

BIO-SECURITY AND INFECTION CONTROL



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ASPIDA is an all-natural, organic, non-toxic, environmentally and ecologically safe sanitizer and disinfectant solution. It is produced from the electrochemical reaction of water, sodium chloride (salt) and electricity. The applications for this technology include any process requiring sterilization, disinfecting, cleaning or water purification.



ASPIDA is composed of the oxidizing agent Hypochlorous Acid (HClO). This process creates large volumes of a gentle, but extremely potent antibacterial solution capable of rapidly eliminating bacteria, **viruses**, spores, cysts, scale and bio-film.

ASPIDA IS SAFE TO HUMANS & ANIMALS



ASPIDA IS FOOD CONTACT SAFE

The general product specification of **ASPIDA** is:

- pH 4 -7, (can be adjusted)
- Oxidation-Reduction Potential **(ORP)** > +900m – 1100 mV
- EC 1-5mS (varies with the amount of free available chlorine)
- Free Available Chlorine (FAC) 1-5 ppm, (can be adjusted)

What is an ORP?

ORP stands for Oxidation-Reduction Potential. ORP is a measure of **ASPIDA's ability to break down contaminants**. ORP has a range of -2,000 to + 2,000 and units are in "mV" (millivolts). Since ASPIDA is an oxidizer, we are only concerned with positive ORP levels (above 0 mV). ORP sensors work by measuring the dissolved oxygen. **More contaminants result in less dissolved oxygen** because the organics are consuming the oxygen and the ORP level will be lower. The higher the ORP level, the more ability the solution has to **destroy contaminants**. As an example, drinking water is adequately disinfected at an **ORP of +650 mV**.



MEDICAL

Safe to humans

Effective against **Coronavirus**, Avian Influenza, MRSA, MERS Cov, Tuberculosis, Norovirus, HIV, Staphylococcus, E-Coli, Salmonella, Legionella, Biofilm

Desinfects air through misting

Hand sanitization

Effective for wound treatments and foot soaks

Bed and wheelchair washing

Can be fogged - as part of deep clean or as rapid decontamination

Multi surface disinfection and sanitization




Food contact safe



Effective against E-Coli, Salmonella,
Legionella, Listeria, Bio-film, Fungi



Prolongs the shelf life of fruit and vegetables




Disinfect & sanitize all surfaces in the
production process



Disinfection of incoming and rinse water



Hand sanitation



Disinfectant can be frozen and used in
ice form e.g. fresh fish counter



Disinfection of equipment, installations
and pipelines

FOOD & BEVERAGES





Safe to humans




Multi surface disinfection and sanitization



Sanitize air conditioning



Disinfection & hygiene for swimming pools, saunas, spa's and gyms



Improve irrigation water and encourage botanical growth



Disinfection of refuse areas

FACILITIES MANAGEMENT





HOSPITALITY

Sanitize air conditioning

Safe to humans. Food contact safe

Multi surface disinfection and
sanitization

Kitchens / Food preparation - All
surfaces, appliances and hands.
Food contact safe

Disinfect and sanitize refuse areas

Disinfection & hygiene for swimming
pools, saunas, spa's and gyms

Improve irrigation water and encourage
botanical growth

Disinfect and sanitize play areas and toys



LEISURE

Safe to humans, food
contact safe, no rinse
required

Surface disinfection
& deodorizing

Multi surface sanitization

Handsanitization

Equipment cleaning

Mechanism of action

ASPIDA is composed of the oxidizing agent Hypochlorous Acid (HClO). **ASPIDA** is bactericidal because certain bacterial cell components can react readily with it, having a higher oxidation potential than most other chemicals. The mechanism of action for the eradication of various microorganisms by **ASPIDA** is well documented by third party resources.



The mode of action is as follows:

- The free ions in **ASPIDA** rapidly react and denature proteins
- Once **ASPIDA** encounters a microorganism; it attacks the bacterial proteins located in the cell membrane
- Because of the osmolarity difference (the concentration of ions in the solution versus in the cytoplasm), **ASPIDA** induces the rupture of cell membranes, leading to cell lysis
- The high oxidation of **ASPIDA** first damages bacteria cell walls, allowing infiltration by water. The microbe reaches capacity, causing an osmotic, or hydration, overload. The acidic fluid and water floods the cell faster than the cell can expel it, literally causing the cell to burst.

Toxicity

No evidence of toxicity in any form has been observed in any testing carried out by independent third parties.

Storage conditions & shelf-life

ASPIDA should be stored below 30° C and kept out of the sunlight. If stored correctly, **ASPIDA** will have a shelf life of 12 months

Some examples of ASPIDA applications:

- Commercial, residential disinfection of any office surfaces, furniture, carpets, hard floors, walls, toilets, etc
- Water infrastructure. Water tank and pipework cleaning (residential and commercial to prevent legionella and biofilm)
- Air conditioning systems (ductwork, coils, blades, trays, filters)
- Fresh produce (cleaning and disinfecting fresh salad leaves to extended shelf life)
- Dairy Farms (cow pre-dip teat hygiene, milk cluster back wash, CIP cleaning of milk lines, milk storage tank cleaning)
- Quail and Poultry farms (cleaning eggs, cleaning drinking water lines, dosing water supply)
- Yachts (to remove mould and fungus)
- Food production company (CIP cleaning of food production lines)

REGULATORY

The **United States Environmental Protection Agency** has given approval (40 CFR 180.1054) for washing raw foods with Electrolysed Water that are to be consumed without processing.

Electrolysed Water is approved under **United States Code of Federal Regulations** ("CFR") 21 CFR 173.315 for direct contact with processed foods, and is approved for indirect food contact applications under 21 CFR 172.892, 21 CFR 175.105, 21 CFR 176.170 and 21 CFR 177.2800.

Electrolysed Water is an approved sanitizer that meets 21 CFR 178.1010.

Electrolysed Water is not classified as hazardous in accordance with **European Directive** 99/45/EC and CLP Classification No 1272/2008.

The **United States Food and Drug Administration** has expressed no concerns and holds no opposition for the use of Electrolysed Water.

The use of Electrolytically Generated Hypochlorous Acid is consistent with **FDA's** labelling definition of a processing aid.

Hypochlorous acid, is an approved active substance with ECHA.

Electrolyzed Water has been categorized as a Food Processing Aid as defined by **European BPR** Regulation 2008/1333 on food additives.

The **United Kingdom Health and Safety Executive "HSE"** has carried out studies on the safety and efficacy of Hypochlorous Acid. Reports available on request.

Organic certificate

Electrolysed Water is approved for use in organic food production in the United States, Canada, European Union and New Zealand.

