
industries
Solutions with Simplicity

Cerafusion Technology – How it works

Sterilizing the Air and Surface through Active Oxygen the way Nature does

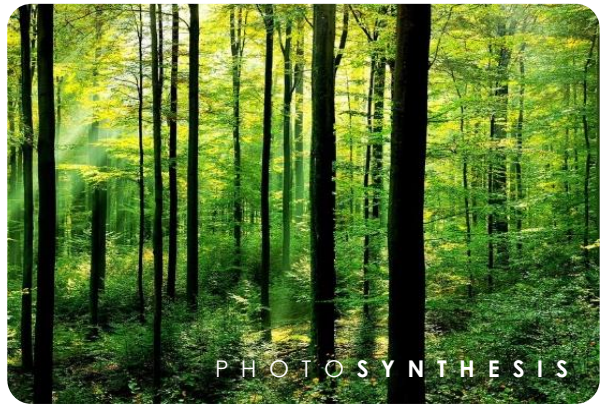
What Is Active Oxygen?

A combination of:

Negative Oxygen ions (O^-)
(1 atom of oxygen, negatively charged)

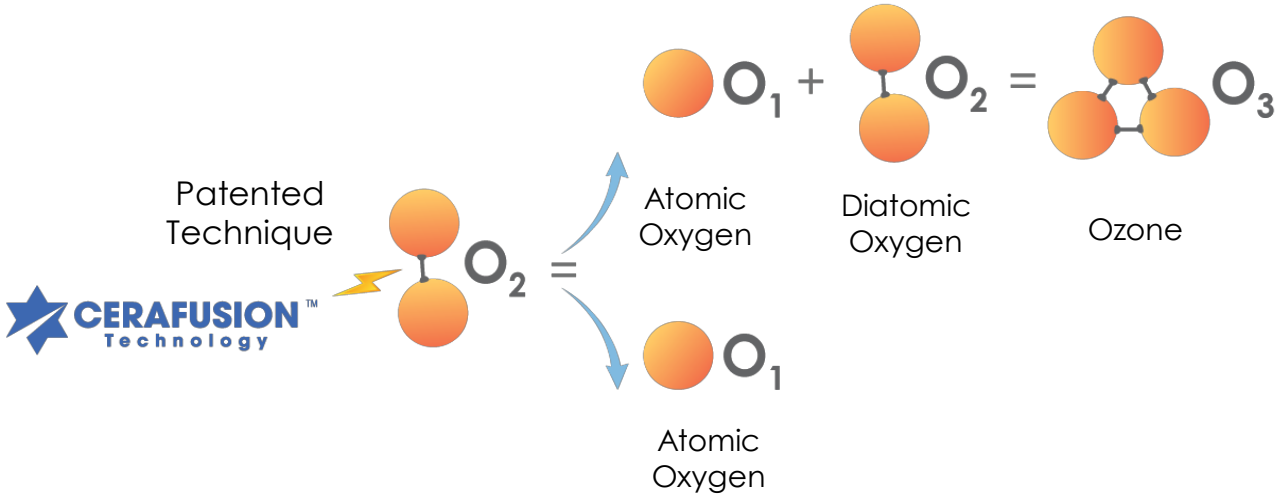
Ozone (O_3) Gas
(3 atoms of oxygen)

How is Active Oxygen produced in nature?

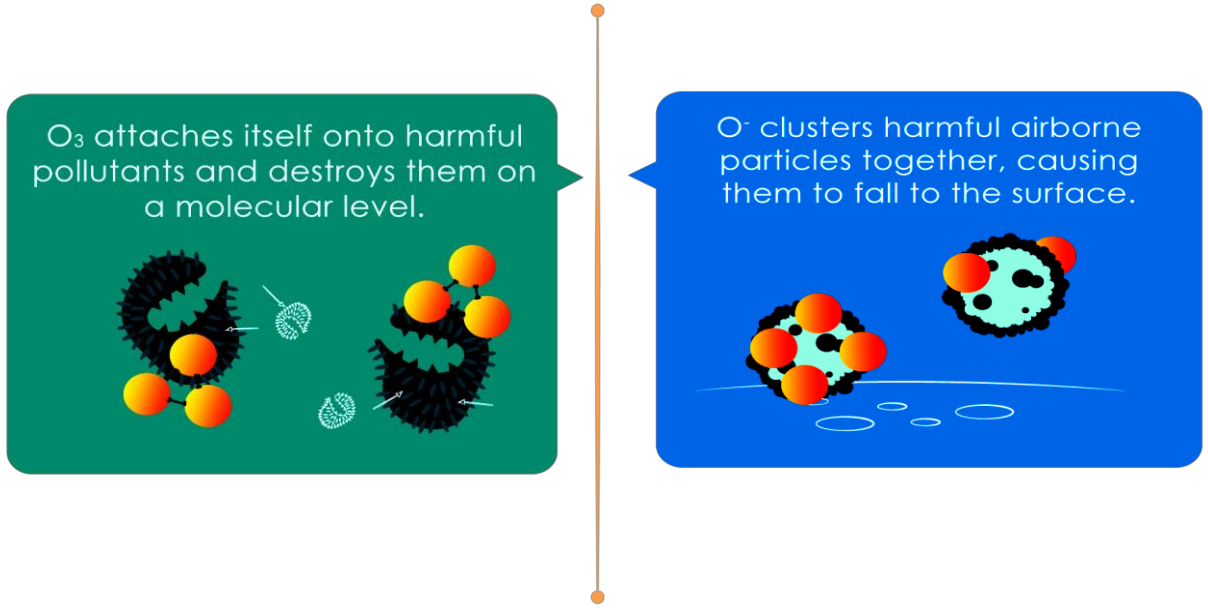


Cerafusion Technology – How it works

How Active Oxygen is created



How Active Oxygen purifies & sterilizes



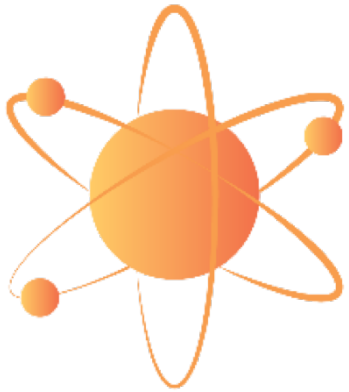
Cerafusion Technology allows for variable proportion of O- and O3 in Active Oxygen to operate below 0.05ppm of Ozone concentration

Cerafusion Technology – How it works

The current ways of sanitising and cleaning environments with heavy usage of chemicals are not sustainable and eco friendly.

Chemical Free Cleaning (CFC) is the way to go !

Active Oxygen



- Ozone is a **very strong disinfectant and oxidizer**. Any pathogen or contaminant that can be disinfected, altered or removed via an oxidation process will be affected by ozone.
- Compared to chlorine, the most common water disinfection chemical, **ozone is a more than 50% stronger oxidizer and acts over 3,000 times faster.**

Source: US Environmental Protection Agency, USA (EPA), 1999

Cerafusion Technology – How it works

How Ozone works on combating 99.9% of known viruses and bacteria

OZONE EFFECTS ON SPECIFIC BACTERIA, VIRUSES AND MOLDS

Ozone is a naturally occurring gas created from oxygen atoms. Ozone is made up of that same oxygen that we breath. The oxygen molecule is made up of 2 oxygen atoms. The only difference between the two is that ozone is made up of three oxygen atoms, while the oxygen that we breath is made up of only two atoms. Ozone, due to the third oxygen atom, is naturally unstable. This means that it always wants get rid of that extra atom. Therefore, when O3 comes in contact with any cell, the third atoms will be transferred over. When this reaction happens, O3 transforms back into O2 but, its conventional properties develop more powerful and more energized nature.

Bacteria are microscopically small, single-cell creatures having a primitive structure. The bacteria body is sealed by a relatively solid-cell membrane. Ozone interferes with the metabolism of bacterium-cells, most likely through inhibiting and blocking the operation of the enzymatic control system. A sufficient amount of ozone breaks through the cell membrane, and this leads to the destruction of the bacteria.

Viruses are small, independent particles, built of crystals and macromolecules, Unlike bacteria, they multiply only within the host cell. They transform protein of the host cell into proteins of their own. Ozone destroys viruses by diffusing through the protein coat into the nucleic acid core, resulting in damage of the viral RNA. At higher concentrations, ozone destroys the capsid, or exterior protein shell by oxidation so DNA (deoxyribonucleic acid), or RNA (ribonucleic acid) structures of the microorganism are affected.

How our new solution works and is different

Get rid of common issues seamlessly

Bad smells

Cigarette smells

Musty smells

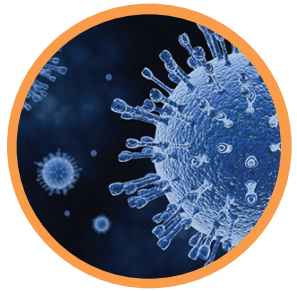
Remnant food smells

Volatile Organic Compounds (VOCs)

Moulds

Bacteria

Dust mite allergens



Viruses

Mould spores

How our new solution works and is different

Comparison of disinfection Methods			
	Cerafusion	Chemicals	Heat
Removal of biofilm	High	Varies	Low
Spore reduction	High	Varies	Low to Medium
Disinfection potential	High	Medium	High
Energy efficiency	High	Varies	Low
Water efficiency	High	Low	Medium
Chemicals costs	Low	High	Low
Energy requirement	Very low	Varies	High
Environmental impact	Low	High	Medium
Amount of harmful residues	Zero	Varies	Zero
Corrosion potential	Low	Varies	Low

How our new solution works and is different

Comparison of Different Products in the Market

	Air Filter	UVC	Funigation[1]	Coating Treatment[1]	Ionizer	Ozonizer	Cerafusion
Kills bacteria , mold, yeast or viruses	X	Y	Y	Y	X	Y	Y
Denature dust mite allergens	X	Y	X	X	Y	Y	Y
Removes surface-bound pollutants	X	Y	X	Y	X	Y	Y
Coverage area	X	X	X	X	Y	Y	Y
Removes offensive and unpleasant smells	X	X	X	X	X	Y	Y
Complies to international safety standard	Y	Y	Y	Y	Y	X	Y
Ability to control the level of output	Y	Y	X	NA	X	X	Y
Ease of maintenance and DIY	Y	X	X	X	X	X	Y

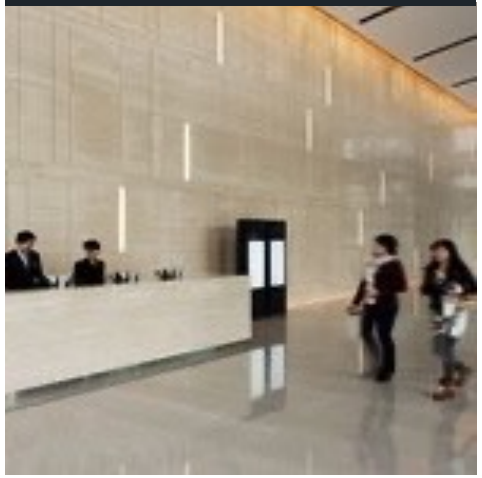
How our new solution works and is different

Cerafusion Air+Surface Sterilizer is designed to be working **24 hours/day, 365 days/year.**

Unlike chemical-based products Our Solution leaves no residuals or harmful by-products and is environmentally friendly

Some Applications

Lobbies



Elevators

Restaurants

Hotels

Retail Space

Gyms

Taxis

Buses

PASSION + INNOVATION + PRECISION

Commercial Solutions – Air & Surface

Personal Solutions
Air+Surface Sterilizers

Business Solutions
Air+Surface Sterilizers
Ozone Water Systems

PASSION + INNOVATION + PRECISION

Commercial Solutions – Air & Surface

Wall Mount

PRO

PRO

Wall/Ceiling Mount

PRO AS50G

Portable

PRO AS20P

400 sq ft

PRO AS30P

600 sq ft

PRO AS40P

800 sq ft

Standalone

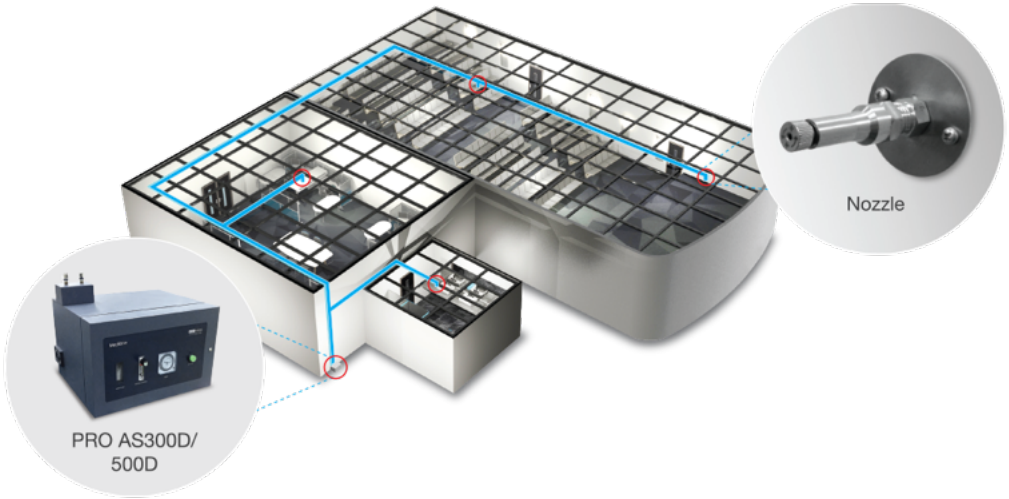
PRO AS180

1,000 sq ft

Distributed System

PRO AS300D

PRO AS500D



PASSION + INNOVATION + PRECISION

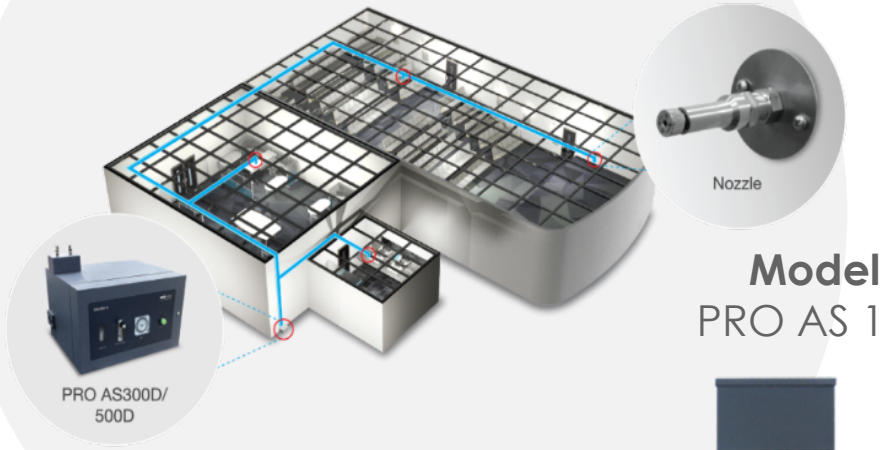
Guests in Properties – Front of House Solutions

Public Areas with high touch points – **Restaurants & Bars**

Solution

- 24/7 application
- Centralized distributed system via discrete nozzles from the ceiling
- Coverage from 1000 to 10,000 square feet
- Sterilizes even fabrics like couches, drapes and carpets
- Reduces cross contamination
- Removes stale food odors, cigarette smells

Model
PRO AS300D / AS500D
(Distributed Solution)



Model
PRO AS 180

Model
PRO AS40P

OZONE Water Application

Business Solutions:

Ozone Water Systems

O3 Hydro 5

O3 Hydro 10

O3 Hydro 20

O3 Jetspray

PASSION + INNOVATION + PRECISION

Added Benefits to the Solution

Savings of Water usage

10% - 20%

Saving of Chemical Usage

25% - 60%

Manpower Savings

10% - 20%

Return on Investment (ROI)

6-24 months

Energy Savings

85% - 90%

Eliminate the use of hot water

OZONE Water Application

Installed MedKlinn O3 Hydro 10 in the production area.

Ozone Water Jet Spray For Refuse Chambers

OZONE Water Application

Loading Bay /
Refuse Chamber

Chiller Room

Fresh Processing Room

Washing Area

Commercial Solutions – PRICING

Prices are in Singapore Dollars

Enterprise Singapore

grants are available for qualifying companies – PSG covers up to 70% of cost capped at S$30K

					
Air and Surface Solutions	PRO AS2	AS20P	AS30P	AS40P	PRO AS180
Area Coverage	**450 ft2 / 42 m2**	**400 ft2 / 36.5 m2**	**600 ft2 / 55 m2**	**800 ft2 / 73 m2**	**1000 ft2 / 93 m2**
Unit Cost (SGD)	$ 700,00	$ 798,00	$ 838,00	$ 1 028,00	$ 1 980,00
Unit cost for SMEs after 70% Productivity Solutions Grant (PSG)	**$ 210,00**	**$ 239,40**	**$ 251,40**	**$ 308,40**	**$ 594,00**

			
Air and Surface Solutions	PRO AS300D	PRO AS500D	HYDRO 10
Area Coverage	**3000 ft2 / 278 m2**	**5000 ft2 / 465 m2**	
Unit Cost (SGD)	$ 6 200,00	$ 7 500,00	$ 7 500,00
Unit cost for SMEs after 70% Productivity Solutions Grant (PSG)	**$ 1 860,00**	**$ 2 250,00**	**$ 2 250,00**

Applications in the F&B Industry

BAR-ROQUE GRILL

Bar-Roque Steps Up AMAZING With The New Normal

The changes this pandemic forces upon us has brought about a way of life we've come to know as 'the new normal'. This way of living makes us take precautions and expect unexpected turns of events that sees us living one way one day and another the next.

What this results at Bar-Roque is an unmovable belief of keeping our customers and especially staff in an environment where safety is top priority. Besides the mandated capacity and distancing, we have invested in many other safety-related areas. From state-of-the-art Cerafusion Technology that takes care of the air we breathe to the hours of training to make sure every member of our staff is equipped to handle this new normal, we have spared no expense.

This is new normal is also backed up by the same old Bar-Roque we have all come to love.

The care for our customers and staff isn't something this pandemic has forced upon us. It has and will always be the Bar-Roque promise. Whether it's our cuisine offered with Chef Stephane's philosophy of Rustic Art De La Table where every ingredient and every preparation method of every plate is painstakingly created to Nicolas' curation of wines and beverages to suit dishes and palates, you'll find the familiar AMAZING experience of Bar-Roque grill right here with us.

It's a promise!

Lo & Behold

"We wanted our customers to find a cleaner atmosphere in all places of the venue. We decided to work with Q Industries and CERAFUSION. This technology is a proven and effective system to sterilise environments. Mobile units installed made a real difference and brought the solution we were expecting, keeping everybody in a healthy and sanitized atmosphere. We are now able to save a big portion of man-hours previously dedicated to sterilise and deep clean the spaces."

Xavier Wong
Asst.General Manager of Tanjong Beach Club Singapore

Sustainable Hygiene Technology

"It is important that we continue to invest in technology that keeps our restaurant environment constantly sanitised and free from bacteria and viruses. Adopting the Cerafusion Active Oxygen Technology guarantees a safe and comfortable space for everyone at Odette."

Julien Royer
Chef Owner of 3 Michelin Stars Restaurant Odette

Sustainable Hygiene Technology

Lo & Behold

O +65 6338 8035 W lobehold.com A 267 Beach Road, S 199545

The Lo & Behold Group

New Air Purification Solutions

We have invested in installing new technologies for purifying both the air and surfaces in our venues. Two systems we've employed include **patented Cerafusion™ Technology to sterilise air and surfaces naturally by generating active oxygen**, and **cutting-edge UV and photoplasma technologies** to disinfect and enhance air quality.

"The Health and Safety of our guests and colleagues is one of our main priorities. This is why The Lo & Behold Group has decided to work closely with Q industries on this topic. We have installed Cerafusion units for purifying both air and surfaces in our venues. This new patented technology is generating Active Oxygen that fights all invisible threat such as Covid-19, keeping a safe environment in our restaurants and workspaces."

Nicholas Heng
Lead, Talent Experience - Human Resources
The Lo & Behold Group

Food Processing

"We are very happy with the Hydro 10 machine and its result. No more smelly dustbins, containers and toilets. The installation was easy and quick."

Ernst Huber
Executive Director of Huber's Butchery & Bistro @ Dempsey

Sustainable Hygiene Technology

"Our vision of food processing and manufacturing business is an operation that consumes significantly less energy, hot water and chemicals, optimizes manpower efficiency, yet offer a high standard of food hygiene and a more comfortable working environment for our employees. We worked with Q Industries and Medklinn CERAFUSION technology for our production facilities, both air and water treatments. We started with our processing department and we are happy with the results."

Tan Chee Siang
Facilities Manager
Hen Tick Foods Pte Ltd. , Singapore

Sustainable Hygiene Technology

Retail

"Having a Versa 45 unit helps with giving the assurance to my clients and my staff that their well-being is being looked after by reducing the risk of airborne viruses and bacteria. I have also put a commercial PRO AS180 unit into my factory to ensure a cleaner working environment for my staff."

Timothy Tham

Owner of Rossi Apparel at Millenia Walk

Sustainable Hygiene Technology

"We at MINI want our customers to feel safe and secure. This is why we equip our test vehicles with Auto Plus. Driven by CERAFUSION Technology, it is highly effective in eliminating unpleasant odours and in-car pollutants, killing bacteria and viruses in air and surfaces. Easy to use, eco friendly and affordable, with Auto Plus we are feeling the difference. It is a great solution to drive healthy."

Raymond Liu

Senior Sales Manager of MINI New Car & MINI Used Car NEXT

Eurokars Habitat Pte Ltd. & Eurokars Next Pte Ltd.

Sustainable Hygiene Technology

Gyms

"We want our members to work out in a safe environment. This is why we decided to work with QIndustries and Medklinn Cerafusion technology. It is a proven and effective system that eliminate 99.9% of airborne and surface viruses, bacteria, moulds and germs. This air-steriliser is compact, eco-friendly, cost-efficient and reliable. We have gotten positive feedback from our members and I recommend it."

Paul Cheong
Sports & Recreation Manager
The British Club, Singapore

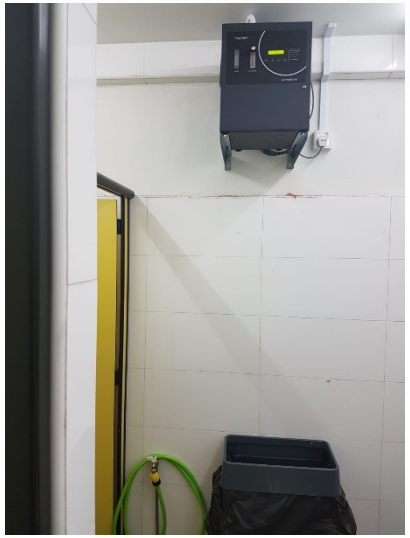
Sustainable Hygiene Technology

PASSION + INNOVATION + PRECISION

Some of Our Clients

Q industries
Solutions with Simplicity

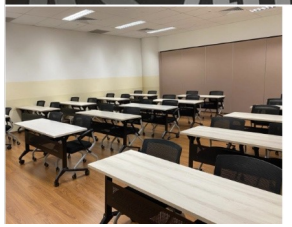
HUBER'S BUTCHERY
excite your appetite!



THE Lo&Behold GROUP

Tanjong Beach Club

THE WHITE RABBIT



SSTC INSTITUTE

Research Studies – Cerafusion is scientifically proven

Bacteria/Mould Type	Without Cerafusion™ Technology	With Cerafusion™ Technology	Test Result
Bacillus species • Causes anthrax and food poisoning			100% killed
Candida albicans • Common yeast that causes skin and systemic infection			100% killed
Pseudomonas Aeruginosa • Causes eye, ear, and joint infections, hospital-acquired infections, and wound infections			99.99% killed
Escherichia coli • Causes food poisoning, urinary infections, meningitis, and septicaemia			99.99% killed
Methicillin-resistant Staphylococcus aureus • Causes pimples, boils, pneumonia, food poisoning, septicaemia, and hospital acquired infections			100% killed
Rhizopus species • Causes allergic reactions			No mould growth

Test conducted by Monash University, Malaysia Campus

Test Procedure:
Bacteria or yeast were spread onto agar plates. The plates were then incubated in two humidified incubators — one with Cerafusion™ Technology and one without.

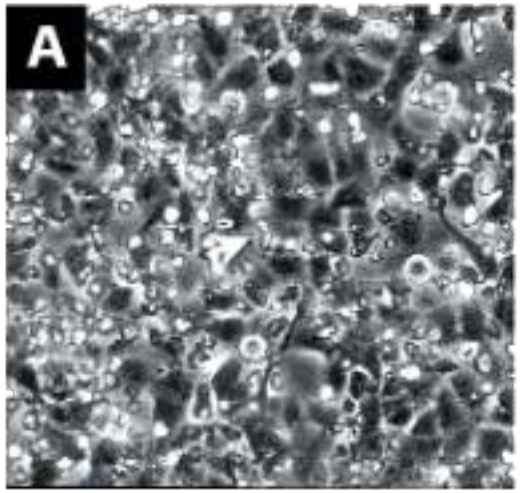
Test Conducted by:
Associate Professor Sek C. Chow
Dr Med Sc, Registered Toxicologist (UK)
Monash University

Dr. Anne Vaughan
Lecturer, School of Science
Monash University

Research Studies – Cerafusion is scientifically proven

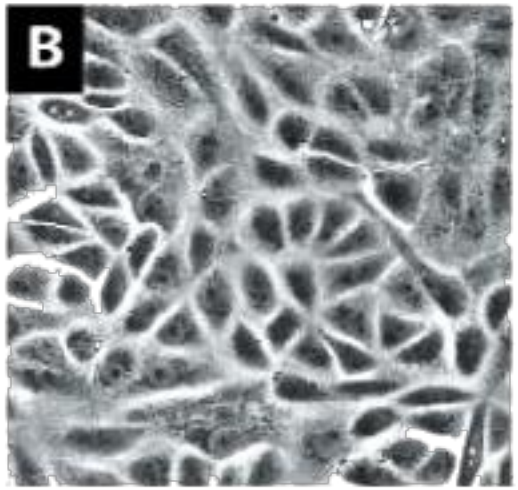
Test conducted by University Malaya, Malaysia

Active Oxygen action on Virus
(Human Enterovirus 71, which causes Hand, Food and Mouth Disease)



Destruction of cells by active Virus

With Cerafusion



No sign of virus activities

With Cerafusion

Research Studies – Cerafusion is scientifically proven

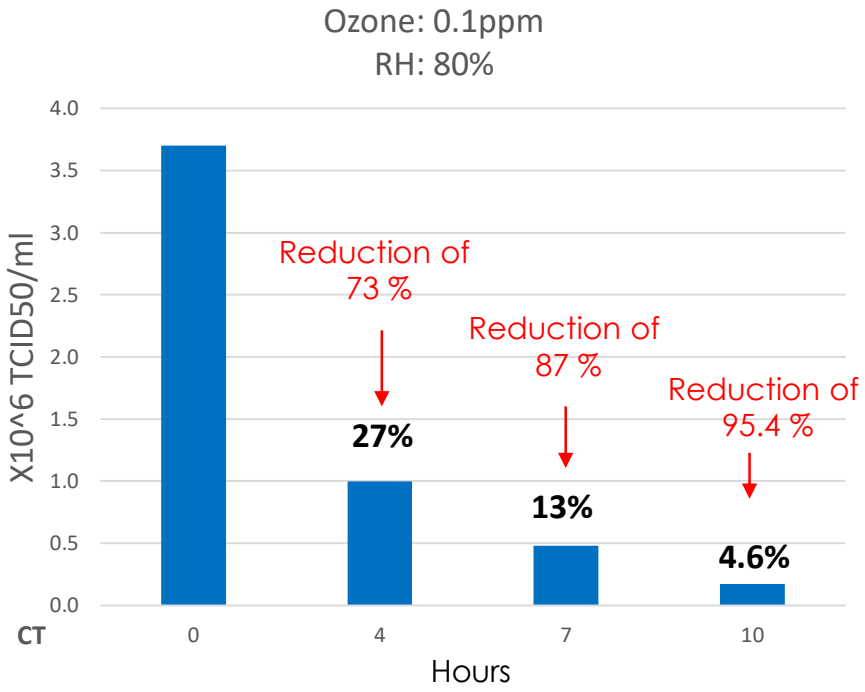
TOKYO: Japanese researchers said on Wednesday (Aug 26, 2020) that low concentrations of ozone can neutralise coronavirus particles, potentially providing a way for hospitals to disinfect examination rooms and waiting areas.

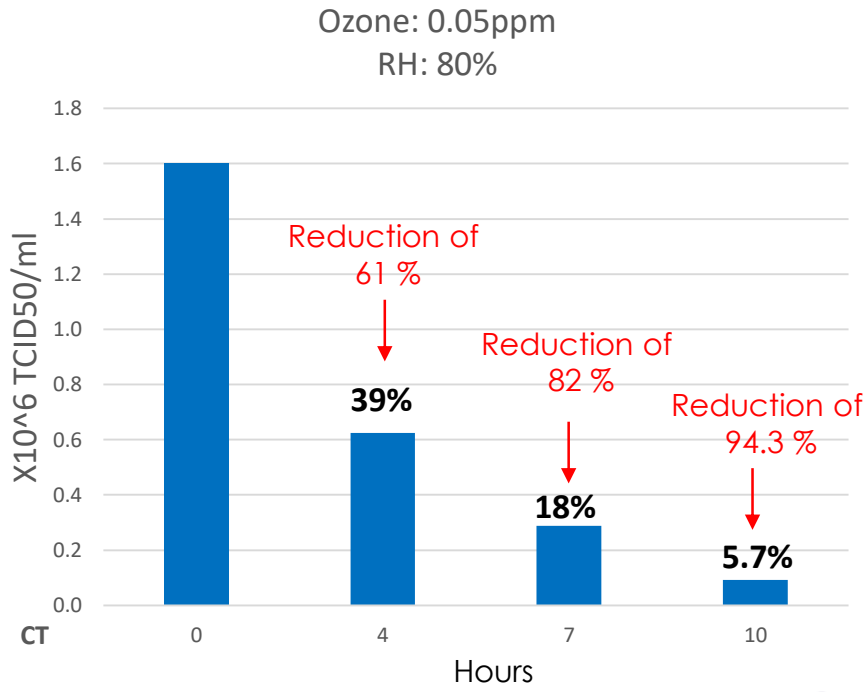
Scientists at Fujita Health University told a news conference they had **proven that ozone gas in concentrations of 0.05 to 0.1 parts per million (ppm), levels considered harmless to humans, could kill the virus**.

Source: https://www.channelnewsasia.com/news/asia/covid-19-japan-researchers-ozone-effective-neutraliser-13054982

Research Studies – Cerafusion is scientifically proven

Professor Takayuki Murata of Fujita Health University, Japan discovered for the first time in the world that the new coronavirus can be inactivated by **low concentration ozone gas (0.05 or 0.1 ppm) that is safe for the human body.**





Source: Test conducted by Fujita Health University Hospital, Japan, Aug 26, 2020

Research Studies – Cerafusion is scientifically proven

Maxell, Ltd. in a joint study with Nara Medical University Japan

Excerpts from the study and press release:

Confirmation of the novel coronavirus (SARS-CoV-2) inactivation effect of low concentration ozone generated by Maxell's ozone anti-bacterial deodorizer.

This study **confirmed** the **inactivation effect on the novel coronavirus of a spatial ozone concentration of 0.05 ppm**, which is **below the occupational exposure limits** defined by the Japan Society for Occupational Health using an actual product of the equipment.

In this study, the effect of low-concentration ozone generated by an actual product of the equipment and controlled to a spatial concentration of 0.05 ppm at the general living environment (temperature: 23±5°C, humidity: 60±5%) was confirmed. The study shows the possibility of using ozone widely for general public health purposes regarding the novel coronavirus even in low concentration that can be used in a manned environment, not only for high concentration use in an unmanned environment such as fumigation.

Research Studies – Cerafusion is scientifically proven

COVID-19: Ozone Proved to Be Highly Efficient in Effective in Disinfecting Coronavirus

Presently, researchers from Tel Aviv University have demonstrated that **ozone**, which has already long been used as an antibacterial and antiviral agent in water treatment, **effectively sanitizes surfaces against Coronavirus after short exposure to low concentrations of ozone**.

Dr. Ines Zucker. Credit: Tel Aviv University

Source: https://scitechdaily.com/covid-19-ozone-proved-to-be-highly-efficient-in-effective-in-disinfecting-coronavirus/

Together with Q Industries

Sterilizes Indoor Air+Surface
Always ON, 24/7
Added safety,

Q industries
Solutions with Simplicity

Your innovative hospitality solutions integrator