

Introducing the Ozilla® EMS Sterilizer



**Ozilla® EMS
Sterilizer**

What is the Ozilla® EMS Sterilizer?



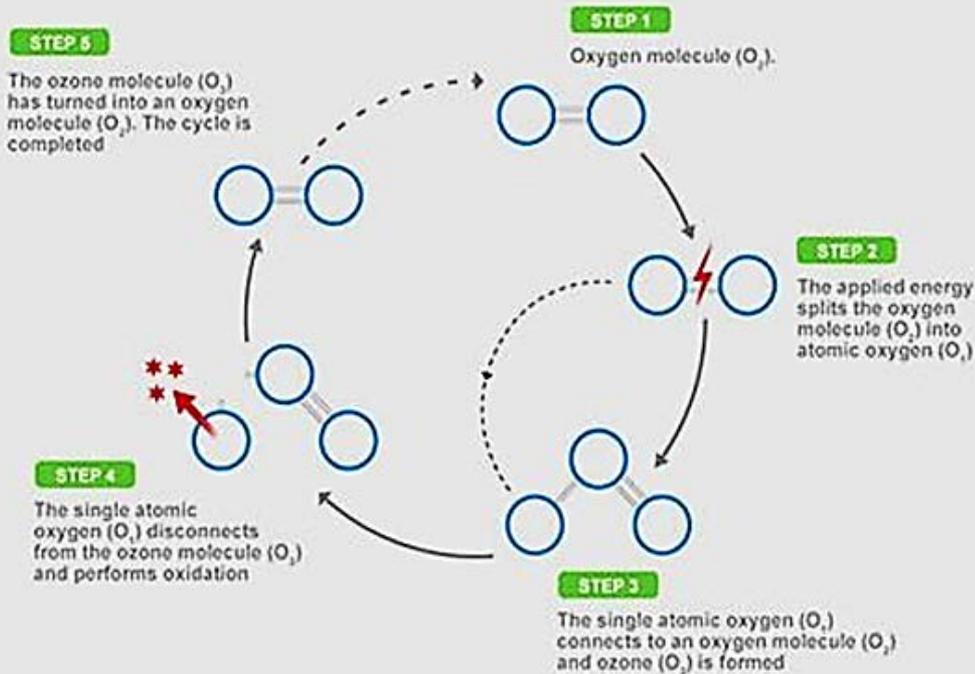
The Ozilla® EMS Sterilizer is a very powerful, durable and portable ozone sterilizer specifically designed for sterilizing the inside of ambulances.

The Ozilla® EMS Sterilizer produces very high levels of Ozone Gas /Silver Ions that completely destroy deadly pathogens and leave the inside of any ambulance smelling fresh and clean.

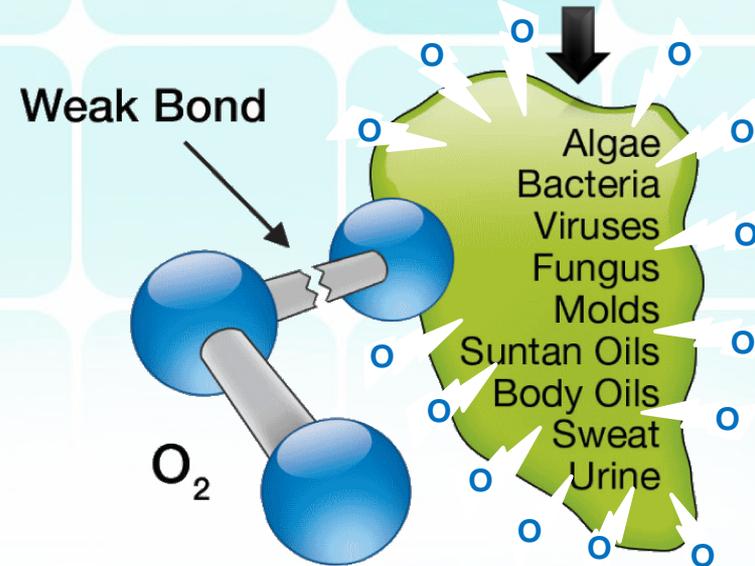
The Ozilla® EMS Sterilizer fumigates every cubic inch within an ambulance. After the Ozone/ Silver Ion fumigation cycle finishes, the patented **Ozilla Scrubber Technology** removes all Ozone Gas/Silver ions safely within minutes allowing faster access to the sterilized ambulance.

How Ozilla EMS Ozone fumigation kills Pathogens:

The Oxygen - Ozone - Oxygen cycle



Oxidizable Substances



Oxygen atom from ozone readily bonds with viruses, bacteria, fungus, prions, etc., and causes holes to form in cell walls of organisms and viral coats, leading to rapid destruction of microbes.

Why Ozone?

- Highly efficient...most powerful known natural oxidant!
- Capable of destroying a wide range of pathogens, without the need for handling hazardous chemicals.
- High reactivity of ozone means it can be converted back to oxygen by passing over a simple catalyst (over a short period of time).
- **Listed uses of ozone (source: Wikipedia.com):**
 - Disinfect laundry in hospitals, food factories, care homes etc.;^[66]
 - Disinfect water in place of chlorine;^[10]
 - Deodorize air and objects, such as after a fire. This process is extensively used in fabric restoration
 - Kill bacteria on food or on contact surfaces;^[67]
 - Sanitize swimming pools and spas;
 - Kill insects in stored grain;^[68]
 - Scrub yeast and mold spores from the air in food processing plants;
 - Wash fresh fruits and vegetables to kill yeast, mold and bacteria;^[67]
 - Chemically attack contaminants in water (iron, arsenic, hydrogen sulfide, nitrites, and complex organics lumped together as "colour");
 - Provide an aid to flocculation (agglomeration of molecules, which aids in filtration, where the iron and arsenic are removed);
 - Manufacture chemical compounds via chemical synthesis;^[69]
 - Clean and bleach fabrics;
 - Assist in processing plastics to allow adhesion of inks;
 - Age rubber samples to determine the useful life of a batch of rubber;
 - Eradicate water borne parasites such as *Giardia lamblia* and *Cryptosporidium* in surface water treatment plants.

Detection and analysis of *Staphylococcus aureus* isolates found in ambulances in the Chicago metropolitan area

James V. Rago, , PhD, Lieutenant Keith Buhs, Viktorija Makarovaite, Esha Patel, Melissa Pomeroy, Christian Yasmine

Methods

Samples were obtained from 26 sites in 71 ambulances from 34 different Chicago-area municipalities.

Results

At least one *S aureus* isolate was found in approximately 69% of all ambulances in the study. Of all isolates detected, 77% showed resistance to at least one antibiotic, and 34% displayed resistance to 2 or more antibiotics.

Conclusions

Antibiotic resistance appears to be prevalent in *S aureus* isolates detected in Chicago area ALS ambulances. Given the ease with which *S aureus* can survive on inanimate surfaces and exchange antibiotic resistance elements, a conscientious approach to the application of existing cleaning techniques, especially in key ambulance sites is needed.

What are industry experts saying about the need of EMS for controlling the spread of disease?



EMS IN FOCUS
with Dean Meenach

Role of EMS in preventing infectious disease transmission

EMS providers need to follow infection control guidelines for care and transport of patients with infectious, contagious, and even deadly antibiotic resistant organisms

Oct 30, 2015

<http://www.ems1.com/ems-products/personal-protective-equipment-ppe/articles/22332048-Role-of-EMS-in-preventing-infectious-disease-transmission/>

- *Superbugs include organisms such as some resistant strains of *C. diff*, Vancomycin-resistant *Enterococcus* (VRE), MRSA, tuberculosis (TB), *Campylobacter*, carbapenem-resistant *Enterobacteriaceae* (CRE), and Beta-lactamase producing *Enterobacteriaceae* (ESBLs) to list a few. Many of these superbugs are so difficult to treat that patients are transported across several states to the renowned National Institutes of Health (NIH) medical facility in Bethesda, Maryland. It is no surprise how these patients are transported—by ambulance.*
- *Need to establish a protocol for the routine disinfection of medical devices and the ambulance patient care area and follow it closely.*

Advantages of the Ozilla® EMS Sterilizer?

- Acts on multiple organisms (bacteria, virus, proteins, etc.)
 - No need to store, handle, use, or dispose of chemical sanitation agents.
 - No chemical buildup on surfaces.
 - Downtime is minimized during sterilization cycle.
 - Ozone penetrates into areas chemicals cannot reach.
 - Ozone penetrates into areas UV light cannot reach
 - Ozone converts back to oxygen with time (or with aid of the Ozilla patented scrubber system).
 - Ozone has no known long term side effects. A truly “Green Sterilizer”
-
- ★ **Ozilla Technology is CE certified**
 - ★ **Ozilla is Patent Pending**
 - ★ **Ozilla is EPA registered**



Ozone Fumigation kills pathogens fast!

- Ozone gas has proven to kill almost all known bacteria, including MRSA, *C. difficile*, *S. Aureus*, *B. anthracis*, as well as almost all known pathogens.
- Ozone gas sterilization used for many years in multiple industries.
- Many references available online.

BACTERIA (Partial list)

Achromobacter butyri NCI-9404	Phytomonas tumefaciens
Aeromonas harveyi NC-2	Proteus vulgaris
Aeromonas salmonicida NC-1102	Pseudomonas aeruginosa
Bacillus anthracis	Pseudomonas fluorescens (biofilms)
Bacillus cereus	Pseudomonas putida
Bacillus coagulans	Salmonella choleraesuis
Bacillus globigii	Salmonella enteritidis
Bacillus licheniformis	Salmonella typhimurium
Bacillus megaterium sp.	Salmonella typhosa
Bacillus paratyphus	Salmonella paratyphi
Bacillus prodigiosus	Sarcina lutea
Bacillus subtilis	Serratia marcescens
Bacillus stearothermophilus	Shigella dysenteriae
Clostridium botulinum	Shigella flexneri
Clostridium Difficile	Shigella paradysenteriae
Clostridium sporogenes	Spirillum rubrum
Clostridium tetani	Staphylococcus albus
Corynebacterium diphtheriae	Staphylococcus aureus
Eberthella typhosa	Streptococcus C
Escherichia coli K-12	Streptococcus faecalis
Escherichia coli B	Streptococcus hemolyticus
Flavobacterium SP A-3	Streptococcus lactis
Leptospira canicola	Streptococcus salivarius
Listeria sp.	Streptococcus viridans
Micrococcus candidus	Vibrio alginolyticus
Micrococcus caseolyticus KM-15	Vibrio anguillarum
Micrococcus sphaeroides	Vibrio cholerae
MRSA	Vibrio comma
Mycobacterium leprae	Vibrio ichthyodermis NC-407
Mycobacterium tuberculosis	Vibrio parahaemolyticus
Mycoplasma spp.	VRE
Neisseria catarrhalis	VRSA



Ozone is Highly Effective-Cont'd

High concentration ozone gas is also excellent at killing Fungus / Mold, Viruses, Protozoa, Yeast and algae.

FUNGUS & MOLD (Partial list)

Alternaria solani
Aspergillus candidus
Aspergillus flavus (yellowish-green)
Aspergillus glaucus (bluish-green)
Aspergillus niger (black)
Aspergillus terreus
Aspergillus saitoi
Aspergillus oryzae
Botrytis allii
Botrytis cinerea
Colletotrichum lagenarium
Fusarium oxysporum
Geotrichum sp.
Monilinia fruticola
Monilinia laxa
Mucor racemosus A & B (white-gray)
Mucor piriformis
Oospora lactis (white)
Penicillium cyclopium
Penicillium chrysogenum
Penicillium citrinum
Penicillium digitatum (olive)
Penicillium glaucum
Penicillium expansum (olive)
Penicillium egyptiacum
Penicillium roqueforti (green)
Pythium ultimum
Phytophthora erythroseptica
Phytophthora parasitica
Rhizoctonia solani
Rhizopus nigricans (black)
Rhizopus stolonifer
Sclerotium rolfsii
Sclerotinia sclerotiorum
Thamnidium sp.
Trichoderma viride
Verticillium albo-atrum
Verticillium dahliae

VIRUS (Partial list)

Adenovirus (type 7a)
Bacteriophage T1 (E.coli)
Coxsackie A9, B3, & B5
Cryptosporidium
Vesicular Stomatitis
Echovirus 1, 5, 12, & 29
Encephalomyocarditis
Hepatitis
HIV
Infectious hepatitis
Influenza
Legionella pneumophila
Poliovirus (Poliomyelitis) 1, 2 & 3
Rotavirus
Tobacco mosaic

PROTOZOA (Partial list)

Cryptosporidium parvum
Cryptosporidium sp.
Giardia lamblia
Giardia muris
Paramecium
Nematode eggs
All Pathogenic and Non-pathogenic forms of Protozoa
Entamoeba histolytica

YEAST (Partial list)

Baker's yeast
Candida albicans-all forms
Common yeast cake
Saccharomyces cerevisiae
Saccharomyces ellipsoideus
Saccharomyces sp.
Torula rubra

ALGAE (Partial list)

Chlorella vulgaris

Benefits of Ambulance Ozilla EMS Sterilization

- Prevent buildup of pathogens to infectious levels in EMS vehicles.
- Prevent outbreaks of disease agents that are difficult to treat or control, like MRSA, *C. difficile*, etc.
- Regular cleanings with Ozilla can reduce EMS contribution to hospital acquired infections, one of the biggest preventable causes of death in healthcare.
- Reduce staff sick time with “pathogen-free” work environments
- No toxic chemical buildup or odors
- Superior Sterilizations over UV and Chemicals
- Genlantis will maintain and service all leased Ozilla EMS Sterilizers.
- Quick response times
- Flexible lease terms

Testing Results With Ozilla[®] EMS Sterilizer Using San Diego Based Company Ambulance

SAMPLE PROTOCOL

Step 1 - swab surface (here biohazard container top shown);

Step 2 - read swab using luminometer;

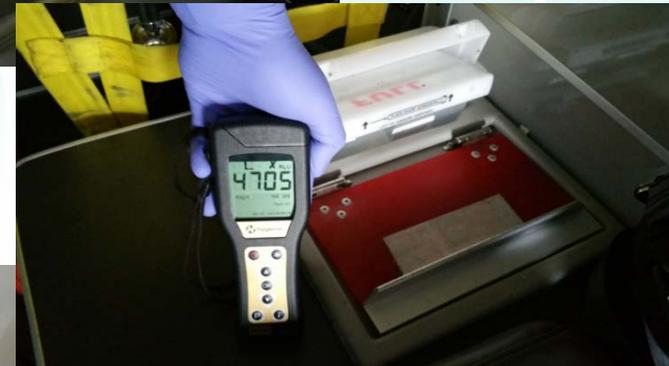
Step 3 - Perform 1 hour ozone sterilization cycle with Ozilla EMS Sterilizer;

Step 4 – Swab same but adjacent area and read again using luminometer.

RESULTS

Luminometer reading was **4,705** RLUs prior to Ozilla EMS Sterilizer treatment. A reading over 30 is considered “surface contaminated”.

Luminometer readings taken **after** Ozilla EMS 1 hour treatment were **18, 21, and 16** (done in triplicate to insure accuracy)



Testing Results With Ozilla[®] EMS Sterilizer Ambulance, CONT'D

Table 1: ATP Surface Sampling Results Expressed in Relative Light Units (RLUs)

Location	Pre-treatment	Post-treatment
Door Handle	14	0
Biohazard Container Top	4,705	18
Gurney Handle	272	0
Ceiling Handrail	17	0
Floor (rear, right entry)	247	0
Bench Seat	109	0
Blood Pressure Cuff	216	5
Driver Steering Wheel	24	0

ATP surface testing was performed with the Bio Reveal system SURE II[™] ATP bioluminescence luminometer and Hygiena Ultrasnap[™] swabs. Presence of biological materials is directly correlated to RLU readings.

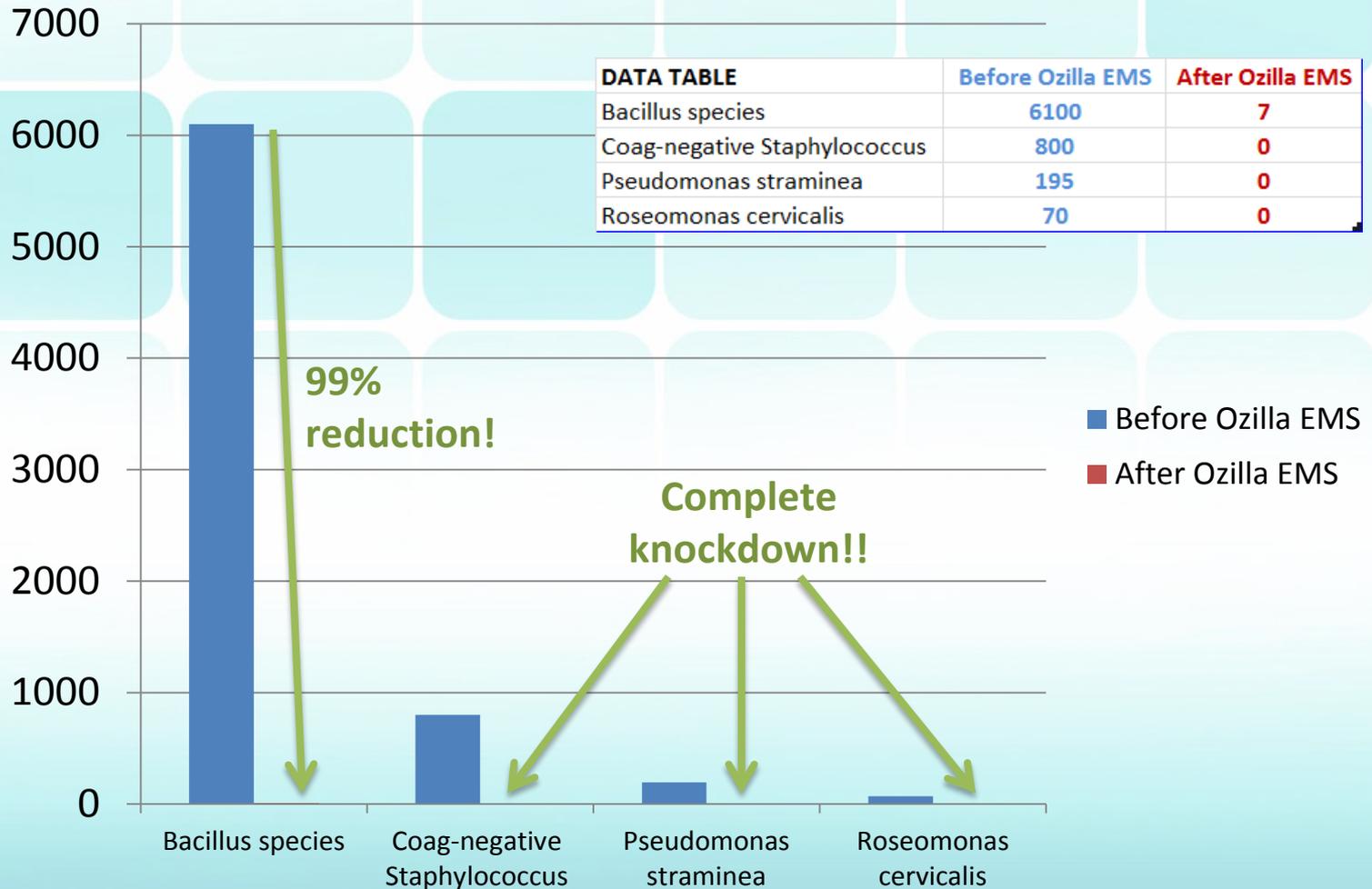
Certified Third Party Testing Of the Ozilla[®] EMS Sterilizer & Ambulance

- Genlantis hired a certified environmental consulting company to perform independent tests on the Ozilla EMS Sterilizer. Consultant had the following credentials:
 - **CEICC** - ACAC Council-certified Environmental Infection Control Consultant
 - **CIEC** - ACAC Council-certified Indoor Environmental Consultant
 - **CMC** - ACAC Council-certified Microbial Consultant
 - **CAC** - Cal-OSHA Certified Asbestos Consultant (#96-1998)
 - **ICC** Certified Combination Residential and Commercial Inspector

- Swab analysis performed by independent third party laboratory (Aerobiology Laboratory Associates, Inc., Golden, Colorado).

- Multiple pathogens tested using same testing profile for hospital screening (Hospital profile SOP 2.3).

Ozone Third Party Testing Of the Ozilla[®] EMS Sterilizer & Ambulance



Ozilla EMS[®] Sterilizer Specifications



	Inches	Centimeters
Width (W)	20.62"	52.4
Depth (D)	8.12"	20.6
Height (H)	16.87"	42.8
	Lbs.	Kgs.
Weight	35 lbs.	15.8

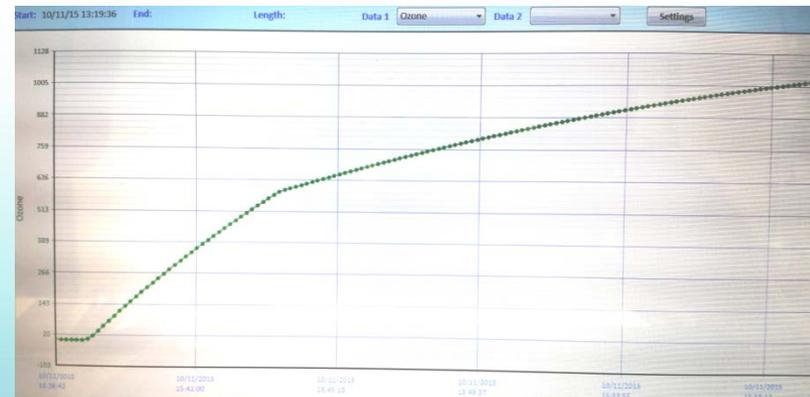
Portable & Powerful

The Ozilla EMS Sterilizer is a true plug-and-play system. Once turned on, ozone gas will reach into all open spaces including:

- All exposed surfaces
- Hazardous waste bins
- Storage cabinets
- Under bench compartments
- Driver compartments
- Floors, walls, ceilings
- Hidden crevices



Our laboratory testing shows that Ozilla produces up to 1,000 ppm ozone in test chamber in 20 minutes!!

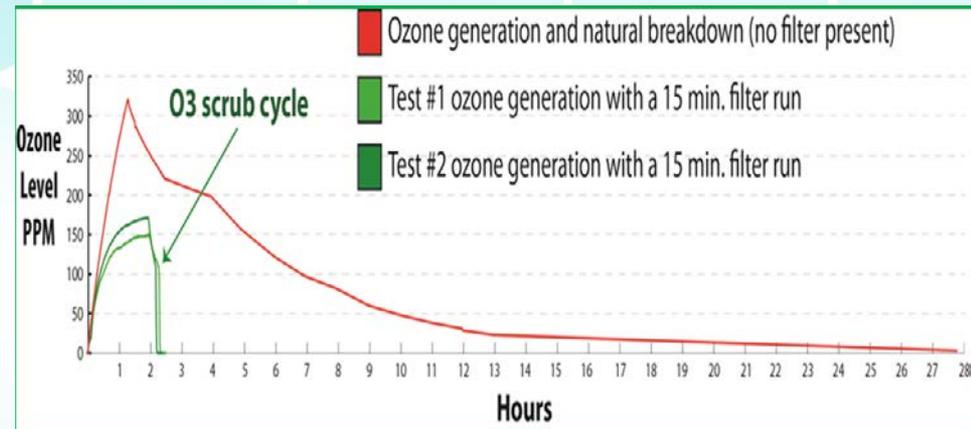


User-friendly Protocol

- Remove any heavy contamination (liquid spills or visible debris)
- Plug-in Ozilla inside Ambulance.
- Program sterilization and de-ozonation cycles.
- Open all internal cabinet and compartment doors.
- Seal ambulance doors and affix warning signs (provided with manual).
- Run unit for approximately 75 minutes (fumigation and scrub cycle).
- Return after appropriate time has elapsed and briefly air out ambulance by opening doors/windows and running AC system for a couple of minutes.

Ozilla EMS Sterilizer Advantages

- Ozilla is FIRST device specifically designed for use in EMS vehicles.
- Ozilla was developed by a biotech company with a deep understanding of microbe biology and sterilization.
- Ozilla is FIRST and ONLY device to offer scrub cycle (de-ozonation) technology.
- Scrub filter works extremely fast, and dramatically reduces downtime.
- Ozilla offers a detailed manual, literature, and labels.



- ★ **Ozilla is CE certified**
- ★ **Ozilla is Patent Pending**
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Competitive Methods Comparison

Method	Expense	High Cost to Run	Needs Trained Technician	Time and Preparation Requirements	Toxicity
Ozilla® EMS Sterilizer	Low	No	No	Low	None
Formaldehyde Fumigation	Medium	Yes	No	Leaves white residue.	Highly carcinogenic (WHO)
Hydrogen Peroxide	High	Yes	Yes	Micro-condensate. High prep time. Offered as service only.	Low
Hydrogen Peroxide + silver cations	High	Yes	Yes	Large expensive equipment, leaves “dry mist”.	Low
Chlorine Dioxide	Medium	Yes	Yes	Leaves chemical residue, requires additional cleanup. Difficult setup times and hard to control.	Carcinogenic

**The Ozilla EMS Sterilizer is an Eco-Friendly System.
No Chemicals**



Highlighted Reference

Use of Gaseous Ozone for Eradication of Methicillin-Resistant *Staphylococcus aureus* From the Home Environment of a Colonized Hospital Employee. Hero E. L. de Boer, MD. et. al. *Infection Control and Hospital Epidemiology*, October 2006, Vol. 27, No. 10.

An intensive care nurse with eczema was repeatedly treated for MRSA carriage. Because cultures remained positive for MRSA, her house was investigated. Thirty-four percent of environmental samples yielded MRSA. The house was decontaminated with gaseous ozone as follows:

- Ozone gas was generated for 10 hours;
- Ozone levels estimated to have reached 12 ppm (but were not measured);
- Each room was hermetically sealed;
- After ozone treatment, swab specimens from different body parts of nurse and her family were all negative from April 2004 and remained negative until September 2005 without any additional treatment.

Useful Selected Ozone References

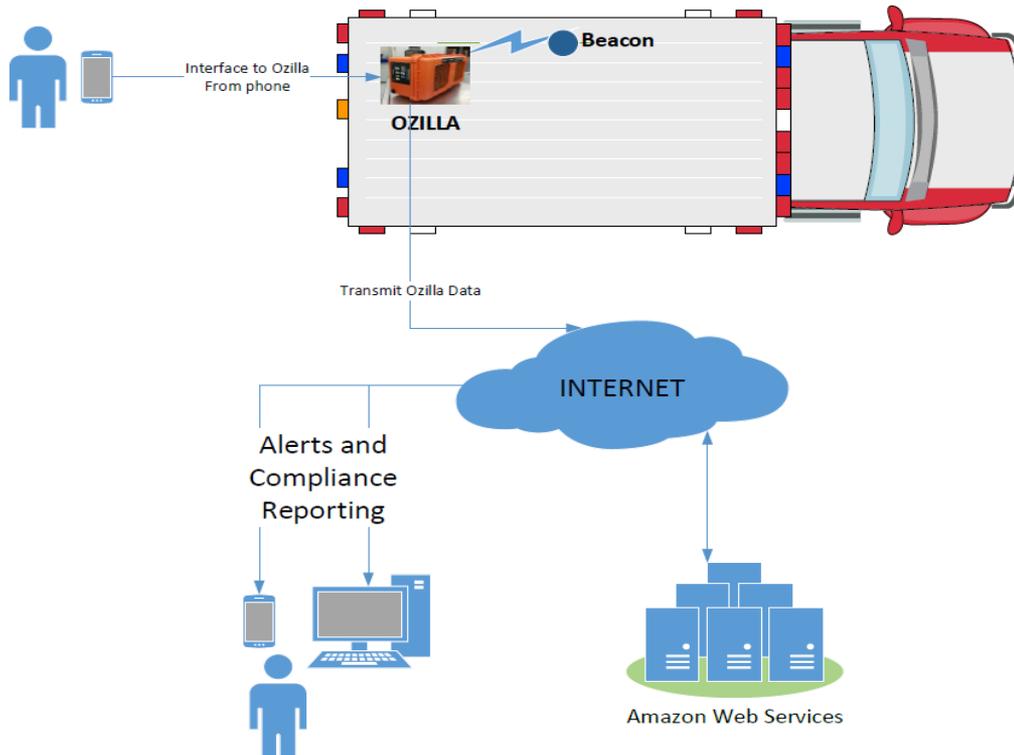
Title/Author/Year	Contaminant
Confirmation of the Sterilization Effect Using a High Concentration of Ozone Gas for the Bio-clean Room- Iwamura et. al. 2012.	<i>G. stearothermophilus</i> , <i>B. atrophaeus</i>
Inactivation of Template-Directed Mis-folding of Infectious Prion Protein by Ozone- Ding et. al. 2011.	PrPSc-infected 263K hamster brain homogenates
Characterization of Ozone Disinfection of Murine Norovirus- Lim et. al. 2009.	Murine Norovirus
Inactivation of Bacillus anthracis Spores- Whitney et. al. 2003.	<i>Bacillus anthracis</i> spores
Inactivation of Chlamydia trachomatis and Chlamydia (Chlamydophila) pneumoniae by ozone- Yamazaki et. al. 2004.	<i>C. trachomatis</i> and <i>C. pneumoniae</i>
Sterilization with ozone in health care: an integrative literature review- Tseng et. al. 2008.	<i>B.subtilis</i> , <i>B. stearothermophilus</i> , <i>B. anthrax</i>
Ozone gas is an effective and practical antibacterial agent- Sharma et. al. 2008. NOTE: <i>C. difficile</i> was reduced 4 logs, or 10,000 fold after treatment with ozone.	<i>Bacillus cereus</i> , <i>B. spizizenii</i> , <i>C. difficile</i> , <i>S. aureus</i> , <i>P. acnes</i> , <i>S. pyogenes</i> , <i>A. baumannii</i> , <i>E. faecalis</i> , <i>E. coli</i> , <i>H. influenzae</i> , <i>K. pneumoniae</i> , <i>L. pneumophila</i> , <i>P. aeruginosa</i> , <i>M. smegmatis</i>

Ozilla EMS Sterilizer Purchase Price: \$7900.00

- The Ozilla EMS Sterilizers can also be leased for:
 - 24 month term*
 - 36 month term*
- *Genlantis will fully service the Ozilla EMS Sterilizers during the term of lease at no additional cost to customer.
Contact Genlantis for Leasing details.



Coming soon.. Alerts and Compliance Reporting Documentation Module Option:



Thank You

- Contact Information

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