

aquagroup

Aktiengesellschaft

COMMERCIAL AND RESIDENTIAL BUILDING



NADES

“ECA Solutions combats innovatively and efficiently.”
We are providing the best quality products and technical solutions.
www.aquagroup.com

NADES 2-0

Making Hotel, Resort, Hotel Apartment, Hospital, School, Clinic, Home, Villa and Building

A Safer Place.

Applications of ECA System and ECA Solutions:

- Drinking Water Treatment & Sanitation.
- Potable Water Treatment & Sanitation.
- Swimming Pool & Jacuzzi Water Treatment & Sanitation.
- Surface Cleaning & Disinfection.
- Tank Cleaning & Disinfection.
- Pipeline Flushing Application.
- Cooling Tower Water Treatment & Sanitation.
- Irrigation Water Treatment & Sanitation and Lake Water Treatment & Sanitation.
- Boiler Water Treatment.
- Odor Removing Applications.
- Waste Water Treatment & Sanitation.
- Water Feature and Fountain Water Sanitation.
- Fogging Application.
- Overall Hygiene Improvement of Area.
- Overall Environment Improvement of Area.

The Company

'Aquagroup Swiss GmbH Dubai Branch' is a branch of German Company 'Aquagroup AG'. It is a technology based company established with the aim to significantly improve general hygiene conditions. We are specialized in potable water treatment, pool water treatment, surface cleaning and disinfection and general hygiene improvement. We have many clients of hotel, resort, hospital, school, clinic, food industries, poultry farm commercial building, residential building and other organizations. Our concepts can save water and time, reduce energy costs and use of chemicals. Our main goal is to show the customers as many fields of application as possible and potential savings while offering customized solutions to tackle wide variety of germ issues. With our competent team, a staff of highly trained persons provide the customers with just the right expert for any task throughout the entire process of water treatment, surface disinfection, microbial decontamination and environment improvement.

The aim: To retain our common goal in making water, food, surface and environment safer.



Vision:

- We are preferred partner of Hotel industry, Hospital, Clinic, Residential Sector, Commercial Sector, School, Mall, Tower, Food industries, Poultry industry, Livestock industry, Cooling tower industry, Cruise ship industry and other organizations.
- We aim to be No. 1 in the fight against germs.

Mission:

- We improve hygiene where water is used.
- Our solutions can save water and time, reduce energy costs and the use of hazardous chemicals in certain applications.
- We improve environment and Life.

Neglecting the issue of water risk management can have a severe impact on the health and well-being of guests and personnel. Our company guarantees reliable standards of your water.

In recent years the general public has become increasingly aware of the water contamination, water quality, water safety and potential risk of biofilm harbouring pathogenic microbes. Management of superior hotels and good buildings dedicated to upholding the highest quality standards cannot afford the massive media exposure, subsequent image loss and drastic financial repercussions that occur after an outbreak of Legionella and other microorganisms.

Our company supports you in the creation of your unique experience for you and your guests. This starts with intensive pre-surveys identifying areas of weakness in the current system, covering not only the technical engineering aspects but also the analysis of the source of potential risks. The provision of a concept integrates our solution into an existing functional system to increase safety.

We always guarantee risk mitigation through the permanent elimination of biofilm ensuring high water quality, according to WHO, GSO and other International Drinking Water Standards both globally and locally.

What is ECA?

ECA Technology means Electro Chemical Activation Technology. Our disinfectant product NADES or NADES 2.0 are Electrochemically Activated (ECA) solutions which are produced through our specially designed devices. A saturated brine solution is passed through a cell and the NaCl is split into chemical streams via electrolysis.

The active agents in our products are electrolysed water with high ORP value (Oxidation Reduction Potential) and chemically active agent NaOCl.

One device – Numerous applications

Drinking or Portable Water Treatment & Sanitation

- Clear germ free water.
- Risk mitigation.
- Proven biofilm and legionella elimination.
- Fully automatic system.
- Post-Installation support.

Swimming Pool & Jacuzzi Water Treatment & Sanitation

- Reduced eye and skin irritation.
- Germ free swimming pool water.
- No purchase, no storage, nor diluting of dangerous disinfectants.

Surface Cleaning & Disinfection

- To reduce microbiological load of surfaces.
- To make the surface safe for use.
- Save time, water, human resources and money.
- Work process can be optimized.

Tank Cleaning and Disinfection

- To make tank inside surface safe for use
- To avoid cross contamination to water from tank.
- To reduce microbial load.

Pipeline Flushing Application

- To disinfect the pipelines from inside.
- To avoid microbial cross contamination through to the water.
- Optimizing of the application.

Cooling Tower Water Treatment & Sanitation

- Clear germ free water.
- Proven biofilm and legionella elimination.
- Fully automatic system.

Boiler Water Treatment

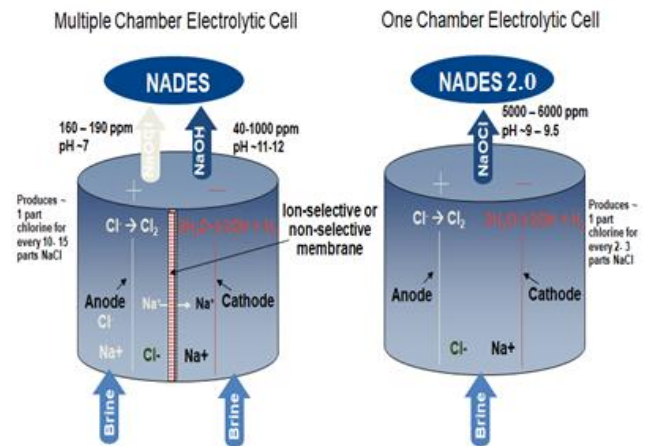
- To maintain boiler water parameters as per international standards and guide lines.

ECA advantages

The ECA Generator offers the advantages of producing active chlorine out of a harmless Sodium Chloride salt solution and electricity. Both are **easy to handle** and **available worldwide**. This process substantially reduces the risks involved in the distribution, transport, storage and handling of the hazardous active chlorine treatment of process water.

Conventionally manufactured NaOCl can produce harmful chlorates during storage.

The **just-in-time** concept of NADES or NADES2.0 production leaves no time for chlorates building. There is less handling of hazardous goods through the automated processes; this also results in simple operation of the generator's components. The ECA solutions NADES or NADES 2.0 are effective against Biofilm and have a high anti-microbiological and anti-viral efficacy.



Odor Removing Application

- To remove odor from the area.
- To improve indoor air quality

Fogging Application

- To improve air microbial quality.
- To avoid environmental microbial contamination.

Irrigation Water Treatment & Sanitation

- To eliminate bacterial and algae contamination from irrigation water.
- No nozzle blockage.
- No biofilm in water system.
- Less maintenance cost.

Lake Water Treatment & Sanitation

- To make lake water free from Algae and Bacteria.
- To improve water quality.

Waste Water Treatment & Sanitation

- To make waste water safe and to avoid microbial contamination.
- To make waste water reusable.

Health & Safety

The health and safety for people is of paramount importance. Continuous investments in the design and security of water treatment are made to ensure optimal results. One of the highest risks in water management is that of biofilm.



Biofilm Formation

Many different microbes have demonstrated the ability to survive in water distribution systems with some possessing the ability to grow and/or produce biofilm. Primary pathogens survive and protect themselves in it, ultimately becoming part of this biofilm and often displaying more resistance against conventional approaches for example thermal disinfection or traditional chemical solutions. The presence of biofilms plays a significant role in harboring and providing favorable conditions in which *Legionella pneumophila* and *Pseudomonas aeruginosa* may grow and posing a serious health risk. Factors contributing to waterborne outbreaks include; contaminated bunkered water, dead legs and stagnation, cross connections between potable and non-potable water, improper loading procedures, poor design and construction of potable water storage tanks and inadequate disinfection.

Fighting the biofilm — a hopeless battle?

In cold water < 20 °C *Legionella pneumophila* does not multiply but remains dormant. In countries with hot climates the cold water inlet temperature often exceeds 25 °C, ideal for microbiological growth and biofilm formation. It is a widely known fact that conventional free active chlorine solutions are relatively ineffective in eliminating biofilm.

Solution — fight the cause not the symptoms

NADES and NADES 2.0, however, is an electrochemically activated NaOCl (ECA) and when used just-in-time does not lose any efficacy. It prevents and/or hinders the growth of microbiological activity in water. A continuous inoculation with NADES and NADES 2.0 disinfects through the chlorination oxidation reaction of RNA/DNA destroying the Extracellular Polymeric Substance's (EPS) of a biofilm. This EPS layer protects the microorganisms present in the biofilm and facilitates the transport of nutrients. Biofilm control is one of the important objectives for ensuring that water delivered to the guests is of the highest quality.

Expertise

LAGOTEC was instructed to cultivate biofilm under real conditions with the objective of achieving a representative prediction regarding the efficacy of NADES and NADES 2.0 in the reduction of thereof.



Before Treatment

After Treatment



Before Treatment

After Treatment

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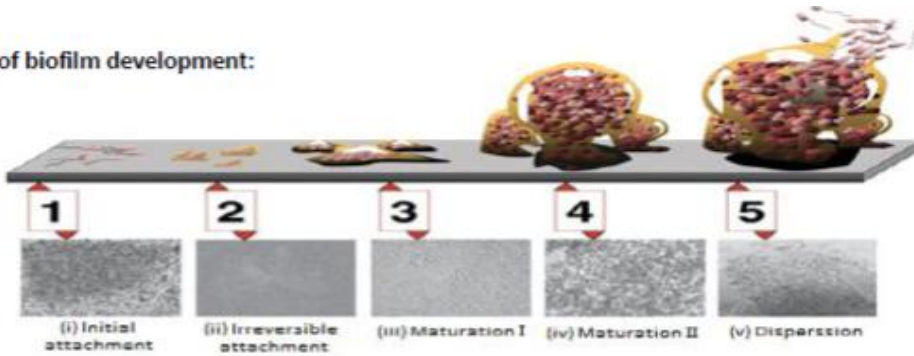
Our ECA Solutions NADES and NADES 2.0 are;

- Environmentally Friendly
- Non- Irritating
- Germ Free
- Quick Acting
- Non-Hazardous
- Non-Toxic

Why to Choose Aquagroup;

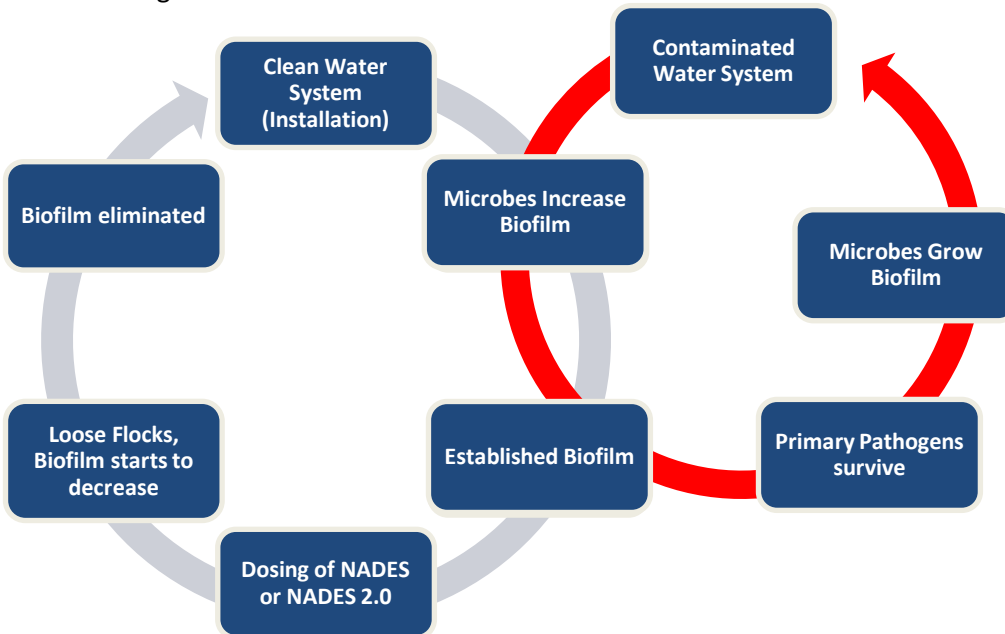
- Flexible Financing
- Pre- Survey
- Installation
- Training
- Commissioning
- Service and Maintenance
- 24/7 Hotline
- Application Consultancy

Five stages of biofilm development:



Factors Influencing Biofilm Formation:

- Bio available nutrients.
- Temperature – higher temperature leads to increase biofilm formation and growth.
- Water hardness.
- Applied materials.
- Processing of the material used.



The ECA Disinfectant effect

- Germ free and Safe water
- Eliminating Biofilm
- Just-in-time production
- Guaranteed high water quality at all time
- No storage, no transportation nor handling of dangerous chemicals
- Simple operation of component
- Automatic process, reduction of human error

Our Device:

- Risk management tool: all parameters are continuously monitored before, during and after the production process.
- User-friendly Touch Screen. (Optional)
- Integrated data logger for recording all parameters.
- Solenoid valve with time control for water and product.
- Service-friendly.
- Economical and environmentally friendly.

Expert Competency:

- Interface between hardware provider and Expert knowledge.
- Highly qualified team of chemists, microbiologists and food scientists.
- Field experience & support through validation.
- Fully equipped laboratory for internal analysis.





NON-IRRITATING

ECA Solution is non-irritating

ECA Solution is non-irritating and is authorized for use as a disinfectant for drinking water or water carrying systems; and at the same time it is completely safe to use and compatible with all materials and its corrosion level in the application concentrations is as low as that of drinking water.

GERM-FREE

ECA Solution frees from germs

ECA solution reliably destroys any microorganism and its spores even in the weakest concentration levels. The reason is the unique working mechanism, which takes full effect and does not allow any resistance to build up.

QUICK-ACTING

ECA Solution is quick acting

ECA Solution effects in seconds even in the weakest concentration levels and quickly destroys microorganisms.

We remain at your disposal at any time.

Please contact us if you wish to evaluate your specific saving potentials and applications

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