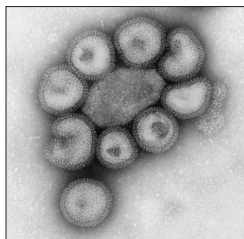


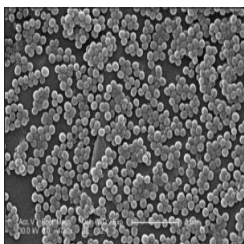
Liquefied Ozone: Summary Pathogen Kill Rates & Data

Liquefied Ozone - known scientifically as aqueous ozone -is approved by the EPA and FDA as a 100% natural, safe and effective cleaner and sanitizer. Its inherent ability to destroy viruses and bacteria is dependent on two main variables; Initial concentration of ozone in the water (ppm) and contact or dwell time (seconds).* The sanitizing ability of the liquefied ozone increases as either or both variable is increased. The charts below measure the power of liquefied ozone and time required to destroy bacteria and viruses at a strength of 2 ppm or less.



Liquefied ozone kills 99.999 of common flu virus in as little as 2 seconds.

Bacteria	Reduction (%)	Dwell Time (Secs.)
Escherichia coli	99.99	5 - 13
Listeria monocytogenes	99.999	3 - 11
Salmonella typhimurium	99.99	11 - 13
Streptococcus faecalis	99.999	23 - 26
Legionella pneumophila	99.99	9 - 33
Bacillus cereus	99.9999	33



lotus PRO has a 5 log kill rate for Listeria at 2 ppm.

Viruses	Reduction (%)	Dwell Time (Secs.)
Bacteriophage F2	99.999	2 - 19
Norovirus	99.9	2
Hepatitis A	99.9	1
Poliovirus type 1	99.9	5
Rotavirus	99.99	63 -126

Liquefied ozone is very effective as a cleaner, and with higher concentrations and longer dwell times as a sanitizer against various pathogenic molds and fungi, yeasts, pesticides, chemical residues and other common contaminants. The list below provides a brief summary:

Molds & Fungi	Algae & Yeasts	Cysts & Protozoa
Alternaria solani	Vibrio cholerae	Chloralla vulgaris
Botrytis cinerea	V. parahaemolyticus	Cryptosporidium parvum
Fusarium oxysporum	Virrio ichthyodermis	Giardia lamblia
Pythium Ultimum	Candida albicans	Giaria Muris
Rhizopus stolonifera	Saccharomyces	Nematode eggs
Sclerotium rolfsii		

* Ref: International Ozone Association - AOAC Official method 961.02; Germicidal Spray Products as Disinfectants; and Detergent Sanitizing Action of Disinfectants. FDA GRAS Notification. EPA Organic Program compliance. Data compiled from third party independent industry and academic sources, and is for general information purpose only. Kill rates vary with temperature, surface texture, pH and other factors which are not accounted for in this document.

For more detailed kill rate data, please contact your lotus PRO Customer Representative.

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