

Portsmouth Aqua - Paqualyte

Using the Power of **Paqualyte** Products for Superior Disinfection

Electrolysed Water usage for Poultry Farming



Paqualyte products provide Innovative, Cutting-Edge Technology that is combatting bacterial problems within the farming, food and water industry. This is helping to make food safer and provide healthier water systems for people and animals, whilst enhancing the quality and shelf life of food products in the food chain.

This process starts with using our product on the farms and goes right through the food processing stages, to the finished products that are sold in the supermarkets, which are consumed all over the world.

The technology **Paqualyte** use is Electrolysed Water, it offers 100% Green, Organic, Environmentally-Friendly, Bio-Degradable Neutral Anolyte Biocide with documented efficacy showing that it is able to control *Salmonella*, *E.coli*, *Campylobacter* and many other types of Bacteria and Biofilms.

Dosing our **Paqualyte** as a **Husbandry** product to help provide clean and bacteria free animal drinking water conforms to the EU and UK regulations that state, “the dosing levels used in animal drinking water are not restricted, providing they never impact on the health and welfare of the animal”.

Our machines produce **Paqualyte** within the Neutral pH band of 5 to 7, they can however have the pH adjusted to match the on-site water conditions required by the poultry farmer.

Using Electrolysed Water instead of man-made chemical compounds will completely revolutionise the UK Poultry Industry and will give Pioneering Innovators the advantage of being the first in the industry to gain a competitive edge over the other Poultry Farm Operators.

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The result will be **An Immediate Increase in Bottom-Line Profits.**

The use of Electrolysed Water Technology is in its infancy within the UK Poultry Farming sector, Along with the health benefits it will provide for their poultry plus the related financial savings, which will increase their profitability and put them ahead of their competitors.

Electrolysed Water can be applied to hundreds of different applications in Poultry, Livestock and Fish Farming, Agriculture, Water Purification, Wastewater Remediation, Cleaning and Sanitizing, Mould Control and for many other commercial and industrial uses.

With the ever-increasing bans or reductions around the world to control the use of man-made toxic chemicals that pollute the Atmosphere, Soil and Water Supplies, **Paqualyte** products provide the only viable alternative which is the use of **Electrolysed Water Liquid Solutions** that are 100% Totally-Green, Environmentally-Friendly, Non-Toxic, Bio-Degradable Products.

Envirolyte Industries International Ltd [www.Envirolyte.com] is the undisputed world leader in Activated Electrolysed Water Solution Technology.



Envirolyte ELA-6000 Commercial Water Electrolyser

Each Agriculture, Poultry and Livestock Farm that requires an Envirolyte machine, is always sized accordingly for the dosing requirements of the water volume being consumed on a daily basis.

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

Paqualyte is Hypochlorous Acid, the most powerful disinfection component within the chlorine family.

Paqualyte Biocide has proven to be virtually 100% effective in killing any and all microbial pathogens against which it has been tested.

Applications of Paqualyte in Poultry Farming Include:

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Below is a list of benefits that can be obtained by poultry farmers using Anolyte ANK, however at this point in time within the EU you can only use our product in the Drinking water that you give to your birds.

Just letting the birds drink water dosed with Anolyte ANK will benefit their health and welfare, as well as improving their weight and the quality of the eggs that they produce.

- It eliminates the requirement for purchasing and storing Toxic, Man-Made Sanitizing and Disinfecting Chemicals. We provide **On-Site Generation** of Anolyte ANK to provide a suitable dosage which is injected in to the volume of water being consumed, or being used for disinfection during any cleaning procedures.
- General Sanitizing & Disinfection using Full Strength Paqualyte

Surface Cleaning and Equipment Sanitizing.

Spraying & Fog Misting to Kill Bacteria, Viruses, Mould, Spores & Fungi.

- Control of De-Feathering by Fog Misting with Full Strength Paqualyte to destroy Aerobic and Anaerobic Bacteria.
- Disinfection of feed to kill microbial pathogens that occur in most poultry feeds.
- Better digestion and feed conversion ratio.
- Prevention of infectious diseases.
- A reduced mortality rate.
- Calmer and less stressed birds.
- Disinfection of Drinking Water.

It is important to keep the drinking feeders clean since the water can become polluted with airborne microbial organisms, contaminated feed, manure, mucus and saliva from the poultry.

Since diseases such as E.coli, Salmonella & Fowl Cholera can be transmitted via the drinking water, it is important to clean and disinfect the drinking points on a daily basis with Full Strength Neutral Anolyte.

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Disinfected Drinking Water should **not** be used when medication is being administered, the Residual chlorine should be neutralised with a product like Aqua Vac Plus.

General Sanitizing



The use of **Paqualyte** in Poultry Farming begins with General Sanitizing of the Poultry sheds by fogging and spraying the building interior to encapsulate and kill Bacteria and Other Microbial Pathogens in the air and on surface areas.

Paqualyte can be used as a disinfecting agent by spraying for 15-30 minutes weekly, in to the living space of laying hens. Cold fogging of **Paqualyte** can be applied with or without the laying hens being in situ.

With the hens in situ, the concentration of Free Available Chlorine (FAC) contained within the **Paqualyte** solution **must not** to be over 50mg/l, this is to avoid causing breathing problems for the hens.

To ensure maximum efficiency for disinfection purposes remove the hens from the living space and apply **Paqualyte** undiluted.

It disinfects, reduces ammonia levels by up to 60% and removes odours, binds dust and improves the quality of breathing air for both poultry and humans.

Litter and manure must be sprayed at least once a day with Full Strength Neutral Anolyte Biocide to kill microbial pathogens and control odour.

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Drinking Water Disinfection



For good health, clean water is essential in poultry farming. By continuously dosing **Paqualyte** into the drinking water, all harmful bacteria, viruses, spores, mould and other fungi are eliminated. Bio-Film and water borne bacteria is also removed, with the added prevention of bacterial re-growth.

Based on the amount of biological contamination in the source water, treatment by continuously injecting 2% to 3% of **Paqualyte** into the water supply line is normally sufficient to kill all the Microbial Pathogens in the drinking water, based on 500 to 700 parts per million [ppm] of Free Available Chlorine in the **Paqualyte**.

The characteristics of the drinking water are not changed, therefore adding Anolyte ANK to the drinking water at specific dosages will improve the animal health and provide increased weight gain.

Food Preservation

About 80% of the poultry diet is grains that are high in carbohydrates [Corn, Wheat, Rice, Barley, Oats etc.] plus Soy Beans that are high in protein, which may be grown by the Poultry Farmer, or commercially purchased in bulk or packaged as specially formulated mixtures that include vitamins, minerals and other supplements.

An antibacterial compound needs to be added to Poultry Food since harmful bacteria and other microbial pathogens occur naturally in most feeds, which can also become contaminated with *E.coli*, *Avian Influenza*, *Salmonella*, *Listeria* and other disease causing organisms. Chinese poultry feed poses high risk of contamination by Microbial Pathogens.

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Anolyte ANK in the ratio of 16 litres per ton of feed grain can be manually sprayed over the grain.

- ✦ In this application **Paqualyte** serves as a preservative that does not affect the quality of the feed grain, which is often the case when traditional chemical preservatives are used. In addition to disinfection, **Paqualyte** adds acidity and inhibits “breathing” of the grain, resulting in preservation of many important vitamins that usually disappear when temperature goes higher than 50° C.
- ✦ The important advantage of treatment with **Paqualyte** is that high quality feed grain can be preserved for future consumption regardless of its moisture content and weather conditions.

Antibiotic Use in Poultry Farming

The EU is trying to eliminate the use of Antibiotics within the production of poultry and animals, this is to help prevent humans becoming immune to their use. When our product is used it can help to contribute towards this EU requirement, as it is proven that that animals drinking water dosed with **Paqualyte** have virtually no need for Antibiotics.

This is because their general health and welfare is much improved during their life cycle, this is shown by a decrease in the mortality rate of the birds and a reduction in the number of visits for vets having to attend the farms. Both of these points prove that our product is beneficial to the birds.

A team of scientists from the University of Maryland and other universities found that large-scale Organic Poultry Farms -- which are not allowed to use antibiotics -- had significantly lower levels of drug-resistant bacteria than their conventional counterparts. Any drug-resistant bacterium that was found was assumed to have been transmitted to the poultry farm in contaminated feed or other means.

Disinfection of Manure & Litter

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Manure and Litter must be sprayed several times a day with Full Strength **Paqualyte** to kill microbial pathogens and control odour problems.

With reference to a typical manure lagoon that he sampled, Kellogg Schwab, director of the Johns Hopkins Centre for Water and Health, stated, *“There were 10 million E. coli per litre of sampled waste. Ten million. And you have a hundred million litres in some of those pits. So you can have trillions of bacteria present, of which 89 percent are resistant to drugs. That's a massive amount that in a rain event can contaminate the environment.”*

Effect of Neutral Anolyte in Egg Production



Laying hens that consume drinking water disinfected with **Paqualyte** produce eggs with stronger shells.

For up to 3 days after an egg is laid, Salmonella and other microbial pathogens can penetrate the egg shell and enter the interior of the egg, with the Salmonella bacteria continuing to grow.

Such contamination and spread of disease can be prevented if the eggs are immersed for 5 minutes in **Paqualyte** containing 100 parts per million of Free Available Chlorine.

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Efficacy of Paqualyte

Because of all the variable factors, it is impossible to state the exact Free Available Chlorine [FAC] Strength, Dosing Ratio or Contact Time that is required to kill a specific micro-organism using Envirolyte Paqualyte.

In reality, the only way to determine the required FAC Strength, Dosing Ratio and Contact Time is by experimentation, since the type and concentration of microbial contamination differs from one instance to another.

One of the main limiting factors is that of microbial cells mutating into an increasingly stronger organism when an antibiotic or biocide does not achieve a 100% kill rate.

The advantage of Envirolyte Paqualyte is the high level of Hypochlorous Acid [HOCL] content in the generation of Free Available Chlorine.

HOCL has the greatest efficacy in penetrating microbial cells at the mitochondrial level with virtually 100% effectiveness in totally inactivating and destroying the entire microbial cell -- membrane, body and DNA -- in preventing residual cells from mutating into a stronger form of micro-organism.

The amount of Free Available Chlorine [FAC] and Contact Time are the determining factors in establishing the efficacy of Paqualyte in microbial reduction.

The same result can be obtained during a short contact time with a high FAC concentration, or with a lower FAC concentration over a longer contact time.

Temperature is also important since most biocides have a lower efficacy at low temperatures.

The presence of proteins reduces efficacy as they interact with the Paqualyte.

There is a direct correlation between ORP and predictable antimicrobial activity of Paqualyte.

High ORP [+700 to +900 mV] will produce effective microbial elimination in 5 minutes or less.

***See Note below.**

The efficacy of Paqualyte falls when the ORP is reduced.

At low ORP Anolyte concentrations of Paqualyte and/or high microbial levels, the antimicrobial kill rate can be increased by having a longer contact time.

The concentration of the microorganisms, the age of the bacterial community, adherence attachment to particulate matter, and the presence of biofilms are also determining factors in the efficacy of Paqualyte.

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***Note:** While the Free Available Chlorine in Paqualyte can effectively eliminate microbial pathogens in 5 minutes or less, it can take up to 50 minutes with Synergize Disinfectant whose active ingredients are Glutaraldehyde and Quaternary Ammonium.

Advantages of Using Electrolysed Water in Poultry Farming

The use of All-Natural Electrolysed Water in lieu of man-made biocides, hormones, antibiotics and other chemical compounds will completely revolutionize the Poultry Industry by putting Pioneer Innovators in the vantage position of being the first in the industry to gain the competitive edge over other Poultry Farm Operators.

The result will be **An Immediate Increase in Bottom-Line Profits.**

The use of Paqualyte instead of antibiotics to kill Microbial Pathogens is far superior to other disinfectants such as Virkon-S which is sold as tablets or powder that must be mixed with water before it can be sprayed or wiped on contaminated surfaces.

By contrast, Envirolyte Paqualyte is *Generated On-Site As-Needed* and does not require purchase, transportation, storage and mixing as must be done with man-made toxic chemical biocides.

An incredible potential exists for those getting on board at the Present Ground Floor Level of Opportunity as the Ever-Increasing Awareness of Electrolysed Water goes through its Current State of Lift-Off Velocity to a Supersonic Hyper-Growth State of Acceleration as producers and users become aware of the unique properties and benefits of Envirolyte Activated Electrolysed Water Solutions.

Total Turn-Key Design Solutions

Paqualyte can provide you with a Total Turn-Key Design Solution to build an Envirolyte commercial water electrolyser system that suits your needs. We can also provide you with any associated mechanical and electrical operating equipment or specific dosing systems which will have Warranty back up, Technical Support plus Service, Maintenance and Spare Parts Availability.

Let us help you to overcome the health and welfare barriers that your animals face during their life cycle?

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Water or Animal Health Problems?

Let Our Green Safe Liquid Solutions Help You!