

# ECOAQUA



- ECAS TECHNOLOGY (ELECTROCHEMICAL ACTIVATION OF SOLUTIONS)
- GREEN AND ECOFRIENDLY DISINFECTION
- ZERO CHEMICAL - JUST ACTIVATED WATER
- ON SITE DISINFECTION AND ELIMINATION OF ALL KINDS OF BACTERIA/VIRUSES /FUNGI/BACTERIAL & FUNGAL SPORES
- NOT HARMFUL TO HUMAN AND ANIMAL CELLS
- NON TOXIC (CLASS IV - ANTIMICROBIAL SOLUTION)
- COST EFFECTIVE : MULTIPLE APPLICATIONS
- NO DISINFECTION BY PRODUCTS (DBPs)
- >6 LOG REDUCTION DISINFECTION EFFICACY (MICROBICIDAL & SPORICIDAL)

**ADVANCE TECHNOLOGIES OF ACTIVATED  
WATER FOR MEDICAL DISINFECTION**

## TAPPING THE POWER OF WATER THROUGH ECAS

- ECAS culminates to produce green, environmental friendly washing/disinfecting solutions. ECA of solutions is necessarily associated with alternation of their chemical composition, acidity and (or) alkalinity within a wide range. ECAS is based on the changes of reactional and catalytic abilities of aqueous solutions subjected to electrochemical unipolar (either anodic or cathodic) treatment. This technology has been scientifically researched and tested.
- ZERO EMISSION AND DISCHARGE
- ZERO CHEMICALS - JUST WATER
- PRODUCTIVITY 40 Litres /Hr
- CAN BE STORED UPTO 180 DAYS
- NO SKILLED STAFF REQUIRED
- LOW POWER CONSUMPTION AND NEGLIGIBLE RUNNING COST
- **ECO**AQUA**** SOLUTIONS FOR MULTIPLE APPLICATIONS AND REPLACEMENT OF MULTIPLE DEVICES/SOLUTIONS
- **ECO**AQUA**** DISSOCIATES SPONTANEOUSLY AFTER USE AND DOES NOT REQUIRE NEUTRALIZATION.



## ECO**AQUA** APPLICATIONS FOR MEDICAL DISINFECTIONS

- EQUIPMENTS / INSTRUMENTS / FURNITURES / OPERATION THEATERS / RECOVERY ROOM
- MEDICAL WASTE DISINFECTION
- ALL KINDS OF SANITATION : FLOORING, HOSPITAL BEDS, TOILETS ETC.
- ALL INFRASTRUCTURE, OPERATING ROOMS/CANTEENS ETC
- CAN BE USED FOR MOBILE EQUIPMENTS / AMBULANCES
- CAN BE USED AS AN ANTISEPTIC / HAND SANITIZER
- AIR DISINFECTION AND ELIMINATION OF ODOURS THROUGH SPRAY/AEROSOL



# ECAS Technology

The ECAS treatment of low-mineralized saline water solution ( $\text{NaCl} + \text{H}_2\text{O}$ ) transforms it into activated solution called **ECOAQUA**, which is capable of eliminating all kinds of pathogens and microorganisms (bacteria, viruses, fungi and protozoa), while ensuring no harm to human and animal cells as well as cells and tissues of any higher organisms

## ECOAQUA solution has the following characteristics:

pH	6.5 - 7.2
RedOx	600-900 mV
The concentration of active chlorine	100-500 ppm depending on the purpose

## List of oxidants (active ingredients) of the solution ECOAQUA

Active oxygen compounds		Active chlorine compounds	
Hydroxyl anion	$\text{OH}^-$	hypochlorous acid	$\text{HClO}$
Hydroxyl radical	$\text{HO}^\bullet$	hypochlorite ion	$\text{ClO}^-$
Peroxide anion	$\text{HO}_2^-$	hypochlorite-radical	$\text{ClO}^\bullet$
Radical hydrogen peroxide (peroxide-radical)	$\text{HO}_2^\bullet$	Chlorine-radical (chlorine atom)	$\text{Cl}^\bullet$
Hydrogen ion (hydronium ion)	$\text{H}^+$	Chlorine dioxide	$\text{ClO}_2$
Hydrogen Radical	$\text{H}^\bullet$	Chlorite-radical	$\text{ClO}_2^\bullet$
Hydrogen superoxide	$\text{HO}_2^\bullet$	Chlorite-anion	$\text{ClO}_2^-$
Hyperoxic anion	$\text{HO}_2^-$		
molecular oxygen	$\text{O}_2$		
Hydrated electron	$\text{e}_{\text{aq}}^-$		
Ion-radical of molecular oxygen (superoxide anion or anion hyperoxic)	$\text{O}_2^\bullet$		
Dioxygen cation, containing one unpaired electron	$\text{O}_2^+$		
Oxygen ion	$\text{O}_2$		
Peroxide anion	$\text{O}_2^{2-}$		
Ozone	$\text{O}_3$		
Anion-radical molecular ozone	$\text{O}_3^\bullet$		
Cation peroxonio	$\text{H}_3\text{O}_2^+$		
Molecular anion of water	$\text{H}_2\text{O}^-$		
Atomic oxygen	$\text{O}$		
Ión de hidroxonio (catión de hidronum)	$\text{H}_3\text{O}^+$		

## Instructions for storage

Although the key feature of the equipment is that we have the facility for the instant production of this solution at site. In case there is a need, it can be stored for 180 days while retaining the disinfectant properties of the solution, however it should be stored in closed glass, plastic or enamel container at room temperature and away from solar light.

# Properties

## ECO<sup>AQUA</sup> disinfectant is effective against

- Antimicrobial activity against Gram-negative and Gram positive (including pathogens of nosocomial infections, and anaerobic infection, Mycobacterium tuberculosis and MRSA)
- Viruses (including adenovirus, influenza virus, parainfluenza, avian influenza, swine and other agents of the influenza virus respiratory infections acute enterovirus, rotavirus, polio virus, virus, enteral, parenteral, hepatitis, herpes, SARS, HIV) etc,
- Fungi of the genus Candida and Trihofiton (ringworm), molds, and has sporicidal activity and washing properties.

## Security/safety to User

- Disinfectant ECO<sup>AQUA</sup> corresponds to the class 4 low hazard compounds(the least dangerous)class of toxicity.
- The skin irritant effect by single and repeated application according to the recommended methods of application has not been identified, the agent has a weak local irritant effect on mucous membranes of the eyes, has no action on the skin.
- Operational solutions with concentrations of 500 ppm (active chlorine) do not cause, by inhalation (as steam), upper respiratory tract irritation.

# Device

is a portable equipment to produce ECO<sup>AQUA</sup> solution. The main component is electrolytic cells, which is an independent flow electrochemical cell. The solution is produced from the mixture of salt and water when it comes in contact with the surface of electrodes. This results in a change of balance in the structure of water and the formation of active ingredients as listed in the previous section.

Image 1 : ECO<sup>AQUA</sup> -40 Semi Automatic Model

## Technical Specifications

Productivity, l/hour.....	40
Power supply.....	220 V, 50 Hz
Power, Wt.....	400
Consumption of NaCl for 1 liter of ECAS solution, gms/l.....	max. 5
Concentration of initial NaCl solution, % ...	10
pH value.....	6.5-7.2
Concentration of active chlorine compounds, Ca.x.,% .....	001± 0,05
Dimensions, (mm).....	350 x 160 x 400
Weight,(kg).....	4,8
Technical resort, (hours).....	17000



## CERTIFICATIONS :



## INTERNATIONAL CER TIFICATIONS :



ECO<sup>AQUA</sup>

SOLUTIONS

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A unit of Rajiv Hydraulics Pvt. Ltd.