

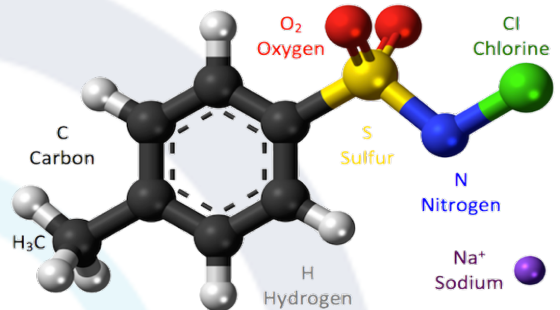
## How Disifin works as a disinfectant?

- ✦ **Why is Disifin not an hypochlorite releasing compound?**
- ✦ **Degradation products of Disifin in the environment.**

**Disifin** is not an hypochlorite releasing compound. Its efficacy derives from its bound chlorine and oxygen, releases a maximum 25% active chlorine during the active phase in contrast to a disinfectant with 100% active chlorine. 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 microorganisms (virus, bacteria, fungus, spores or yeast), in addition to having the effect of conventional chlorine 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 molecule 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 (N<sub>2</sub>, part of breathing air) sodium sulfate (Na<sub>2</sub>SO<sub>4</sub> e.g. contained in laxatives) and carbon dioxide (CO<sub>2</sub> 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 microorganisms 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 on 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.

Use Biocides safely. Always read the label and product information before use.



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