

The FirstResponder® Sterilizer



WHAT IS THE FIRSTRESPONDER® STERILIZER?



The FirstResponder Sterilizer is a very powerful, durable and portable ozone sterilizer specifically designed for sterilizing First Responder vehicles.

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

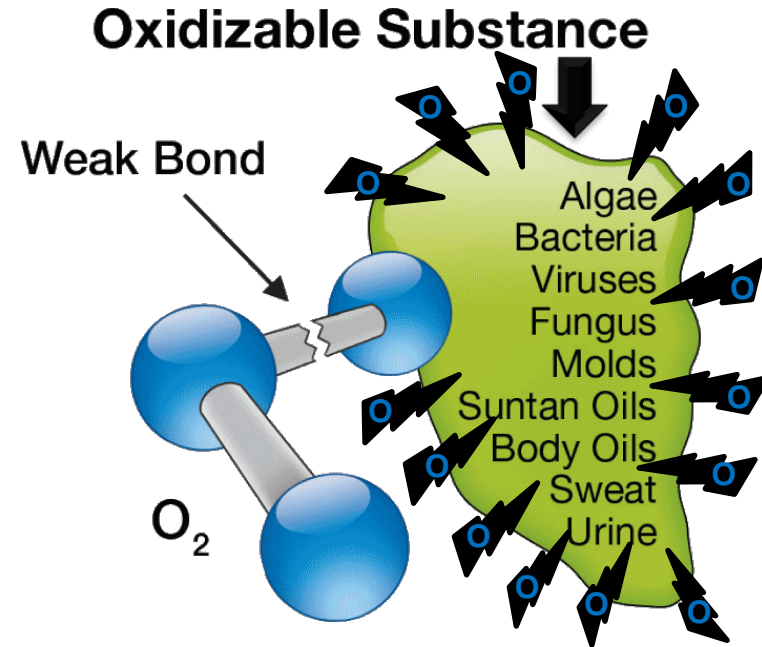
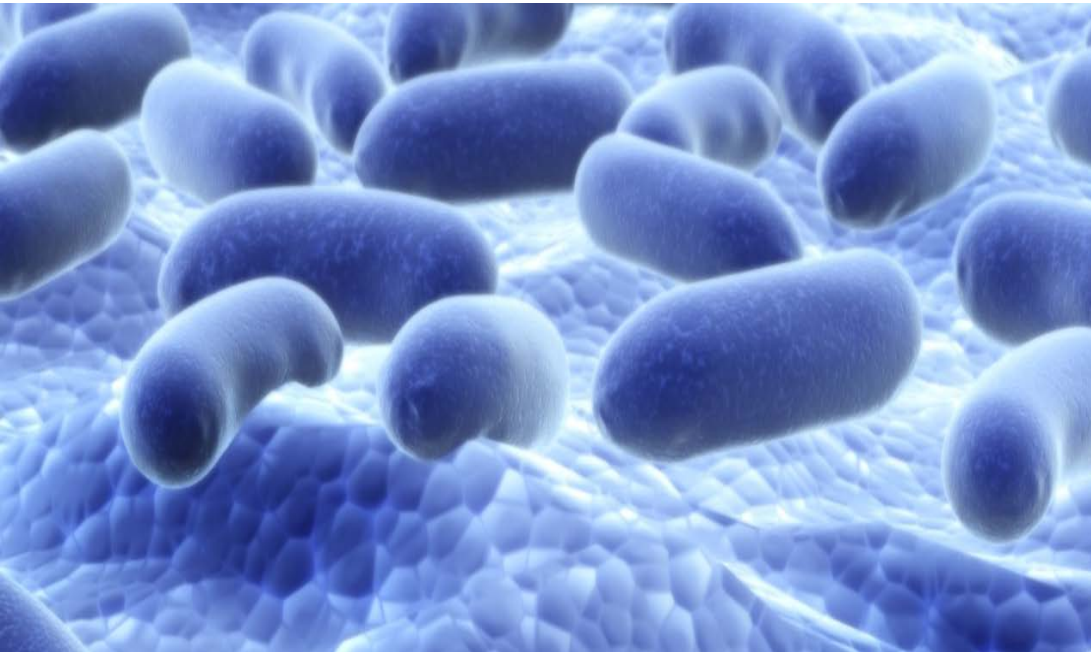
The FirstResponder Sterilizer fumigates every cubic inch within the vehicle. After the Ozone/ Silver Ion fumigation cycle finishes, the patented **FirstResponder Scrubber Technology** removes all Ozone Gas/Silver ions safely within minutes allowing faster access to the sterilized vehicle.

Blood and airborne pathogens can remain in law enforcement/ambulance/fire vehicles for up to weeks without proper decontamination procedures.



**Vomit
Blood
Feces
Urine
Saliva
Semen
Skin cells
Hair
Sneezing
Coughing
Parasites**

HOW FIRSTRESPONDER STERILIZER OZONE FUMIGATION KILLS PATHOGENS:



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).

DETECTION AND ANALYSIS OF *STAPHYLOCOCCUS AUREUS* ISOLATES FOUND IN AMBULANCES IN THE CHICAGO METROPOLITAN AREA

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 POLICE VEHICLE 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.Police Vehicle1.com/Police Vehicle-products/personal-protective-equipment-ppe/articles/22332048-Role-of-Police Vehicle-in-preventing-infectious-disease-transmission/>

ADVANTAGES OF THE FIRSTRESPONDER 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 FirstResponder patented scrubber system).
- Ozone has no known long term side effects. A truly “Green Sterilizer”



- ★ FirstResponder Technology is CE certified
- ★ FirstResponder is Patent Pending
- ★ FirstResponder 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 has been used for many years in multiple industries.

BENEFITS OF FIRSTRESPONDER® STERILIZATION

Prevent buildup of pathogens to infectious levels in Police vehicles.

Prevent outbreaks of disease agents that are difficult to treat or control, like MRSA, *C. difficile*, etc.

Regular cleanings with FirstResponder can reduce Police Vehicle contribution to hospital acquired infections, one of the biggest preventable causes of death in health care.

Reduce staff sick time with “pathogen-free” work environments

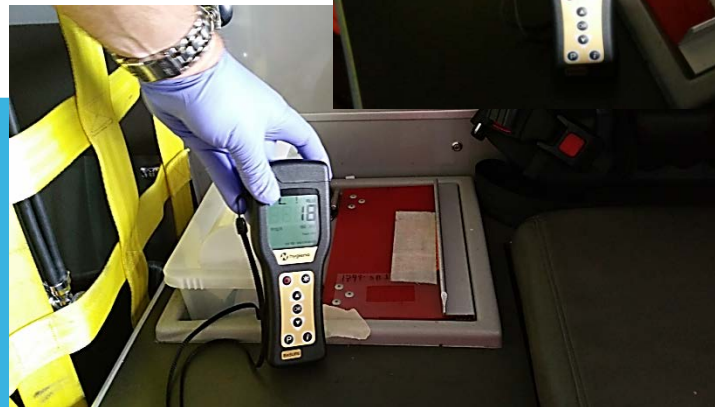
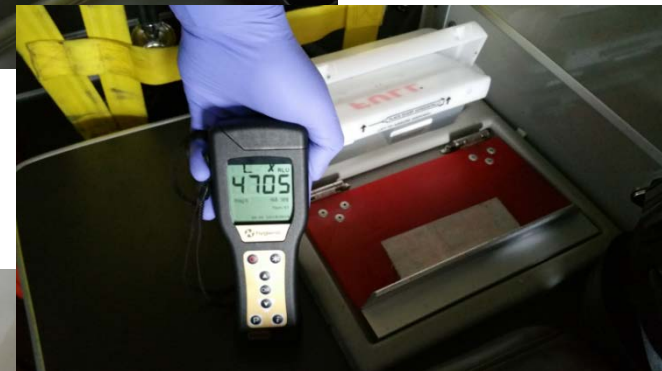
No toxic chemical buildup or odors

TESTING RESULTS WITH FIRSTRESPONDER® STERILIZER WITHIN EMS VEHICLE.

RESULTS

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

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



TESTING RESULTS WITH FIRSTRESPONDERSTERILIZER IN SAN DIEGO AMBULANCE, CONT'D

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

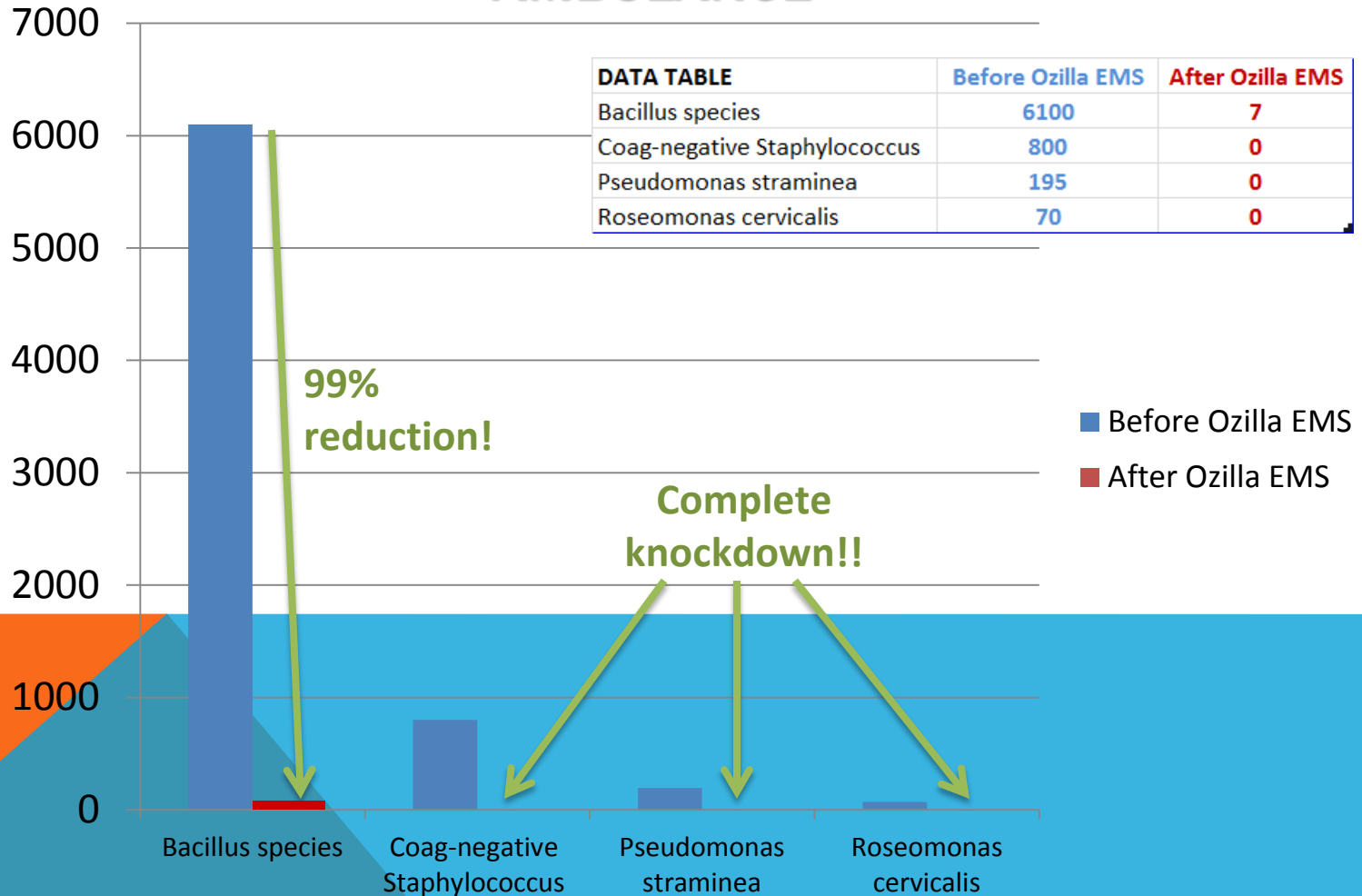
Location	Pre-treatment	Post-treatment
Door Handle	14	0
Biohazard Container Top	4,705	18
Gurney Handle	272	0
Ceiling Handrail	17	0
Floor (rear, right entry)	247	0
Bench Seat	109	0
Blood Pressure Cuff	216	5
Driver Steering Wheel	24	0

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 FIRSTRESPONDERSTERILIZER

- Genlantis hired a certified environmental consulting company to perform independent tests on the FirstResponder Police Vehicle 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).

FIRSTRESPONDER POLICE VEHICLE STERILIZER & AMBULANCE



FIRSTRESPONDER® 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 FirstResponder 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 components
- Driver components
- Floors, walls, ceilings
- Hidden crevices

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



USER-FRIENDLY PROTOCOL FOR ALL VEHICLES

Remove any heavy contamination (liquid spills or visible debris)

Plug-in FirstResponder to 110 v source.

Program sterilization and de-ozonation cycles.

Open all internal cabinet and component doors.

Seal Vehicle doors and affix warning signs (provided with manual).

Run unit for approximately 25 minutes (fumigation and scrub cycle).

Return after appropriate time has elapsed and briefly air out EMS Vehicle by opening doors/windows and running AC system for a couple of minutes.

FIRSTRESPONDER STERILIZER ADVANTAGES

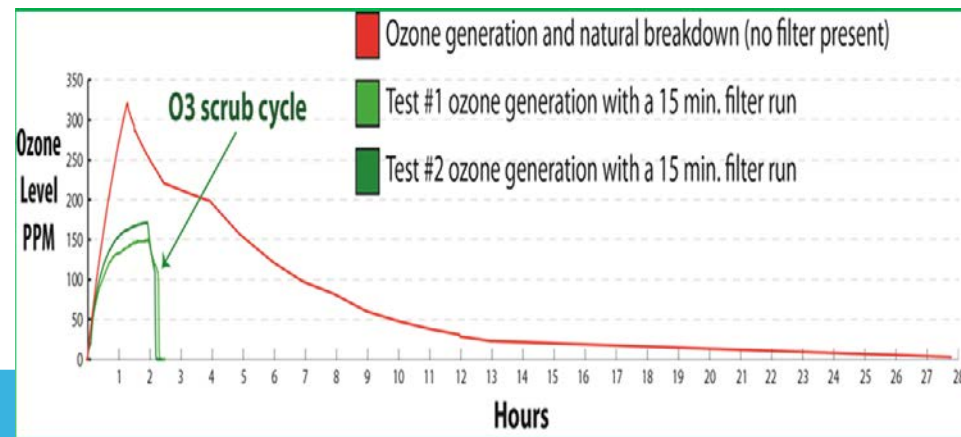
FirstResponder is the FIRST device specifically designed for use in EMS vehicles.

FirstResponder was developed by a biotech company with a deep understanding of microbe biology and sterilization.

FirstResponder is FIRST and ONLY device to offer scrub cycle (de-ozonation) technology.

Scrub filter works extremely fast,
and dramatically reduces
downtime.

FirstResponder offers a detailed
manual, literature, and labels.



- ★ FirstResponder is CE certified
- ★ FirstResponder is Patent Pending
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FIRSTRESPONDER STERILIZERS ALSO COMPLETELY DESTROY **SMOKE ODOR** IN AMBULANCES, FIRE TRUCKS, POLICE VEHICLES AND FIRE / POLICE CLOTHING



COMPETITIVE METHODS COMPARISON

Method	Expense	High Cost to Run	Needs Trained Technician	Time and Preparation Requirements	Toxicity
FirstResponder Sterilizer	Low	No	No	Low	None
Formaldehyde Fumigation	Medium	Yes	No	Leaves white residue.	Highly Vehiclecinogenic (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.	Vehiclecinogenic

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 Vehiclee: 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 treaent 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>

THE FIRSTRESPONDER STERILIZERS ARE AN ECO-FRIENDLY SYSTEM. **NO CHEMICALS**





AWARD WINNING TECHNOLOGY

The EMS industry has recognized Genlantis FirstResponder products as innovative and powerful.



“I don’t know why any EMS agency, transport or first response, would not want equipment that will kill 99.999% of the microbes in a response/transport vehicle. It’s a relatively cost-effective solution to an age old problem.”

Randy Lauer AMR, Regional Director

The Most Powerful Tools for
Infection and Odor Control



Triatomic Oxygen

UV-C Light

Visit www.first-responder.com to see all of our products for Sterilization.

THANK YOU

Contact Information

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