



Novel Multi-Application Disinfection Technology



The Problem

Microbial infections represent one of the leading causes of death worldwide. Users of antiseptics and disinfectants are individual consumers as well as various groups and industries such as research institutions, food handlers, textile manufacturers and healthcare providers. Antiseptics and disinfectants are a vital set of compounds for healthy living.



The Solution

A portable, cheap and re-usable method of generating and applying electrolyzed water (EW) that enables more widespread use of this alternative disinfecting and cleaning agent.



The Commercial Benefit

The applications of this technology range from surface removal of bacteria, mold, and oily dirt, treatment of skin problems, particularly, oily skin, acne and eczema, to the removal or inactivation of hazardous pesticide residues from fruit and vegetable surfaces. They address needs in very large global markets.



Market Potential

The global disinfectants market is expected to reach \$9.1 Billion in 2022 from Nearly \$7.1 Billion in 2017 at a CAGR of 5.2%. The market is driven by increased focus on hygiene and growing concerns over the spread of infectious diseases both at home and in public places. Rising demands in the food and healthcare industries will drive the market. In those industries, cleaning and sanitation are vital for safety. There is ever increasing pressure from hospitals for manufacturers to create products that are widely applicable to disinfect surfaces and patient rooms efficiently and effectively against a wide range of viruses and bacteria. Another market, the global skincare market, is estimated to reach \$135 Billion by 2021. Within this market, facial care represents the leading segment. Factors driving market growth of the skin care industry are greater awareness about grooming by men and an interest in natural products.



Target Markets/Industries

- Dermatology product manufacturers
- Biomedical product manufacturers
- Cosmetics product manufacturers
- Food manufacturers
- Textile manufacturers



Intellectual Property

Patent pending



Team: Primary Inventor

Prof. Doron Aurbach

- Prof. Doron Aurbach is a professor in the Department of Chemistry.
- He is a member of Bar-Ilan University (BIU) Senate.
- Prof. Aurbach is a director of the Energy Center at the Bar-Ilan University Institute of Nanotechnology and Advanced Materials.
- He is a leader of the Israel National Research Center for Electrochemical Propulsion, which includes 22 research groups from 5 leading academic institutions.
- Prof. Doron Aurbach works systematically on R&D of a wide variety of power sources, electronically conducting polymers, and water desalination and purification.
- He mentored 55 PhD students and 70 MSc students and has supervised 20 post-doctoral fellows.
- Prof. Doron Aurbach published more than 540 research papers in leading electrochemistry, materials science and physical chemistry journals.



Future Research

Integration of aforesaid technology in various systems



The Opportunity

Industrial companies are invited to license our patent through a licensing agreement, either with or without sponsored research.



Keywords

- Electro-oxidized,
- Electrolyzed water,
- EW,
- Antiseptics,
- Disinfectants.