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## Anolyte, Neutral Anolyte & Catholyte

The Envirolyte Electro-Chemical Activation [ECA] process of generating Electrolyzed Aqua Solutions involves nothing but Electricity, Water and Salt in producing Anolyte and Neutral Anolyte Biocide and Catholyte solutions which act as a powerful Micro-Biocide, a Catalyst, a Detergent, a Redox Agent and Other Types of Activated Water with many diverse applications.

Through the ECA process, highly active reagents such as Ozone, Atomic Oxygen, Peroxide Compounds, Hypochlorous Acid, Hydrochloric Acid and Chlorine are synthesized from the Actual Feed Water itself, which contribute to the high efficiency of the Envirolyte system in generating Activated Aqua Solutions that are much more effective and environmentally-friendly than the use of any form of man-made toxic chemical compounds.

The compounds that are synthesized in the electrolysis cell are unique and cannot be produced by traditional methods.

All of the Synthesized Electrolyzed Aqua Solutions revert back into their natural state as Water, Other Compounds and Basic Elements as 100% Totally-Green By-Products.

In all their myriad applications, Envirolyte Activated Electrolyzed Aqua Solutions consist of Catholyte, Anolyte and Neutral Anolyte with the following characteristics, pH and ORP.

### Catholyte Primary Components:

Hydrogen (H<sub>2</sub>)

Hydroxide (OH<sup>-</sup>) from Sodium Hydroxide

Hydrogen Peroxide (H<sub>2</sub>O<sub>2</sub>)

Sodium Hydroxide

pH 11.6 to 12.5

ORP/Redox: -900 mV to -1100 mV

Catholyte is a Highly Alkaline Surfactant Detergent which serves as an excellent washing liquid that removes surface oil and grease and heavy metals from water through precipitation and flocculation.

Sodium Hydroxide is a basic element in soap and detergent and is a very effective grease cutter.

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## Anolyte Primary Components:

Hypochlorous Acid (HClO)	Hypochlorite Ion $\text{ClO}^-$
Hydrochloric Acid (HCl)	Chlorine ( $\text{Cl}_2$ )
Oxygen ( $\text{O}_2$ )	500 – 700 ppm of Free Available Chlorine [FAC]
pH 2.0 to 3.5	ORP/Redox: +1000 mV to +1200 mV

Anolyte is used to disinfect and sterilize where pH is unimportant and corrosion is not an issue.

Anolyte is a powerful disinfectant against all type of Micro-Organisms [Bacteria, Viruses, Mold, Spores and Fungi] -- even when diluted in water or sprayed in the air.

Anolyte may be applied as a Liquid, Fog or Ice.

When properly stored, Anolyte remains Sporicidal for up to 6 months and up to 12 months as a Biocide.

At a pH of 2 to 3.5, Anolyte is highly acidic.

Anolyte is very effective in treating Wastewater, Sewage, Offal from Meat and Poultry Processing Plants and in killing Microbial Pathogens in animal and poultry litter and manure.

As a Disinfectant/Sterilant, Anolyte Biocide has greater killing power than Chlorine, Chlorinated Water, Chlorine Dioxide, Sodium Hypochlorite, Hydrogen Peroxide and Ozone.

The primary killing power in Anolyte Biocide is the Free Available Chlorine.

Free Available Chlorine is chlorine that is present in the form of Hypochlorous Acid [HOCL] and Hypochlorite Ions [ $\text{ClO}^-$ ] -- or as Dissolved Elemental Chlorine that is available to react where needed.

Hypochlorous Acid [HOCL] is the primary component in Anolyte Biocide that produces the greatest killing power against micro-organisms.

While Hypochlorite Ions [ $\text{ClO}^-$ ] are also an active killing agent, Hypochlorous Acid [HOCL] is roughly 80 times more effective than Hypochlorite Ions in killing power, largely because HOCL has greater efficacy in penetrating microbial cells at the mitochondrial level with virtually 100% effectiveness in totally inactivating and destroying the entire cell -- membrane, body and DNA -- in preventing residual cells from mutating into a stronger form of micro-organism.

HOCL should not be confused with Sodium Hypochlorite [ $\text{NaOCl}$ ] which is commonly referred to as "Bleach" and is prepared by reacting diluted caustic soda solution with liquid or gaseous chlorine

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## Neutral Anolyte Primary Components:

Hypochlorous Acid (HClO)	Hypochlorite Ion $\text{ClO}^-$
Hydrochloric Acid (HCl)	Chlorine ( $\text{Cl}_2$ )
Oxygen ( $\text{O}_2$ )	500 – 700 ppm of Free Available Chlorine [FAC]
pH 7.5 to 8.5	ORP/Redox: +700 mV to +900 mV

Neutral Anolyte is used where pH is important. Neutral Anolyte is not corrosive.

Envirolyte Neutral Anolyte has the ability to kill all types of Micro-Organisms [Bacteria, Viruses, Mold, Spores and Fungi] as the World's Strongest and Most Powerful Electrolyzed Water Disinfecting and Sanitizing.

As a Disinfectant/Sterilant, Anolyte Biocide has greater killing power than Chlorine, Chlorinated Water, Chlorine Dioxide, Sodium Hypochlorite, Hydrogen Peroxide and Ozone

Testing of Neutral Anolyte has empirically documented its total effectiveness in the elimination of Salmonella spp. E.coli, Pseudomonas aeruginosa, Legionella pneumophila, Anthrax Spores, Staphylococcus, Listeria, HIV, MRSA Infection, Influenza Virus & Norovirus.

Neutral Anolyte has proven to be a much more effective Anti-Microbial Agent against E-coli 0157:H7 than Chlorine, Chlorine Dioxide or Ozone.

Neutral Anolyte may be applied as a Liquid, Spray or Fog -- or as ice in applications which include chilling of Sea Food, Poultry and Meat with simultaneous elimination of microbial pathogens and food spoilage bacteria during shipment and storage.

When properly stored, Neutral Anolyte remains Sporicidal for up to 6 months and up to 12 months as a Biocide.

The primary killing power in Anolyte Biocide is the Free Available Chlorine.

Due to the inherent characteristics of Envirolyte Electro-Chemical Activation technology, the process of destroying Bacteria, Viruses, Spores, Fungi and Other Micro-Organisms is much faster and effective than with conventional means.

The use of chemical disinfectants often becomes ineffective with micro-organisms that survive treatment and become resistant to the disinfectant.

In contrary manner, micro-organisms do not become resistant to Envirolyte Anolyte/Neutral Anolyte due to physical collapse and total oxidation destruction of the microbial cell and its DNA structure.

Please note that in protection against bio-terrorism, testing of Neutral Anolyte has documented its total effectiveness in killing Anthrax Spores.

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