



What is our uniqueness?

In terms of disinfectant production, if we are talking on producing the material on site, the disinfectant production is a membranless process (requires low maintenance) and a production of a caustic by product is avoided, a thing that may require additional care in terms of regulation.

If the material is produced, not by demand, keeping the active material stable for long time is challenging. Keeping the material stable often pushes the solution components to be not its optimal pH working range, which in turn, requires working with higher free chlorine content to reach good anti-bacterial efficacy and considerable part of the material is in a "bleach" form. Sometimes, buffer additives and high concentration of table salt are added to the disinfectant solution, in order to reach stabilization, which makes the solution corrosive to a plenty types of surfaces.

Our team think in different manner of how to keep solution stable over one year and optimally active without the addition of extra salt, additives and still maintaining working at the ideal working pH range.

Moreover, our team at Bar-Ilan university, keep validating that the produced solution is effective on a routinely basis. Our experts team consists of chemists, electrochemist and microbiologists that always keep thinking how to improve our product and ready for any challenge (like preventing infection transfer in the fish industry).

The combination between team of experts from the engineering world, with dozens years of experience, providing optimal and clever design of sanitizing Instruments, working together with team of experts from the academic world makes the perfect team for you for creating better and healthier environment.

How the material is produced?

We can produce the material on site with our special design, membrane-less reactors. Our special design ensures high yield of material with low content of salt in the feed tap water, without the addition of buffer additives and still, providing the optimal working pH range, without production of caustic soda by products.

The system requires low maintenance and free of scaling. Moreover, production of material on-site is favorable in terms of environmental aspects, cost effective and eco-friendly.

We also developed a method for prolonging the shelf life of the disinfectant product, without the addition of additives, with low salt content and in contrary to other products, the working pH range is the optimal. Therefore, our product is very efficient and the least corrosive among others.



Q&A

PURIFIC SOLUTION AND TECHNOLOGY - COMPARISON AND ADVANTAGES

Why hypochlorous acid is the ultimate disinfectant?

Hypochlorous acid is a natural substance our body produces as a first line of defense against pathogens. It is extremely safe, bio- degradable and non-corrosive. It is nonflammable and chemical free. The material is FDA approved for skin and food contact. This material was proven, by us, to be effective not just against the Corona virus but also against harmful pathogens like MRSA, positive and negative gram bacteria in 99.999999% efficacy (log8 reduction).

Other commercial disinfectants are by far more irritants, corrosive and much less effective given the same active material concentration (0.005-0.02%).

Advantages

Hypochlorous acid, as the active material in the disinfectant solution exhibits major advantages over other on the shelf commercial disinfectants and probiotic based disinfectant solutions.

- › **Effectiveness** - It is effective not just againsts bacteria but against viruses as well.
- › **Environmental** - It has no environmental impact such as it tends to eventually decomposes into water and it is not corrosive.
- › **Regulations** - It is extremely effective at low concentration even at less than 0.005%. Therefore, it may mitigate regulations issues as it comes to disposal of disinfectants into urban sewage, for instance.
- › **Aviability** - It can be produced almost everywhere, as long as there are sources of tap water and electricity.
- › **Safetiness** - It is not harmful even if swallowed. Therefore, it can be applied around people.
- › **Handling** - since it is water-based material, a disinfectant solution can be applied as an aerosol, vapors or as a liquid. It can also be freezeed and serve as a disinfectant for cooling seafood.
- › **Applications** - Applications are endless. From purifying spaces like rooms in hotels, hospitals, disinfection of surfaces etc. Moreover, thanks to its antiseptic characteristics, this material is perfect for healthcare and beauty care industries (treating itches, or fighting Acne for example) or for agriculture industry, replacing harmful pesticides. Food industry also may be of interest, since this material is FDA approved for food contact, and noncorrosive, disinfection of food manufacturing lines can replace the current solutions (washing with steam).
- › **Reliability and reputation** - the material was extensively investigated and many dozens of acadameic publications are documented in the professional literature supporting its extreme effectiveness and safetiness.