



A
B
O
U
T

O
Z
O
N
E

OZONE SAFE.EU

Ozone is one of the most powerful disinfectants. It is **50 times** more effective disinfection compared to chlorine, and the **effects** of its action are visible **3,000 times faster**.

The main is the fact that ozone is **generated on-site** and only when needed. There is also no need to monitor side effects of disinfection, as there are no such ones.



QUICK DATA FACTS

I
N
B
R
I
E
F

0%

Chemical residues
Environmental friendly

99.99%

1 ppm concentration for a
matter of seconds is
sufficient to achieve as much
as **4 logs disinfection**

50%

Half-life: On a normal
concentration level, ozone
will **typically take 30
minutes** to 1-2 hours to
dissipate



OZONE USAGE

1.

ROOMS

houses, basements, warehouses,
offices, shops, restaurants,
swimming pools, changing rooms,
hotels, hospitals, doctors'
consultation rooms, etc..

2.

AUTOMOTIVE

removal of unpleasant odour
from the interior, disinfection of
air conditioning, cigarette smoke,
burning odour, animal odour.

3.

MEDICAL

processing reusable medical
devices, disinfecting rooms,
ambulances etc.

4.

FOOD INDUSTRY

Molds, fungi, bacteria, insects,
larvae.

5.

WATER

Water purification and
disinfection

6.

MASKS AND EQUIPMENT

Mask sterilization, non washable
equipment or items that cannot
be treated with chemicals.



STEPS NEEDED

T
H
E

P
R
O
C
E
S
S

01

SEAL

Seal and secure treatment area

02

PROGRAM

Select and set suitable treatment program

03

START PROGRAM

Leave the room

04

MONITOR

Monitor safe operation

05

WAIT

Let the due amount of time pass in order for the ozone to decay

06

FINAL CHECK

Retrieve equipment and allow occupants to return after treatment is complete



USING OZONE AGAINST CORONAVIRUS

Ozone, having been proven in the lab and in the field to be an extremely **effective virucide and full-spectrum antimicrobial**, killing pathogenic bacteria and fungi, offers many benefits over alternative ways of disinfecting.

Because it is a gas, it has a **penetration capacity** that liquids do not possess. An ozone generator never needs to be refilled with solutions, and it doesn't need to be manually operated; simply press the button. The machine goes to work turning the oxygen in the ambient air into powerful, oxidizing ozone. After the prescribed period of time the **disinfection is complete**.

01

SARS-COVID-19

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.

The experiment used an ozone generator in a sealed chamber with a sample of coronavirus.

<https://www.fujita-hu.ac.jp/en/news/kka9ar0000000gmz.html>

02

MURINE VIRUS

An ozone concentration of 20–25 ppm with > 90% relative humidity could provide at least 3 log inactivation on different hard and porous surfaces, and in the presence of biological fluids. One of the **viruses successfully inactivated** was the murine coronavirus used as a surrogate for the SARS virus.

03

MVA

An ozone generator, complying with the global accepted NF T 72-281 standard for efficacy testings, has been tested at the Dr. Brill Institute for Hygiene and Microbiology in Germany. After passing examinations with MVA [a vaccinia virus strain of choice for clinical investigation because of its high safety profile] an activity against all enveloped viruses including members of the virus family coronaviridae (like MERS-CoV, SARS-CoV-1 and SARS-CoV-2) the test proved a **99.999% efficacy** in removing the Coronavirus



OZONE DISINFECTION MECHANISM

Because of its high oxidation potential, **ozone oxidizes cell components** of the bacterial cell wall. This is a consequence of cell wall penetration. Once ozone has entered the cell, it oxidizes all essential components (enzymes, proteins, DNA, RNA). When the cellular membrane is damaged during this process, the cell will fall apart. This is called **lysis**.

The above-mentioned mechanism differs from that of halogens (such as chlorine), which are usually applied. Chlorine is known to penetrate cells by diffusion. Within the cell, chlorine affects several enzyme types.

H

O

W

W

D O

O R

E K

S ?

I

T



ADVANTAGES

01

ORGANIC

Ozone is **a natural gas** that turns back into oxygen

02

APPROVED AND SUGGESTED

Approved and suggested by many organizations such as FDA, ISS, EPA etc.

03

SAFE

Ozone turns naturally into oxygen. **No hazard** due to chemical residues

04

ECONOMICAL

Uses only a small amount of electricity. **No consumables**

05

MOBILE

Can be **easily used and transported** in different environments

06

EFFICIENT

Very strong oxidant. **No resistance**



KEY POINTS

Ozone is produced on site, out of thin air. No reliance on chemical supplies. Ozone treatment is a dry application disinfection method, no wet surfaces. No residues

FULL COVERAGE

Ozone reaches all surfaces, penetrating microscopic cracks and crevices. Spraying and manual wipe down can never produce even distribution.

HIGH EFFICACY

Ozone is a more powerful, more potent oxidizer than chlorine, chlorine dioxide or hydrogen peroxide. It is a fully automated, application process

NO RESISTANCE

There is absolutely no built-up resistance to the oxidizing effect of ozone gas. It attacks the cell membranes and breaks down the DNA of microorganisms.



RECOMMENDED AND MENTIONED

In response to a Food Additive Petition submitted during August 2000, the U.S. Food and Drug Administration formally approved the **use of ozone as an Antimicrobial Agent** for the Treatment, Storage and Processing of Foods in Gas and Aqueous Phases. Many other institutions and agencies did the same



Ozone has been given GRAS (Generally Recognized as Safe) approval by the FDA for direct contact with food products. 21CFR173.368



Cleaning and disinfecting buildings areas previously occupied by Coronavirus 2019 (COVID-19) positive personel



Raccomandazioni ad interim sulla sanificazione di strutture non sanitarie nell'attuale emergenza COVID-19: superfici, ambienti interni e abbigliamento



EPA Product # 93758-DIV-1, 93758-DIV-2, 93758-DIV-3, 93758-DIV04



OUR OFFER

We are not only selling hardware. We are finding the best solution for you needs. We provide full expertise to find the best package for the growing needs of your activity

01

TAILORED TO YOUR NEEDS

Depending on your needs we will find the right solution

02

AFTER SALE

We provide guarantee and repairing as well as maintenance packages

03

TECHNICAL EXPERTISE

The generator is only a part of the service. We provide training and expertise in order to find an effective and optimal choice



OZONE SAFE.EU

C
O
N
T
A
C
T

GPI SECURITY KFT

2040 Budaors
Kamaraerdei ut 9/B

Contact:

[FRANZ MARCHESAN](#)

+36 306706614

franz.marchesan@ozonesafe.eu



O Z O N E S A F E . E U



Environmental friendly



99.99% clean



EU CE compliant

OZONE SANITIZED ENVIRONMENT

SAFE & CLEAN

Sanitized environment. Your safety is crucial to us.