



Pure Fresh

Alternative to Chlorine

Innovation in a Bottle




CHANGE IS THE LAW OF LIFE. AND THOSE WHO LOOK ONLY TO THE PAST OR PRESENT ARE CERTAIN TO MISS THE FUTURE.


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ALTERNATIVE TO CHLORINE

Puresan Pure Fresh, a proprietary ionic mineral solution is the first real replacement for chlorine without the toxic by-product formed by chlorine.

TOXICOLOGICAL FACTS

Both copper and zinc are necessary trace metals with deficiencies being a far greater health problem than excesses. Both are relatively non-toxic to humans except at extremely high levels or in some salts, in which the other components are the main toxic agents. Both copper and zinc are necessary trace elements for good health, being involved in a number of essential bodily functions.

MODE OF ACTION

Copper Nitrate: CuNO_3

Cells all need copper and therefore excess copper is often imported by the Copper Receptors and when too much copper enters the cell. The copper penetrates the pathogen cell membrane which then loses its ability to breathe with the end result of the cell death of the pathogen.

Zinc Nitrate: ZnNO_3

The antimicrobial activity of the $\text{Zn(NO}_3)_2$ involves the release of oxygen species from the surface of $\text{Zn(NO}_3)_2$, which cause fatal damage to microorganisms; cause oxidative stress by damaging DNA, cell membranes and cellular proteins. The rupture of the cell walls is due to the surface activity of $\text{Zn(NO}_3)_2$, which causes the decomposition of the cell wall and subsequently the cell membrane, the leakage of cell contents, and eventually cell death.

Silver Nitrate: AgNO_3

Many mechanisms have been suggested to explain the mode of bacterial action of silver ions. They are known to inhibit proteins by binding to their thiol groups and denaturing them and preventing replication of DNA by its condensation. One mechanism under consideration by researchers is Programmed Cell Death (Apoptosis).

These actives combine to form a formidable team to destroy the outer membrane of pathogens, dissolve in water to provide a safe sanitiser for fruit and vegetables, thus extending shelf-life.

We recommend that the preparation sinks or tanks' residual water is tested using a Copper Test Strip before introducing more fresh produce for washing as the solution can be depleted by organic load of the produce and soil, etc. It is possible to top up the Puresan Pure Fresh solution or until the water is visibly contaminated.

Always mix up a fresh solution every 24 hours, each shift or when visibly contaminated.


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Proof of Concept if evident:

Half-filled two sinks with tap water and added Puresan Pure Fresh into one of the sinks:

- Took half of a packet of apples and placed half of that in one sink and half in the other
- Removed the apples from the sink, wiped them down and placed them in the fridge



After 7 Days



After 9 Days



After 12 Days



After 30 days



Rinsed apple after 5 and a half months – two views

