

MEAT PROCESSING

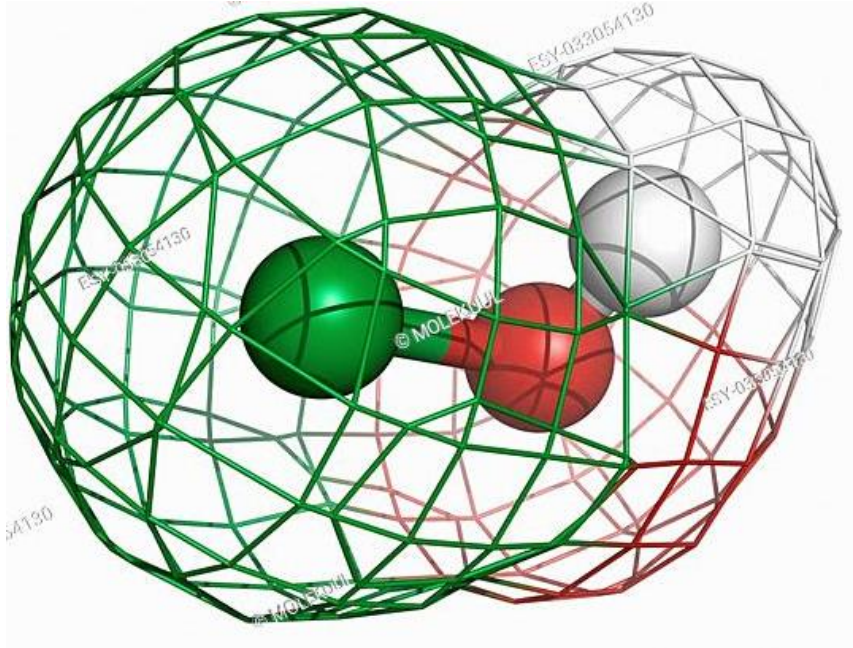


atm plus



Eco Utility Systems

Hypochlorous Acid (HOCl)



also known as

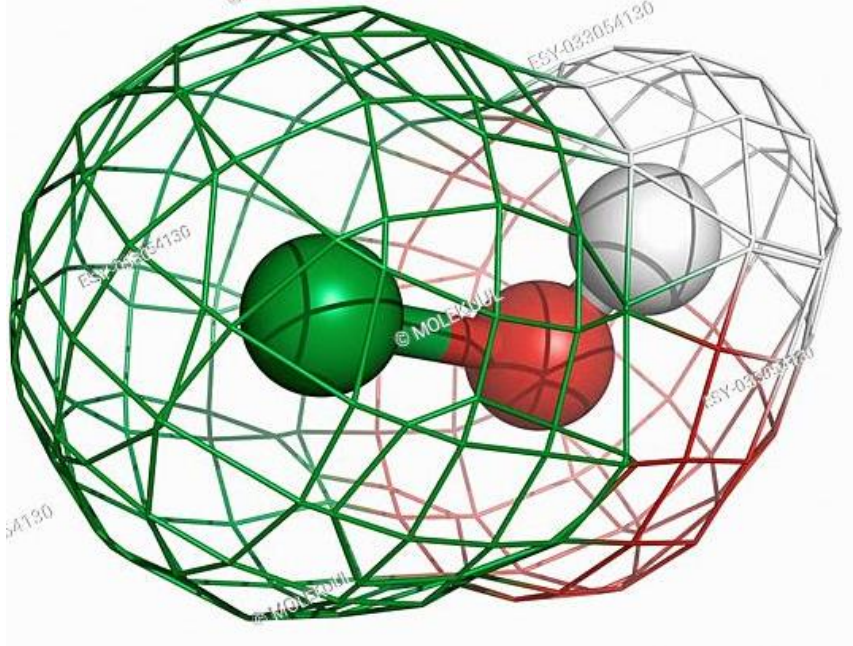
- electrolyzed water / electrolyzed reduced water
(ERW, EW)
- electrochemically activated water
(ECA)
- anolyte
(AEW, NEW, SAEW)

atm plus has a broad spectrum anti-microbial use



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Hypochlorous Acid (HOCl)



atm plus

most effective disinfectant in the chlorine family

- No polar charge
- Low molecular weight

PERFECT structure to penetrate CELL WALLS

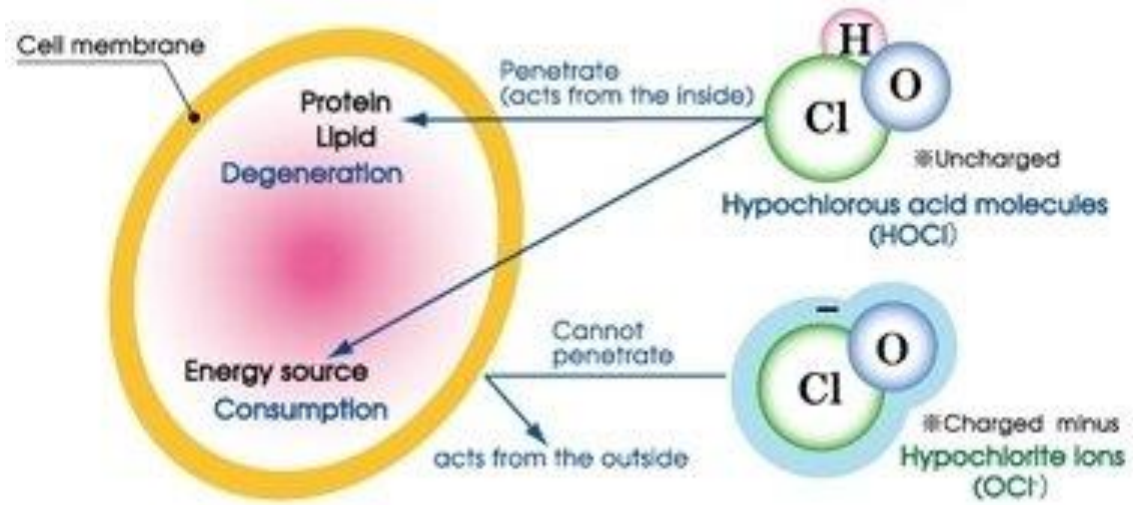
- HOCl is a WEAK ACID
- At a pH of 4 – 8.5 most available Chlorine is HOCl

NO RESIDUE after dissolving in water

- Solution stays active for
7 – 10 DAYS



Hypochlorous Acid (HOCl)



hypochlorousacid.com/about

- HOCl diffuse through cell membrane
- Without a polar charge it is not repelled
- OCl⁻ (BLEACH) is unable to penetrate cell membrane due to **negative charge**
- Bleach can only clean on the EXTERIOR
- HOCl acts from INSIDE

atm plus most effective disinfectant in the chlorine family

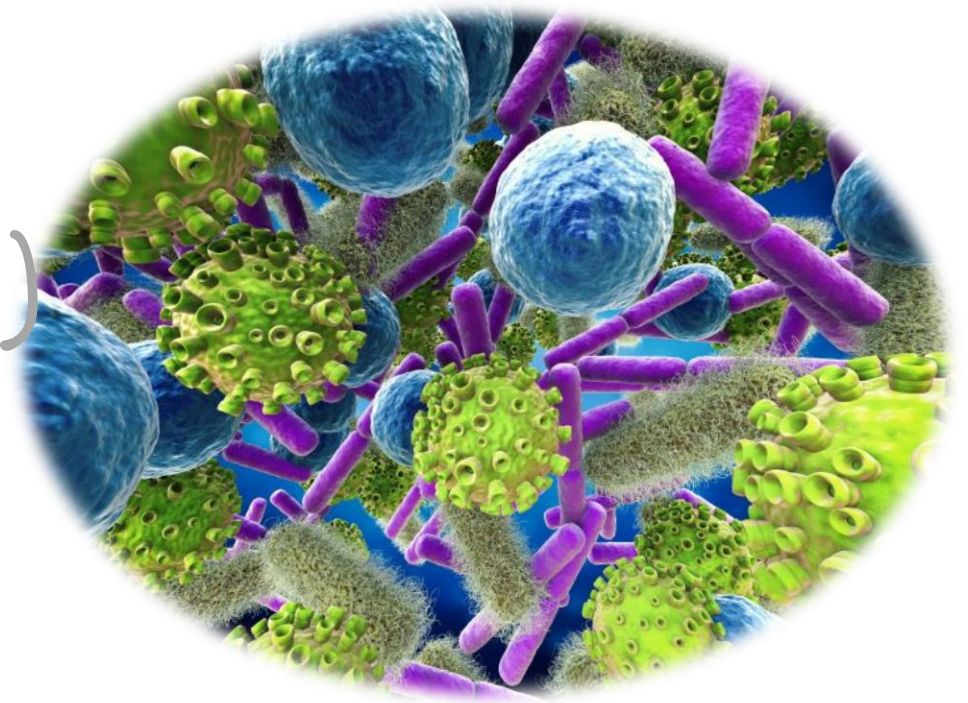


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NATURE of Hypochlorous Acid (HOCl)

- Natural component of our own immune systems
- Fights against infection
- Reduces inflammation
- Bio-degradable in the environment

atm plus organic, lethal, cost effective



**“Hypochlorous acid is
LETHAL to every pathogen
it has been tested against
but completely HARMLESS
to humans and other
mammals.”**



phagocytosis

[fag-uh-sahy-toh-sis]

noun

Physiology. the ingestion of a smaller cell or cell fragment, a microorganism, or foreign particles by means of the local infolding of a cell's membrane and the protrusion of its cytoplasm around the fold until the material has been surrounded and engulfed by closure of the membrane and formation of a vacuole: characteristic of amoebas and some types of white blood cells.



- Neutrophils (WHITE BLOOD CELLS) seek out pathogens (VIRUSES AND BACTERIA) and destroy them using HOCl
- HOCl causes necrosis (RUPTURING OF THE CELL) and destroys the cell contents
- While disinfecting, HOCl is {OXIDISED} and consumed
- The only by-product is slightly salty water



EFFECTIVENESS OF HOCl

atm plus

disinfects and destroys:

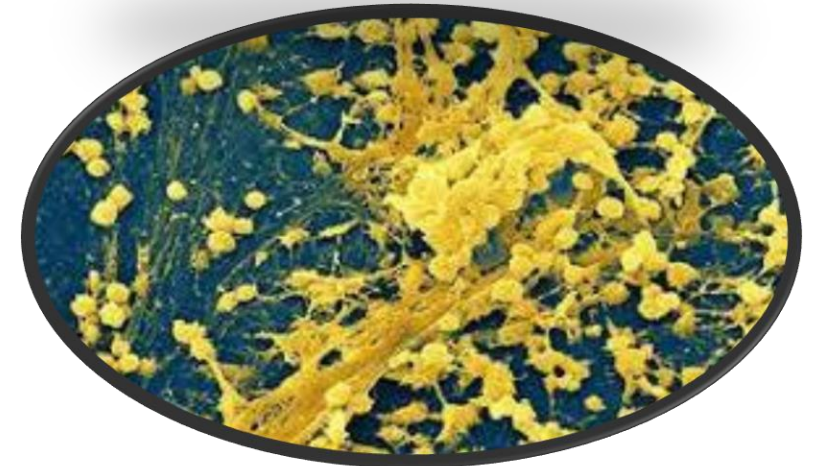
- ✓ VIRUSES
- ✓ BACTERIA
- ✓ MOULDS
- ✓ FUNGI
- ✓ SPORES
- ✓ BIOFILMS

defends against:

- ✓ INFECTION
- ✓ RESISTANCE/TOLERANCE
- ✓ PATHOGENS BENEATH BIOFILMS
- ✓ FERMENTATION IN STORAGE

atm plus

80 – 100 times more effective than bleach



Eco Utility Systems

PROVEN EFFECTIVE AGAINST SARS-CoV-2

The latest peer approved scientific papers conclusively show that **HOCL effectively kills the SARS-Covid 2 virus**. The papers also compare HOCL to other disinfectants showing its comparative performance with other disinfectants such as bleach.

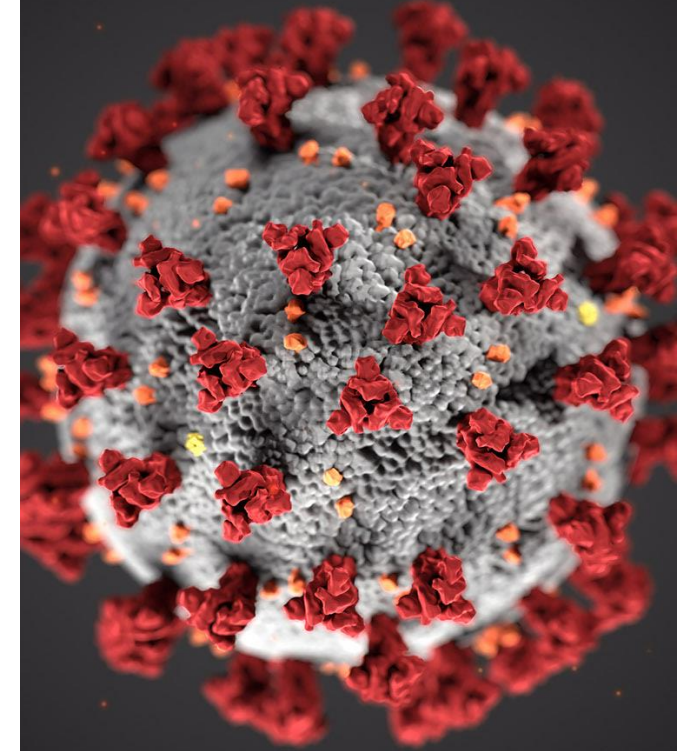
Chan K-H, Sridhar S, Zhang RR, Chu H, Fung AY-F,
Chan G, Chan JF-W,
To KK-W, Hung IF-N, Cheng VC-C, Yuen K-Y,
Factors affecting stability and infectivity of SARS-
CoV-2,
Journal of Hospital Infection,
<https://doi.org/10.1016/j.jhin.2020.07.009>.

‘The surgeon needs to have an **inexpensive, available, nontoxic, and practical** disinfectant that is effective in sanitizing against the COVID-19 (Coronavirus Disease 2019) virus.’

‘The results indicate that this material can be used with a **high predictability** for disinfecting against the COVID-19 (Coronavirus Disease 2019) virus.’

Michael S. Block, Brian G. Rowan,
Hypochlorous Acid: A Review,
J Oral Maxillofac Surg,
10.1016/j.joms.2020.06.029

atm plus 80 – 100 times more effective than bleach



Eco Utility Systems

atm plus

the effervescent tablet



HOCl concentrated into a 6 gram dissolvable tablet

1 tablet = 12.5l of disinfectant

consistent solution at 100PPM every time

active for 7 – 10 DAYS after dissolving
then returns to pure water

easy STORAGE
low TRANSPORT COSTS
1 year SHELF LIFE in tablet form

atm plus

effective at 25PPM to 200PPM depending on use



Eco Utility Systems

USES of atm plus

to name a few...

- DISINFECTING any and all surfaces
 - fresh fruit / veg preparation
 - hydroponics / irrigation
- AGRICULTURAL
 - pesticidal treatment
- LIVESTOCK
 - control / reduction of disease
 - improves digestion / feed conversion ratios
 - increase livestock yields
- MEDICINAL / DENTISTRY
 - mouthwash / wound care
 - waterline disinfection
 - scrubbing in

atm plus 100% organic, bio-degradable, MRL FREE



USES of atm plus

to name a few...

- HORTICULTURE
 - increase shelf life
 - reduces rotting / infection
- WATER TREATMENT
- FACILITIES
 - shopping centres
 - accommodation
 - office buildings
- TRANSPORT
 - airlines / airports
 - public transport
 - shipping / cruiseliners

atm plus safer exposure to humans than regular disinfectant



atm plus:

GENERAL USE

atm plus CAN BE USED TO CLEAN AND SANITIZE:



- Floors and walls
- Preparation areas
- Workers' hands, clothes and shoes
- Food contact surfaces



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

atm plus

gentle, effective, safe – NO PPE NECESSARY



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atm plus:

MEAT PROCESSING



- POULTRY
- BEEF
- FISH
- PIGS
- GAME

'We applied electrolyzed water (EW) directly to multi-strain cocktails of *Listeria monocytogenes*, *E. coli* O157:H7, and *Salmonella* sp. at 250 ppm free available chlorine (FAC) and achieved greater than 6-log reductions in 2 min'

atm plus

reduces overall bacterial spread



Eco Utility Systems

atm plus:

MEAT PROCESSING



MAY BE SAFELY (USDA-FSIS approved) USED ON:

- Red meat carcasses – down to a quarter of a carcass
- Whole or eviscerated poultry carcasses
- In water used for processing and reprocessing contaminated carcasses
- On giblets and salvage parts
- On beef primals



'EW can be applied in a pH range between 2.6 and 7.0 while still achieving complete inactivation of the bacteria'

atm plus

recommended use at 5 – 50PPM



Eco Utility Systems

atm plus:

MEAT PROCESSING

ON CONTACT SURFACES



- Reduces biofilm formation – with SUBMERSIVE treatments of 30 seconds
- Eliminates bacterial contamination
- Effectiveness is not dependent on surface type
 - Plastic cutting boards
 - Wooden cutting boards
 - Steel preparation areas

'For fresh meats, a commonly used antimicrobial is organic acids like HOCl {atm plus}'

atm plus should be used with an appropriate degreaser



Eco Utility Systems

atm plus:

MEAT PROCESSING

DESTRUCTION OF BIOFILM AND SCALE IN WATERING SYSTEMS



atm plus

recommended use at 100 - 200PPM



Eco Utility Systems

atm plus:

MEAT PROCESSING

DESTRUCTION OF BIOFILM AND SCALE IN WATERING SYSTEMS



atm plus

recommended use at 100 - 200PPM



Eco Utility Systems