DESINFECT WATER CLEAN

DRINKING & PROCESS WATER DISINFECTION

THE NEW DRINKING WATER REGULATION

In Germany since November 1, 2011, the new Drinking Water Ordinance (TVO) applies. In order to protect humans from the adverse effects of drinking water, the amendment introduces a whole series of new definitions and duties.

The control of quality, especially on harmful bacteria and Legionella, has been significantly tightened in the new regulation for the operators and commercial landlords of buildings.

Water supply companies are responsible for the quality of the drinking water up to the transfer point (water meter). After the water meter, the operator, landlord or owner is responsible for the quality of the drinking water up to the last tap.

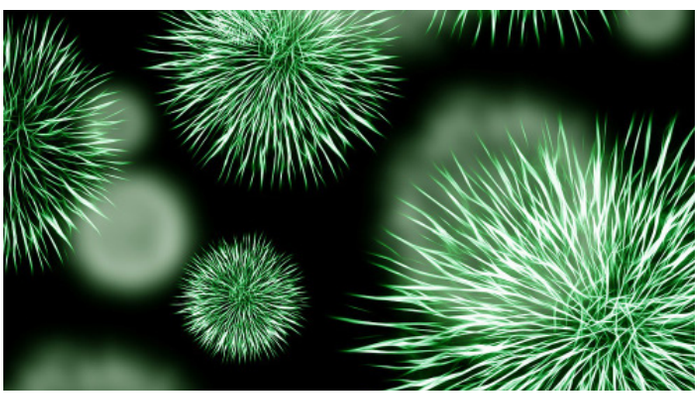
The quality of the drinking water is significantly dependent on the internal house installation system. Thus, the contamination takes place - it is microbiological contamination (biofilm) and residues of metals - within the house installation system. The result, bacteria and Legionella settle in the biofilm.

Legionella - mobile rod bacteria - one of the main problems of impure water, is due to water stagnation. They occur worldwide in surface waters and also in the soil. Because of this spread, legionella also occur in groundwater in small numbers and can also be found in the drinking water supplied by waterworks.

Legionella proliferate optimally in a temperature range of 30 - 45 ° C and are killed only above 70 ° C.

Among other things, legionella triggers Legionnaire‘s disease / pneumonia, which has to be reported to health authorities. According to the Federal Environment Agency, 800,000 people worldwide contract pneumonia every year. Many of them are caused by Legionella. It is estimated that up to 40,000 people die from it.

Against this background, the amendment to the TVO was essentially amended to deal with legionella.



Statutory collection of samples

The new drinking water ordinance stipulates that water samples must be taken and examined in apartments or houses not used by the owner, hot water pipes with more than three liters of system contents or a hot water tank (boiler) of more than 400 liters capacity. Each owner and operator is obliged to notify the health authority immediately if the limit values have been exceeded.

WHEN TO CHECK?
Basically every year at several taps and shower heads.

WHAT TO DO AT BORDER CROSSING?
Information of the health department and direct initiation of remedial measures. Take action to resolve the cause Direct initiation of corrective action. Inform users of the water system about exceeding the limit value. Duty to regularly examine the Legionella concentration of drinking water.

LIABILITY! WHAT THROUGH?
A decommissioning of the water supply system, rental loss, additional costs of the investigation, compensation / compensation for damages caused by damage to health of users, consequential damages, legal or criminal prosecution.

POSSIBILITIES OF MEAT PREVENTION

1. THERMAL DISINFECTION

Out of ignorance, many people think thermal disinfection would just be the heating up of the boiler to 70 ° C.
This is not correct and only kills the legionella swimming free at this time, in the hot water boiler or main water line.

There are three things you can not do with this method:

- By heating up, only the main water line is heated.
- Any secondary pipes that lead to showers or taps are not affected by the heating up. If you carry out a thermal disinfection in accordance with DVGW worksheet 551, you must run all taps and showers for at least 3 minutes while the heating is high and measure the water temperature until 70 ° C is reached. Due to poor insulation of the hot water systems is built in many homes that were built before 2000, this temperature is not reached throughout the house. On the first floor perhaps still, further floors usually no more.
- If this temperature is not reached, the thermal disinfection precipitates as a solution. Furthermore, the high workload for such a measure should be considered. Furthermore, the question arises, whether at this time really get to all water supply points? In a tenement house, hotel, old people‘s home or hospital this should be almost impossible.

2.GENERAL CHLORINATION

Chlorine solutions can only be inoculated in cold water systems. Due to the fact that only a very small part of the cold water is led into the hot water system, the effectiveness is not sufficient in every system. A second important point is that Legionella live in the biofilm, this protects them from chlorine. Biofilm is a slime-like deposit that forms in all tubes. Many germs live in it, some of them like Legionella and Ecoli bacteria are dangerous for humans. Normal chlorine solutions, used within the limits of the Drinking Water Ordinance, can not do much for the degradation of the biofilm.

3. CHLORINE DIOXIDE

Chlorine dioxide can also be inoculated only in cold water systems and the fact that a very small part of the cold water is fed into the hot water system, the effectiveness is also not sufficient in each system. The biofilm is not combated sufficiently. Even if the system is well developed, it will take a long time for all of the biofilm to degrade. Chlorine dioxide is a very poisonous gas. Persons working with it must complete special training courses by the trade association. Furthermore, the premises in which such facilities are operated must be specially equipped for this purpose.

4.UV AND OZONE

These methods can only act selectively and are therefore unsuitable for the disinfection of water systems. UV light kills germs only where the light reaches the germs. Thus, one meter behind the lamp / light source no effect is possible. The same goes for ozone. It kills all germs only at the injection site. Since it decays quickly, after the injection site and consequently in a water system no effect is possible.

5. CHAMBER CELLS ELECTROLYSIS DESINFECT WATER CLEAN

In this process, an electrically charged solution with about 1,000 mV redox value is generated, which can be injected directly into the cold and hot water system.

The redox voltage stays in the water systems and combats the biofilm and germs in an „electrical“ way. This tension is completely harmless to humans. Germs die from a redox value of about 600 mV, while legionella need more than 700 mV.

In addition to the environmental friendliness, the handling of solutions is harmless to the user. Our product and the procedure are DVGW Worksheets 551 and 229 and the solution according to DIN EN 901 and TVO approved.

Contact us by email or phone to learn more about the benefits and offers.

WATER TREATMENT WITHOUT QUALITY LOSS

DESINFECT WATER CLEAN kills germs immediately and safely and also removes the cause, the biofilm. So the renovation becomes sustainable. The high energy costs of thermal disinfection are saved. DESINFECT WATER CLEAN is pH-neutral and does not cause precipitation of lime. It can be added to both cold and hot water without interrupting the operation of the house installation and does not increase the corrosion potential of the water.

The microbiological quality of our drinking water can be greatly changed by the drinking water installation. Deposits in pipes and boilers, periods of stagnation when not in use, vacancy or construction work, dead pipes and dead spaces in seals and valves promote the formation of biofilm and, as a result, permanent release of bacteria into drinking water.
In long piping systems, there are regularly sections with very favorable conditions for the propagation of germs.

DESINFECT WATER CLEAN is installed in a residential building via our fully automatic dosing system at a central location in the building. This ensures that it can develop its disinfecting effect immediately wherever germs, such as Legionella, find favorable conditions.

DESINFECT WATER CLEAN effectively combats germs and biofilms, is cost-effective and environmentally friendly to use and can contribute significantly to energy savings.

YOUR ADVANTAGES

- Complete replacement of thermal disinfection
- Effective and sustainable control of germs in just a few hours.
- Increasing the efficiency of the water system by reducing biofilm.
- No taste and odor changes of the water
- No usage restrictions.
- Broad spectrum of action and versatile application areas.
- Enormous energy saving potential by lowering the water temperatures.

WHAT YOU MUST NOTE?

- To register! Inform your local health department about the intended temporary inoculation of your drinking water (active ingredient: sodium hypochlorite).
- Requirements for the connections to be prepared on site for the dosing technology (contact water meter with dosing pump as well as the injection point).
- Place the required internals (dosing technique) immediately in front of the distributor of your water cycle.
- The installations are installed by means of a HSK operation approved for drinking water, which is commissioned by the customer.
- 1 x 230 V / 16 A socket (dosing technology).

COMPOSITION

Ingredients: water, table salt, sodium hypochlorite
Active ingredients: < 0.15% sodium hypochlorite

TECHNICAL INFORMATION & STORAGE

Color / shape: colorless, liquid
pH value: 6.7 - 7.5
Keep container tightly closed. Store cool, frost-free and protected from light.

DOSAGE & APPLICATION

- **via fully automatic dosing system**

EFFECTIVENESS

DESINFECT WATER CLEAN is tested according to European standards. The specified exposure times ensure full effectiveness against Legionella, bacteria, viruses and fungi.

DRINKING WATER IS THE MOST IMPORTANT FOOD

DESINFECT WATER CLEAN

Ready-to-use solution for drinking water disinfection

TESTS & SERVICES

- tested according to DGHM guidelines
- The method is described in Technical Rule W 229 of the DVGW
- meets the purity requirements of DIN EN901 for drinking water disinfection.

IDENTIFICATION - deleted after GefStVo
DESINFECT WATER CLEAN is not hazardous. However, precautions should be observed when handling chemicals. Batch number and expiry date see imprint.

MATERIAL COMPATIBILITY

If used properly, no material damage is to be expected. Suitable for all water, chlorine and alkali resistant materials and surfaces.

DISPOSAL

Can be discharged into drains under sufficient dilution. The respective country-specific waste and wastewater regulations must be observed. Plastic containers can be supplied to the recyclables collection after emptying and rinsing with water.

MORE INFORMATION

All information corresponds to our current level of knowledge. They are the result of our previous experience & reviews. The user is obliged to always check the compatibility or to obtain technical advice.
Contact us by email or phone to learn more about the benefits and offers.

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

METHOD	DESINFECT WATER CLEAN	Temp. 70°C (3 min.)	CHLORINE DIOXIDE
Bacteria	yes	Not permanent	partly
Virus	yes	Not permanent	partly
Fungi	yes	Not permanent	partly
Antibiotics	yes	no	no
Hormones	yes	no	no
Biofilm	yes	no	no
Legionella	yes	Not permanent	no
Toxic / life-threatening	no	no	yes
Risk of injury	no	yes	yes
Overdose harmful	no	Not possible	yes
Change in taste	no	no	possible
By-products	no	no	Nitrite, Chloroform
Material wear	no	no	High, very high
Suitable for all drinking water systems	yes	no	no
Business interruption necessary	no	yes	yes
Special safety precautions	no	yes	yes
For cold and hot water pipes	yes	no	no