain non water-soluble pre-polymers.



*The cellular membrane of the microorganism has affinity to Part 1*



*Part 1 is introduced in the microorganism*



*Part 2 penetrates in the microorganism and causes its death*