

**BEULCO<sup>®</sup>**  
**CLEAN**



# **BEULCO Clean**

**Disinfection -  
fast, simple, ecological.**

# BEULCO Clean

The effective, environmentally friendly and risk-free disinfection of drinking water supply systems.

Consumers (in Germany) can be sure that their water suppliers deliver safely and reliably clean water. However, acc. to the Drinking Water Ordinance 2001, the responsibility for the quality from the delivery point (water meter) lies with the provider or the owner of the system. Acc. to § 4 section 2 and 3 of the ordinance it is prohibited to provide the consumers with contaminated drinking water .

But as seen in the past there are providers who do not comply with their responsibility to clean and disinfect the water leading devices and appliances. The results are microbiological contaminations with e.g. legionella bacteria, pseudomonas, coliform bacteria, enterococci, clostridia and other germs that multiply rapidly in the so-called biofilm.

This generates high risks not only for house installations, gyms and hospitals, but also for the drinking water net.

The **DVGW working sheet W291** describes the common substances for the **plant disinfection**. These are among others the following ones:

- hydrogen peroxide
- potassium permanganate
- sodium hypochlorite
- calcium hypochlorite
- chlorine dioxide

The list of **preparation substances published by the Federal Environment Agency** contains substances which can be used for the disinfection of water itself:

- chlorine
- chlorine dioxide
- sodium hypochlorite
- ozone

### CONCLUSION:

**Sodium hypochlorite** is a substance that is allowed to be used for the disinfection of plants as well as for the disinfection of (drinking) water.

**BEULCO Clean is a disinfectant on the basis of sodium hypochlorite. It is sustainable and decomposes naturally by 100 percent. Due to its composition BEULCO Clean is no dangerous good.**

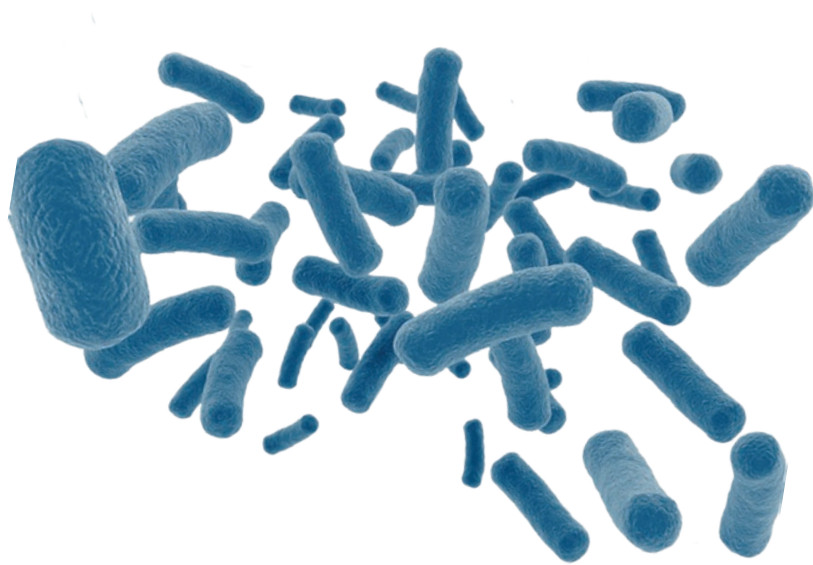
### Substitution Duty

If hazardous substances are used, the employer is obliged to examine if they can be substituted (§ 6 of Ordinance of Hazardous Substances). If the use of a less or even harmless substance is possible, this one has obligatory to be applied.

## How does BEULCO Clean work?

There are only natural elements that are used during its production: water, salt and electricity. The elements are transformed by membrane cell electrolysis (ECA process) to BEULCO Clean. ECA stands for electrochemical activation, a process by which substances are specifically influenced by physical and chemical reactions. The result is the efficient and widely applicable BEULCO Clean.

It differs from the conventional sodium hypochlorite substances as there is no reaction time and it decomposes itself very quickly. BEULCO Clean has a strong Redox potential and destroys organic material in the water (eg. contaminations, germs, bacteria) but is harmless for humans.



### Effektive and powerful against:

- Legionellae bacteria
- e-coli bacteria
- coliforme germs
- pseudomonas
- streptococci
- salmonellae

## Proven Disinfection by means of the REDOX value

The disinfection with BEULCO Clean is carried out together with a rinse as contaminations are directly flushed out in this way.

Using the disinfection plant BEULCO Clean is given into the rinse water by a mixer (relation 3% = 3 ml/liter water). When disinfecting, rinsing continues until the water shows a redox tension of 650 mV – 700 mV. According to the current state of knowledge water and surroundings (conduits, hoses and fittings) are **germ-free** with this value.

The disinfectant effect can be measured by the Redox value of the rinse water.

The Redox value (mV) is a measure for the germicidal and oxidative effect of disinfectants in the water.

The higher the Redox value of the water, the lower is the contamination.

This disinfectant is already effective in a small quantity. By using substances on the basis of sodium hypochlorite germs cannot build up resistances as sodium hypochlorite decomposes germs at molecular level and does not only kill them.

## Comparison of the Disinfection Processes



### EFFECTIVENESS

#### BEULCO CLEAN

#### THERMICAL

#### CHEMICAL

|                  |           |            |           |
|------------------|-----------|------------|-----------|
| Legionellae      | effective | short-term | partially |
| Bacteria/viruses | effective | short-term | partially |
| Bio-film         | effective | no         | partially |

### RISKS

|                                   |    |          |          |
|-----------------------------------|----|----------|----------|
| Resistance formation of the germs | no | possible | possible |
| Health risks                      | no | no       | yes      |
| Risks of injury                   | no | yes      | yes      |
| Material wear                     | no | yes      | yes      |
| Change in taste                   | no | no       | possible |
| Change in smell                   | no | no       | possible |
| By-product formation              | no | no       | possible |

### EFFORTS

|                           |     |     |     |
|---------------------------|-----|-----|-----|
| Applicable for all plants | yes | no  | no  |
| Precautions necessary     | no  | yes | yes |
| Operation interruptions   | no  | yes | yes |



**BEULCO**<sup>®</sup>

For the efficient and safe supply with clean drinking water.