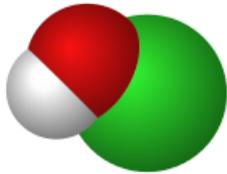
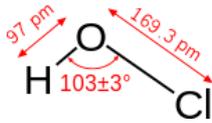


Mechanism of action of the stabilised Hygien+99 Powder hypochlorous acid, powder disinfectant concentrate

The hypochlorous acid molecule (HOCl) is an uncharged, neutral formula.



The Ecowian Hygien+99 Powder is a powdery hypochlorous acid concentrate, which can be used to create solutions with different ppm (Part per million) concentrate.

The concentrate of the prepared solution depends on the amount of Ecowian Hygien+99 Powder added to the water.

Eg.

3.2 grams of Ecowian Hygien+99 Powder dissolved in 5 liters of water gives 300 ppm

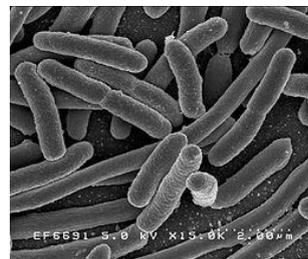
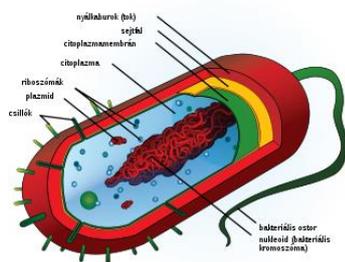
3.2 grams of Ecowian Hygien+99 Powder dissolved in 3 liters of water gives 500 ppm (1 liter/ 1 gramm) This is recommended in healthcare!

These solutions prepared from Ecowian Hygien+99 Powder must be diluted during use in different areas, in different sectors, to create a "working solution" for the given area.

The disinfectant liquid created from the HYgien+99 Powder, in the form of (HOCl) reaches and performs its inactivating effect in a molecular way, not as a traditional chemical – in a chemical way. Even though we characterise its active substance content with its active chlorine content, it does not disinfect with its active chlorine content as bleach, which exists in a form with negative charge (OCl⁻).

Compared to these common chemicals, hypochlorous acid contains active chlorine in extremely low percent, 0.050 % (it does not even reach the half of a thousandth), and this little amount would not make it able at all to have disinfectant effect under normal conditions. However, despite its low active chlorine content, it is capable of very dynamic disinfection in the form of a HOCl molecule.

Microorganisms are surrounded by a cell wall (membrane) having negative charge.

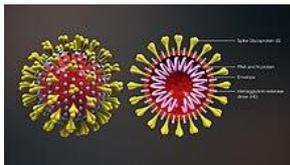


The uncharged hypochlorous acid can easily pass through the cell wall; it enters the nucleus, where it causes osmotic overpressure and explodes the membrane, and thus destroys the nucleus. Such process takes place as if we were starting to fill a balloon with high water pressure and it would pop due to the overpressure. Since the **cell wall of the pathogen microorganisms naturally has negative charge**, and bleach, which has the hypochlorite ion (OCl⁻) as its active agent, has negative charge,

the negative charge of the pathogen's cell wall repels chlorine disinfectants. This is why the chlorine-based disinfectants have slow and weak efficiency.

Due to the removing effect of the Hygen+99 biofilm, it dissolves the protein sheath surrounding the nucleus, which protects the nucleus from the environmental damages, chemicals and other parasite organisms.

The Covid19 disease is caused by the SARS-CoV-2 coronavirus, which is a positive-strand RNA virus. The genetic material of the SARS-CoV-2 coronavirus is RNA, and it is surrounded by a membrane (protein sheath). Hypochlorous acid is able to dissolve much more complex and resistant biofilm than the virus protein; therefore, if it comes into contact with the virus, it easily dissolves, denatures, and aggregates the virus spikes, and therefore destroys the coronavirus.



Ecowan Hygien+99 Powder dilution ratios by area

500PPM	Healthcare	Comment
General surface disinfection	Without dilution, concentrated	Exposure time: bactericidal, fungicidal 5 minutes, virucidal 10 minutes
Hand sanitization	Without dilution, concentrated	
Humidity gate disinfectant load	750 ml Ecowan Hygiene+99 / 10 liters of water	7.5% -10 working solution
Fog generator load	3 liter Ecowan Hygiene+99/10 liters of water	5 liters of diluted (30%) working solution per 1 000 cubic meters of air
Mopping hand/machine	1 liter Ecowan Hygiene+99 / 10l water	10% working solution
Air disinfection	1 liter Ecowan Hygiene+99 / 10l water	5-10 micron particles

200PPM	Schools, retirement homes	Building management	Room humidification with antiseptic and antiviral effect	Biofilm removal, piping systems and water purification	Agriculture, animal husbandry	Food Industry	Comment
General surface disinfection	Without dilution, concentrated	Without dilution, concentrated			Without dilution, concentrated		Exposure time: bactericidal, fungicidal 5 minutes, virucidal 10 minutes
Hand sanitization	Without dilution, concentrated	Without dilution, concentrated	Without dilution, concentrated		Without dilution, concentrated	Without dilution, concentrated	
Humidity gate disinfectant load	750 ml Ecowian Hygiene+99 / 10 liters of water	750 ml Ecowian Hygiene+99 / 10 liters of water	750 ml Ecowian Hygiene+99 / 10 liters of water	750 ml Ecowian Hygiene+99 / 10 liters of water	750 ml Ecowian Hygiene+99 / 10 liters of water	750 ml Ecowian Hygiene+99 / 10 liters of water	7.5% -10 working solution
Fog generator load	3 liter Ecowian Hygiene+99/10 liters of water	3 liter Ecowian Hygiene+99/10 liters of water	3 liter Ecowian Hygiene+99/10 liters of water	3 liter Ecowian Hygiene+99/10 liters of water	3 liter Ecowian Hygiene+99/10 liters of water	3 liter Ecowian Hygiene+99/10 liters of water	5 liters of diluted (30%) working solution per 1 000 cubic meters of air
Mopping hand/machine	1 liter Ecowian Hygiene+99 / 10l water	1 liter Ecowian Hygiene+99 / 10l water	1 liter Ecowian Hygiene+99 / 10l water	1 liter Ecowian Hygiene+99 / 10l water	1 liter Ecowian Hygiene+99 / 10l water	1 liter Ecowian Hygiene+99 / 10l water	10% working solution
Air disinfection	1 liter Ecowian Hygiene+99 / 10l water	1 liter Ecowian Hygiene+99 / 10l water	1 liter Ecowian Hygiene+99 / 10l water	1 liter Ecowian Hygiene+99 / 10l water	1 liter Ecowian Hygiene+99 / 10l water	1 liter Ecowian Hygiene+99 / 10l water	5-10 micron particles
Drinking- and hot water systems				1 liter Ecowian Hygiene+99 / 1000l (1m3) water			For 1 liter of concentrated Ecowian Hygien + 99 / 1,000 liters of water
Mold and mildew, fungicid sparyng					Without dilution, concentrated		5-10 l / hectare
Vegetable, fruit, silage, green forage						15 liter Ecowian Hygiene+99 / 1000l (1m3) water	
Foot bath, hoofpool, beeves skin malice					5 liters Ecowian Hygiene+99 / 100 l water		
Milk duct					25-50 liters Ecowian Hygiene+99 / 100l water		Use of Hygiene+99 formula after hot water cleaning
Milk house					25-50 liters Ecowian Hygiene+99 / 100l water		
Udder treatment					Without dilution, concentrated		1 part glycerin, 20 parts Hygiene+99 formula
Mastitis					Without dilution, concentrated		150-200 ml directly to the affected area 2-3 times a day for 7-10 days.
Foot bath					Without dilution, concentrated		prevention once a week. In case of infection twice a day for 7-10 days.
Calf diarrhea					Without dilution, concentrated		half a liter per day Hygiene+99 formula is recommended until the diarrhea goes away (usually within a few days)
After birth					Without dilution,		to prevent uterine inflammation, instill one liter of