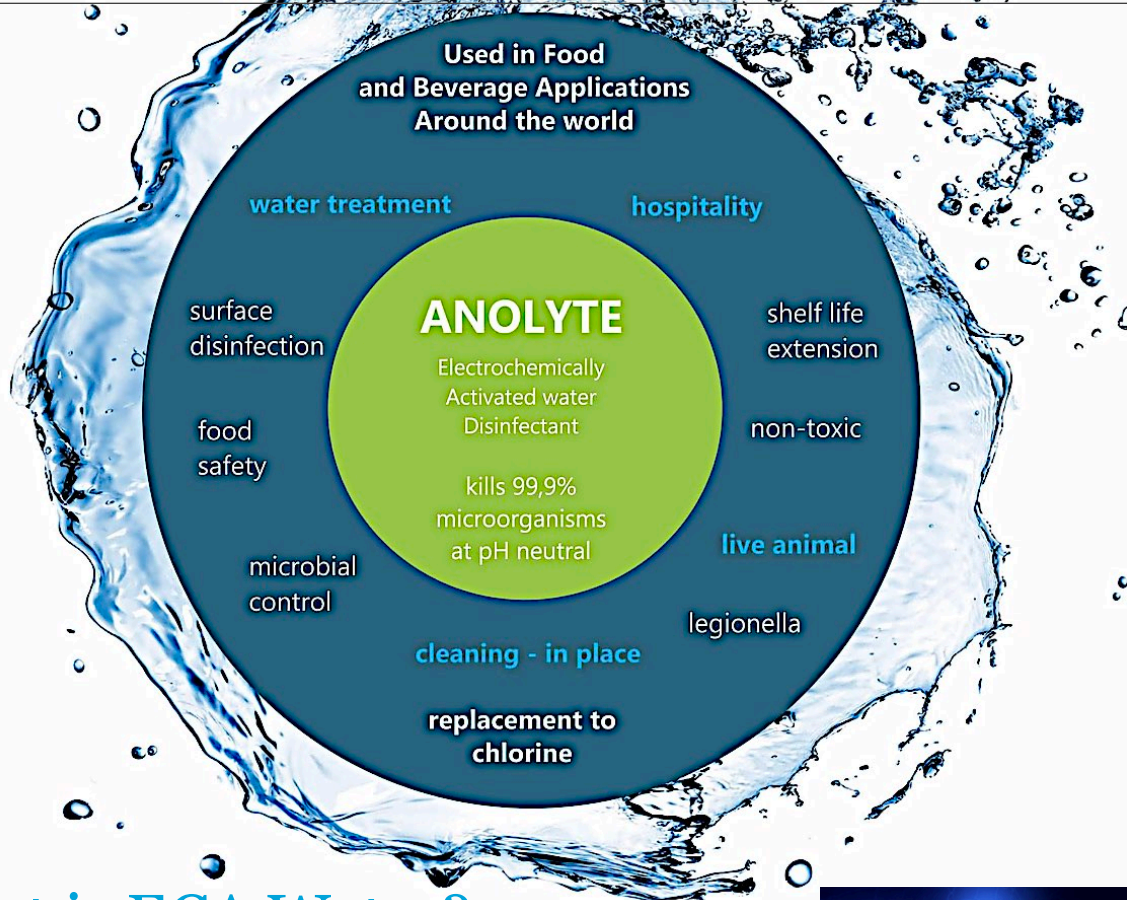


eHOCL
**ELECTROCHEMICALLY
ACTIVATED WATER**

- Green Technology
- Replace Harsh Chemicals
- Increased Profits

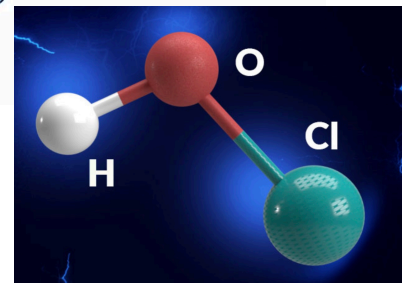


ECA WATER



What is ECA Water?

ECA stands for **Electro-Chemically Activated**. ECA is a patented technology first invented in Russia and has been under development for over 40 years. The activation process uses water, salt and electricity to produce a potent natural disinfectant, **Anolyte**. A detergent, known as **Catholyte** is also created.



Hypochlorous Acid

WHAT IS ECA? HOW DOES ECA WORK?

Microbes, like other living things need a stable energy supply to survive.

ECA destabilizes and elevates the **electrical charge** of the water and creates an environment in which microbes cannot survive.

The energy difference between ECA water at +900mV and tap water at +200mV will kill 1 million E.coli in 30 seconds.

ECA works the same as the Human Immune System

When the body comes under attack from invading bacteria and viruses, the immune system immediately responds. The body sends increased numbers of a specific white blood cell called a Neutrophil straight to the invasion site.

Once activated, these cells produce large amounts of a mixed oxidant solution which is effective in eliminating invading microbes and pathogens.

The oxidant produced by the white blood cells **Hypochlorous Acid** or HOCL is amongst the most potent natural disinfectants. It is non-toxic to humans, and is highly effective as an antimicrobial agent with rapid action.

HOCL is generated under specific electro-chemical conditions using a combination of water, salt (NaCl or KCl) and electricity. By using our specialized hygiene generators **Radical Waters** are able to produce HOCL of the highest quality and efficacy, litre after litre on site, on demand at your location.

HOCL is extremely effective at eliminating all pathogens and food spoilage microbes including spores.

ECA Applications

BEVERAGE PRODUCTION

In the multi-billion dollar beverage industry, it is crucial that manufacturers produce consistent quality. Limited returns allow for sustained enhancement of brand image and equity. Food and beverage processing relies on water as its main ingredient and water quality needs to be of the highest possible standard. Under typical conditions, process or ingredient water is filtered repeatedly before use. While this procedure is effective, other sources of microbial contamination do exist. If left unchecked, these will likely result in product contamination and spoilage.

ECA Applications



Beverage Production



Sauces



Seafood



Meat Processing

Through the use of Radical Waters ECA solutions in CIP applications in beverage plants, the results have shown:

- An increase in production time and overall operating efficiency due to shorter CIP's and down-time and with a potential time saving of up to 70%.
- A substitution of conventional chemicals with the natural ECA solutions may result in savings in chemical costs of up to 90%.
- Water usage may be reduced by up to 60%
Radical Waters – Substantial energy savings

SAUCES MANUFACTURING

In a sauce plant, water quality is of the utmost importance as it is one of the primary ingredients in the manufacturing process. Often, municipal water is not re-treated and may create a microbial spoilage problem. Micro-organisms and bio film are ubiquitous in moist or damp environments. Manufacturers should also consider other areas of possible microbial contamination.

ECA benefits to the Sauce manufacturer

- Decontamination of process water as well as being a product ingredient

“All ECA CIP's” are performed at ambient temperature.

- Improved safety in the hands of workers, as well as being safe to the environment
Reduced CIP volumes result in a substantial reduction in the production of toxic effluent.
- ECA will not affect the taste, colour and appearance of the treated products Offers a proven solution engineered for an existing or new cleaning in place (CIP) system.

- Shelf life extension of preservative free products
- Reduction of food preservatives
- General in-process surface disinfection



SEAFOOD PROCESSING

Shelf-life limits and spoilage of seafood is an ongoing dilemma for processors. In the factory environment, sea water is often used as a medium for transporting fresh fish from one processing point to the next. Throughout processing, sea water becomes progressively soiled allowing micro-organisms to flourish thus pre-empting spoilage. ECA solutions eliminate and control all pathogenic organisms, including *Staphylococcus Aureus* and *E.coli* (O157). *ECA reduces the overall microbial bio-load of spoilage organisms*, thereby substantially reducing the risk of cross contamination.

ECA solutions effectively decontaminate the process sea water which results in a longer shelf life of the processed fish products. ECA can additionally be added into flaking and packing ice to improve the shelf life of fresh seafood for export

ECA benefits in Seafood

- Increased shelf-life
- Addition to packing ice for extended shelf life of fresh products
- Environmental odour control
- Reduction of Total Volatile Nitrogen (TVN) on aged fish

MEAT PROCESSING

Quality consciousness and compliance with good manufacturing practice is a necessity. This assures optimal quality and extended shelf life of perishable products.

Food-borne outbreaks of Listeria come from re-contamination of meat products during processing. ECA solutions have shown to be 99% effective in the reduction of microbial count.

The remaining micro-biocidal activity of ECA after application will also control general microbial build-up and limit further cross contamination.

ECA treated meat products stay fresher for longer and reduce the incidence of food-borne

diseases which remain a substantial concern for the health conscious consumer.

In addition, the application of the ECA products in the meat processing environment will result in:

- Eradication of spoilage micro-organisms
- Shelf-life extension
- Decontaminated Offal & sausage casings which result in extended shelf-life of value-add products
- General carcass decontamination
- Working surface disinfection
- General Food-Safety compliance



electrochemically activated water