

Reduction of Pathogens

UVC

Please visit www.first-responder.com for test protocols and more information on results

Reduction of Pathogens

OZONE

# Testing and Efficacy

A certified environmental consulting expert and a third party independent testing laboratory (Aerobiology Laboratory Associates, Inc., Golden, Colorado) conducted testing regarding the effectiveness of the FirstResponder® Sterilizer.

The results showed dramatic reduction in speciesspecific bacterial contaminants. Samples were taken from 12 (twelve) discreet locations inside an ambulance.

### Partial List of Contaminants Destroyed by the FirstResponder® Technology

Achromobacter butyri NCI-Aeromonas harveyi NC-2 Aeromonas salmonicida NC-Bacillus anthracis Bacillus cereus Bacillus coagulans Bacillus globigii

Bacillus licheniformis Bacillus megaterium sp. Bacillus paratyphus Bacillus prodigiosus Bacillus subtilis

Bacillus stearothermophilus Clostridium botulinum Clostridium Difficile Clostridium sporogenes Clostridium tetani Corynebacterium diphtheriae Eberthella typhosa

Escherichia coli K-12 Escherichia coli B Flavobacterium SP A-3 Leptospira canicola

Listeria sp. Micrococcus candidus Micrococcus caseolyticus

Micrococcus sphaeroides

Mycobacterium leprae Mycobacterium tuberculosis Mycoplasma spp. Neisseria catarrhalis Phytomonas tumefaciens Proteus vulgaris

Pseudomonas aeruginosa

Pseudomonas fluorescens (biofilms) Pseudomonas putida

Salmonella choleraesuis Salmonella enteritidis Salmonella typhimurium Salmonella typhosa Salmonella paratyphi Sarcina lutea

Serratia marcescens Shigella dysenteriae Shigella flexneri Shigella paradysenteriae Spirillum rubrum

Staphylococcus albus Staphylococcus aureus Streptococcus C Streptococcus faecalis

Streptococcus hemolyticus Streptococcus lactis Streptococcus salivarius Streptococcus viridans

Vibrio alginolyticus Vibrio anguillarum Vibrio cholerae

Vibrio comma Vibrio parahaemolyticus

VRSA

Cyrptosporidium sp. Giardia lamblia Giardia muris Paramecium Nematode eggs

Aspergillus niger (black) Aspergillus terreus Aspergillus saitoi Aspergillus oryzae Botrytis allii

Geotrichum sp. Monilinia fruiticola

Vibrio ichthyodermis NC-407

Cryptosporidium parvum

All Pathogenic and Non-patho-

genic forms of Protozoa Entamoeba histolytica

Alternaria solani Aspergillus candidus Aspergillus flavus (yellowish-green) Aspergillus glaucus (bluish-green)

Botrytis cinerea Colletotrichum lagenarium

Fusarium oxysporum

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

Trichoderma viride Verticillium albo-atrum Verticillium dahliae

Adenovirus (type 7a) Bacteriophage T1 (E.coli) Coxsackie A9, B3, & B5 Cryptosporidium Vesicular Stomatitis Echovirus 1, 5, 12, &29 Encephalomyocarditis

Sclerotium rolfsii

Thamnidium sp.

Sclerotinia sclerotiorum

Hepatitis Infectious hepatitis Influenza Legionella pneumophila Poliovirus (Poliomyelitis) 1, 2

Rotavirus

Tobacco mosaic

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

Algae Chlorella vulgari

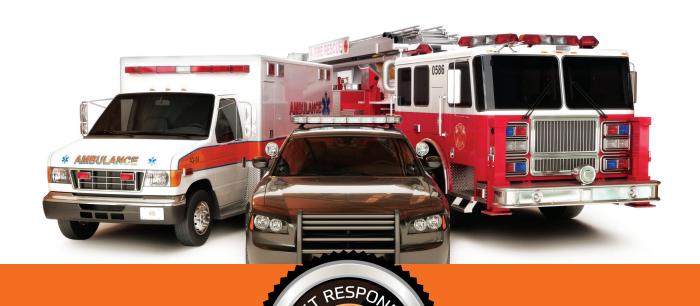
I don't know why any EMS agency, transport or first response, would not want equipment that will kill 99.999% of the microbes in a response/transport vehicle. It's a relatively cost-effective solution to an age old problem.

Randy Lauer

AMR, Regional Director

The winning point is with blood and other bodily fluids, they can get into a lot of places we can't see or might miss during the initial cleaning.

Chad Panke
AMR, Regional Director





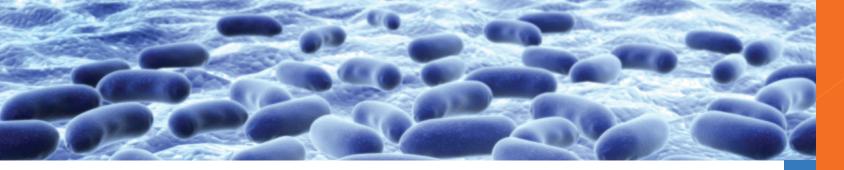
# Germ and Odor Annihilators







www.First-Responder.com



# The New FirstResponder® Sterilizers

The new FirstResponder® Sterilizer Series removes infectious organisms and chronic odors on a wide range of areas including the interior of vehicles, gear, rooms, and clothing.

The FirstResponder® Triatomic Oxygen Generator and the FirstResponder® UVC Sterilizers (Ultraviolet Germicidal Light Sterilizers) are the strongest and most comprehensive methods for elimination of harmful pathogens. Both decontaminate with no harsh chemicals or residue.

### **TECHNOLOGY**

### OZONE

- Triatomic Oxygen/Ion fumigation utilizes a natural oxidative gas process to break down the molecular structure of potential harmful pathogens.
- Oxygen atoms from Ozone readily bonds and oxidizes to infectious microbes such as viruses, bacteria, fungus, prions, etc.
- This bond causes the organism's cell walls and viral coats to rupture, leading to rapid destruction of the microbes.
- After the Ozone/Silver Ion fumigation cycle finishes, the patented FirstResponder® Scrubber Technology removes all Ozone Gas/Silver lons safely within minutes allowing faster access to vehicles, rooms, and/or gear. Patent # US 9,623,140 B2



- Ultraviolet germicidal light or UVGI kills bacteria, viruses and other microorganisms on contact.
- UVGI is a disinfection method that uses short-wavelength ultraviolet (UV-C) light to kill or inactivate micro-organisms by destroying nucleic acids and disrupting their DNA.
- The end result is an inhospitable environment for potentially harmful pathogens. UV breaks molecular bonds within microorganismal DNA which in turn kills or disables the organisms.

**BENEFITS** 

- Prevent buildup of pathogens to infectious levels in EMS, fire, and police vehicles, gear, and clothing.
- Prevent outbreaks of disease agents that are difficult to treat or control, like MRSA, C. difficile, Influenza, Hepatitis, Staph, etc.
- Regular cleanings with FirstResponder® help prevent hospital/EMS vehicle acquired infections.
- Reduce staff sick time with "pathogen-free" work environments.
- No toxic chemical buildup or odors.
- Superior sterilizations over chemicals.
- Quick response times.

- Vomit
- Feces
- Urine
- Saliva

- Coughing
- Parasites

# OZONE

**Triatomic Oxygen Sterilizers** 

Eliminates airborne and surface pathogens with powerful oxidation















**UVC Ultraviolet Germicidal Light Sterilizers** Kills surface borne pathogens via UVC light

## FirstResponder® Mobile Duffle Bag

The FirstResponder® Mobile Duffle Bag Sterilizers include the efficient and programmable FirstResponder® Triatomic Oxygen Generator (FTOG technology). Triatomic oxygen (O3) readily gives up a single oxygen atom, which is able to combine with other molecules such as odors, toxic gases, bacteria, spores, and rapidly neutralize them via the powerful and natural oxidative process. This product line is perfect for first responders, athletes, law enforcement, and anyone else needing to sanitize and sterilize gear on the go. There are two models available, a medium sized bag that is more portable, and a larger bag with wheels and a collapsing handle.

### FirstResponder® Handheld UV-C Sterilizer



The FirstResponder® Handheld UV-C Sterilizer is the ultimate device for simple and rapid spot cleaning of all kinds of surfaces. Just point the lamp towards the area to sterilize and flip the power switch on! All it takes is a few seconds only to sterilize any area that is exposed to the lethal UVC rays.

## FirstResponder® Sterilizer

The FirstResponder® Sterilizer is the most powerful generator of triatomic oxygen Genlantis produces, and is perfect for ambulances, fire truck cabins, and any small rooms that need to be germ-free. This sterilizer produces high levels of triatomic oxygen for quick and complete sterilization jobs, and better yet, it's patented Scrub Cycle will convert triatomic oxygen back to oxygen in a few minutes rather than multiple hours.

### SteriZAP™ UV-C Sterilizer



The SteriZAP™ UV-C Sterilizer comes with 4 lamps and is powerful enough to sterilize small to medium-large rooms. This unit comes on wheels so it can be placed in multiple locations inside hospital rooms, hotel rooms, classrooms, locker rooms or any other room where a buildup of germs is likely. This unit comes with a programmable timer, and a motion sensor shutoff for operational safety.



### EFFECTIVE ON

- Blood
- EMS Vehicles - EMT Equipment

IDEAL FOR

- Hospital Rooms

- On the go

- Bunker Gear

- Skin cells
- Hair
- Sneezing

# FirstResponder® Mobile Gear Sterilizer

The FirstResponder® Mobile Gear Sterilizer is both waterproof and air tight. It contains a cordless triatomic oxygen generator for full convenience and self-containment. The mobile gear sterilizers are ideal for cleaning medical or law enforcement tools and gear that are used in the field of operations and must remain contamination and germ-free at all times.

### FirstResponder® Mobile Desktop Sterilizer

The FirstResponder® Mobile Desktop Sterilizer is a lightweight yet powerful portable design that will clean and sterilizer small areas, such a desktops, cubicles, and auxiliary areas in larger rooms. This desktop sterilizer comes a convenient remote, 3 timer options (15, 30 and 60 minutes) and a motion sensor shut-off for additional safety.

