

TECHNICAL INFORMATION

How does Disifin work?

- **Why is Disifin not a chlorine disinfectant?**
- **Degradation products of Disifin in the environment.**

Disifin is not a chlorine disinfectant. It only releases max 2.5% chlorine during the active phase in contrast to 100% with chlorine disinfectants. The disinfecting effect of **Disifin** is not based on chlorine but rather on the active **Chloramine-T** substance.

Although **Disifin** is a chlorine compound based on the active substance **Chloramine-T**, **Disifin** attacks the peptide bonding of the proteins when the complete active substance molecule comes into contact with micro-organisms (virus, bacteria, fungus or yeast), in addition to having the effect of conventional chloride disinfectants, which continually split off chlorine.

Immediate splitting-off of the chlorine molecule only takes place when there is direct contact with the amino group of the protein structure. If the chlorine is then separated, then a further mol of nascent oxygen (O nasc.) is split off in the second stage, unlike the functioning of chlorine disinfectants, which in turn attacks the amino group.

Thanks to this bi-functional reaction mechanism, the protein chains are irreversibly broken. That is why there can be no development of resistance. **The quantities of free chlorine that occur in a watery Disifin solution are so small that they cannot by themselves have a sufficient disinfecting effect.**

Once **Disifin** has taken effect, it disintegrates into the environmentally harmless substances nitrogen (N₂, part of breathing air) sodium sulphate (Na₂SO₄ e.g. contained in laxatives) and carbondioxide (CO₂ e.g. in sparkling mineral water.)

Disifin behaves like a chemical accumulator that only has a disinfecting effect and / or automatically makes this effect

available when micro-organisms are present. Chlorine disinfectants, on the other hand, release subchlorous acid (HOCl) immediately and continually which then has a disinfectant effect. A disadvantage of this is that the disinfectant effect is quickly used up, especially when the disinfectant is exposed to sunlight, or when it is pumped around. Because of the aeration this causes, the solubility of the subchlorous acid decreases and the chlorine gas escapes causing a distinct build-up odour.

For these reasons, chlorine disinfectants are not stable and must therefore be replenished relatively soon. The subchlorous acid is very aggressive in its effect against surface materials and has a high degree of protein error.

Due to the functioning described and the special characteristics of Disifin, it is not comparable to conventional chlorine disinfectants.