VDH water technology

CHLORINSITU® II

Effective, Safe & Economical production of ECA-water

Water disinfection and biofilm control.

Electrolysis of potassium chloride (KCl) results in an Electro Chemical Activated (ECA) water. ECA water is produced freshly on-site and immediately used for safe and effective disinfection and cleaning of water (irrigation) systems. Without an effective cleaning treatment the biofilm will exist all over the complete water systems (pipelines, storage tanks, sprinklers and drip irrigation systems).
Beside clogging problems, biofilm is a hidden place for plant pathogenic bacteria, fungi and viruses. Via the water supply these pathogens can attack plants and their roots. Biofilm in water systems can be eliminated using 'ECA-Solution'.
An ECA-water is freshly produced from only electricity, softened water and potassium chloride (KCl). The CHLORINSITU® II system produces ECA-water in it's purest form and is an effective, safe and economical method to get clean and safe water systems for all horticultural crops.

Elektrolyse Expertise Centrum

- ✔ Electro Chemical Activated Water (ECA)
- ✔ Safe, effective and economical
- ✔ Eliminates biofilm
- ✔ Pure disinfection and cleaning agent

www.vdhwater.nl

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Biofilm prevention and control

Biofilm in water systems consists of a growing substance of bacteria surrounded with a self-generated slime layer.
This attaches to the inside of pipes, sprinklers, drippers, nozzles, sieves, valves, storage tanks, etc. Combined with other organic and mineral pollution it creates a difficult to remove inside layer, which is known as the notorious biofilm. It causes clogging of water system and biofilm gives the possibility to plant pathogens to hide themselves. Also non pathogen and micro organisms contribute to the growth of bio- films. Drain-heaters en UV-units don't have an effect on bio-films, because they have no long term, depot effect, on the water systems. The treatment of biofilm during the plant growing season can only be done with the plant safe ECA-Solution based on potassium chloride.

Electrolysis of Potassium Chloride

Electrolysis is a well known technology. The ECA-units makes in a electrolysis process from softened water and potassium chloride salt a high quality ECA-Solution. This ECA-water is a highly effective oxidant which react with all kind of micro-organisms and eliminate them. As a side effect of biofilm control Legionella prevention in water pipes is brought by the ECA- Solution and can therefore safely be used in greenhouse horticulture.

ECA-water

ECA-water contains free active chlorine (FAC) as potassium-hypochlorite and hypochlorous acid. Last component is the most active and the main component in the irrigation water as normally the pH is 6 and lower. The FAC in the ECA-water combat with biofilms and the pathogens hidden therein. ECA-water causes oxidation of all organic compounds in irrigation water and in the biofilm. Micro-organisms will no longer attach and hide themselves on clean walls. By a controlled dosage the ECA-water there is no risk for plants and therefore a safe solution. ECA-water is effective as biocide to eliminate biofilms in water sytems , for all kinds of micro-organisms such as non pathogen and pathogene organisms for plants. Last but not least, the FAC components from the electrolyzed potassium chloride will return the potassium as a fertilizer an contribute to a healthy growth.

The Dosing ECA-Solution

Dosing of the ECA-water into the mixing vessel or into another central location of the water system is PLC controlled and accurate based on water flow to the water installation. The required concentration of ECA-water depends on the degree of contamination in the entire water system (including tanks) The effectiveness can be controlled via measuring of the free chlorine concentration in the water installation. This complete system is our ECA-Solution to battle biofilm an guarantee a safe and clean water treatment system

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