

# Ambulance Disinfection Efficacy Results

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Build With Robots  
Rio Rancho, NM Fire Rescue  
June 14, 2022



# Testing Protocol



- Location: Rio Rancho, NM Fire Rescue STN 1
- Ambulance Type Tested: 170" x 96" on F-350
  - Rescue 1
  - Rescue 10
- Build With Robots fogged two ambulances (#1 & #10) with Breezy BioCare RTU on 06/14/2022 from the rear right of the ambulance (as seen in the picture to the right)
- Nine independent locations within each ambulance were tested.
- Fogging duration: 15 seconds. After fogging the door was closed.
- Dwell time: 15 minutes.
- Locations were examined for concentration of Hydrogen Peroxide.



*The correlation curve linking measured hydrogen peroxide concentration to pathogen kill rate shows:  
≥ 97 mg/L : > 99.9% pathogen elimination rate*

# Cabinet Testing



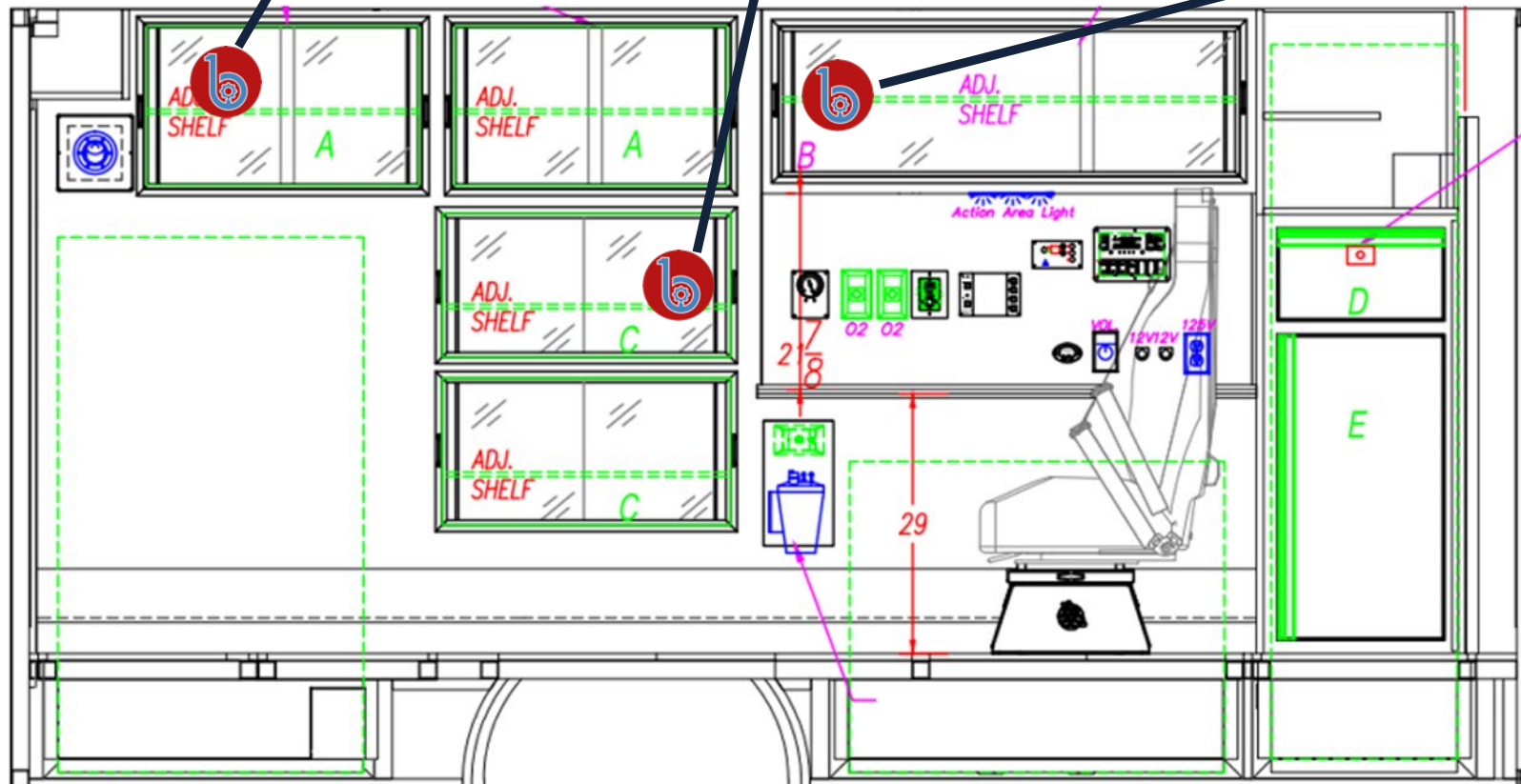
= Test Locations

(Locations on back wall of stocked ALS compartment with rear slider open)

Rear Medicine Cabinet:  
Pathogen Elimination = >99.99%

Middle Medicine Cabinet:  
Pathogen Elimination = >99.99%

Front Medicine Cabinet:  
Pathogen Elimination = >99.99%



# Patient Compartment Testing



= Test Locations

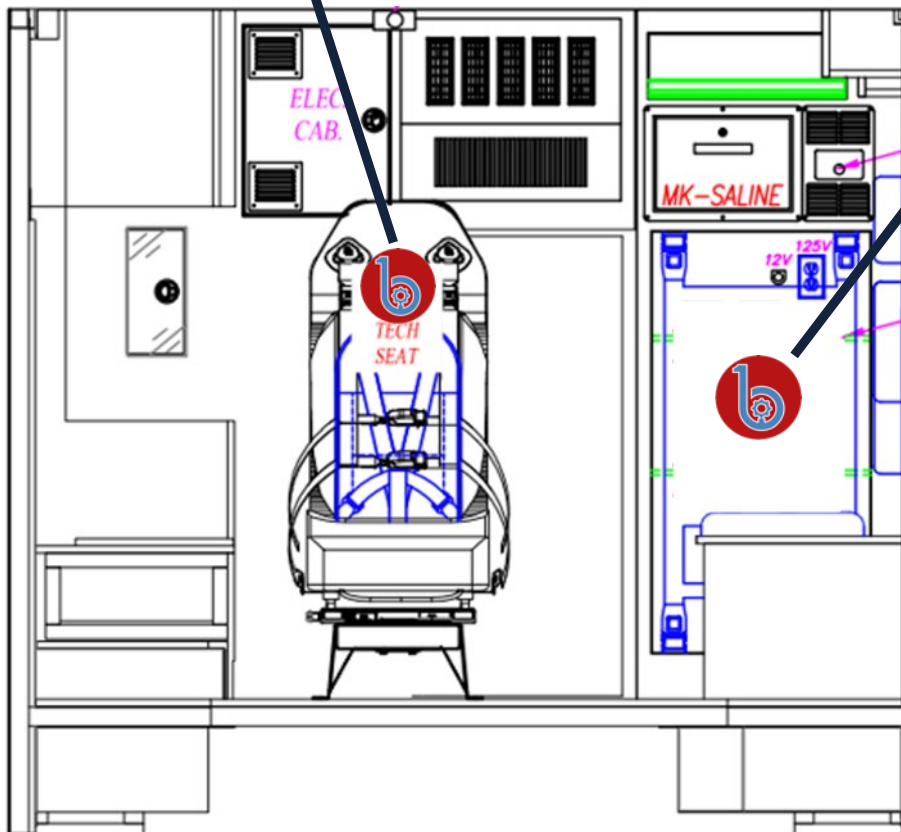
(Rescue 10 had airway chair pivoted to face side door)  
(Location on back wall of open storage)

Airway Chair:

Pathogen Elimination =>99.99%

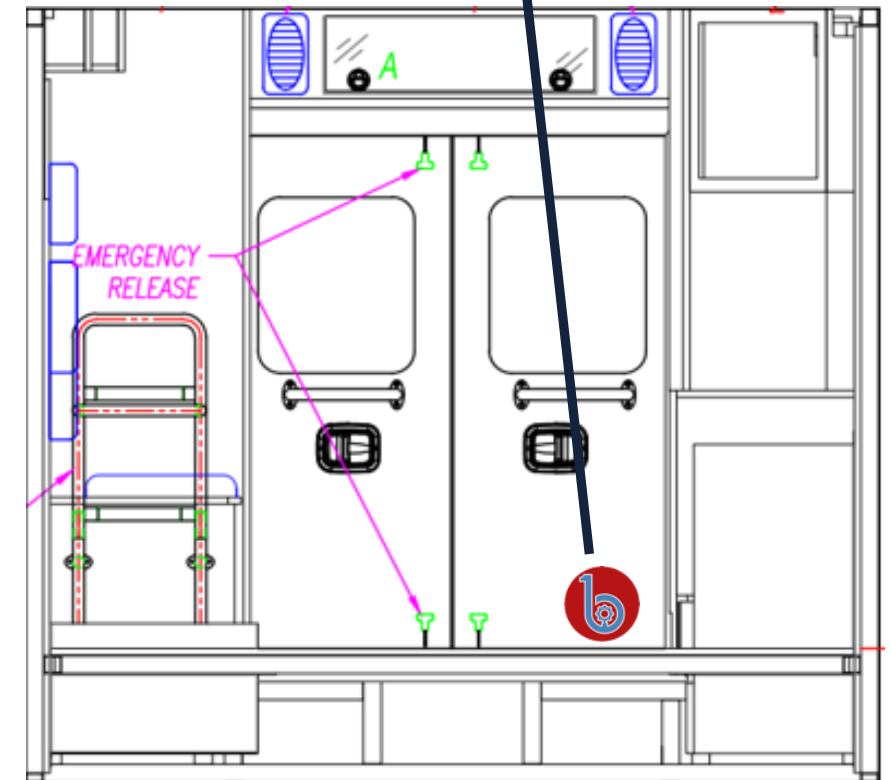
Front Storage:

Pathogen Elimination = >99.99%



Rear Left Door:

Pathogen Elimination =>99.99%



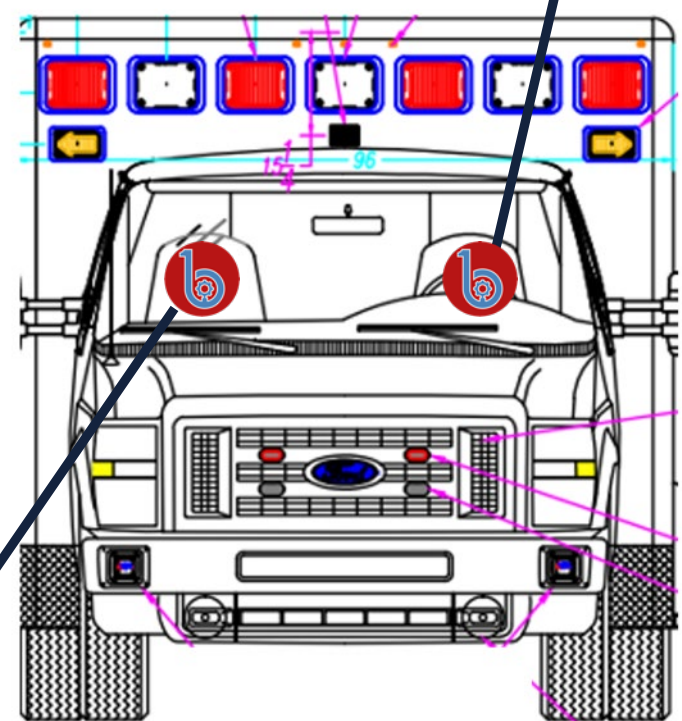
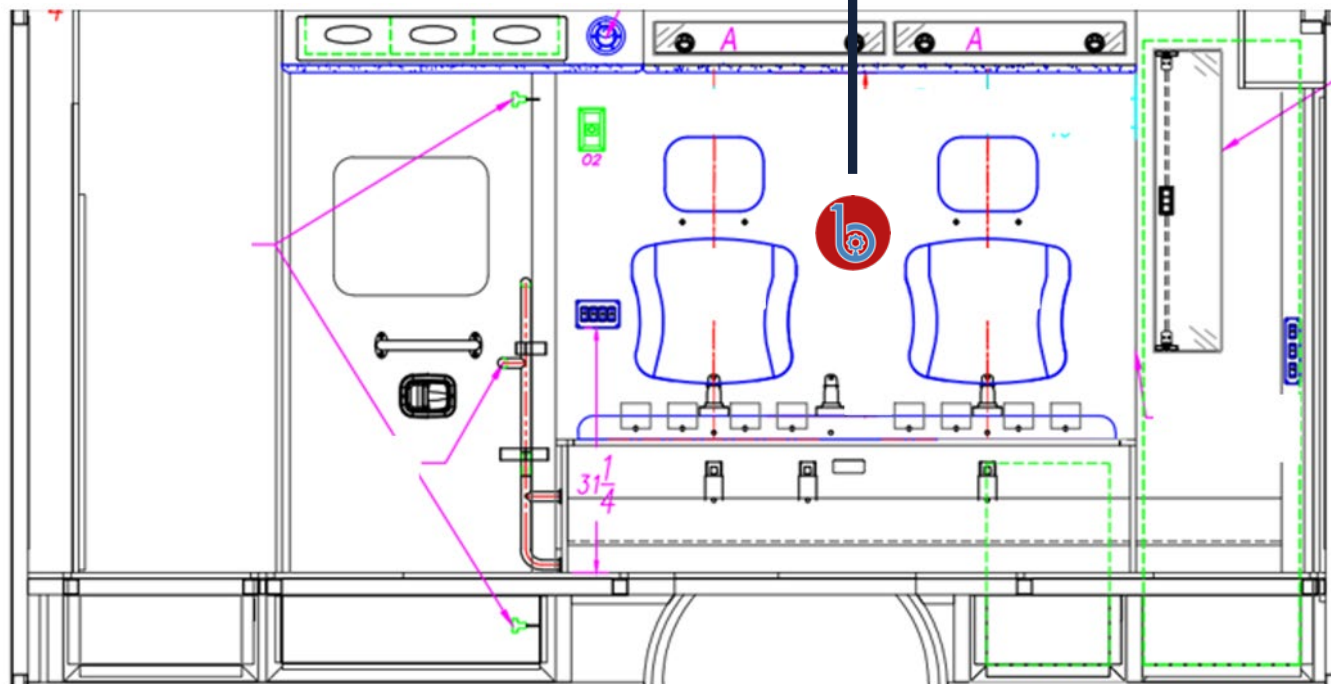


# Patient Compartment Testing (cont.)

 = Test Locations

Bench Wall:  
Pathogen Elimination 99.99%

Steering Wheel:  
Pathogen Elimination 99.99%



Passenger Dashboard:  
Pathogen Elimination 99.99%

# Ambulance Data

		Ambulance 1		Ambulance 10	
<u>Strip Placement</u>	<u>Location</u>	<u>Percent Elimination</u>	<u>H<sub>2</sub>O<sub>2</sub> (mg/L)</u>	<u>Percent Elimination</u>	<u>H<sub>2</sub>O<sub>2</sub> (mg/L)</u>
Rear Left Door	1	99.99%	966 mg/L	99.99%	>999.99 mg/L
Rear Med Cabinet	2	99.99%	329 mg/L	99.99%	321 mg/L
Middle Med Cabinet	3	99.99%	203 mg/L	99.99%	335 mg/L
Front Med Cabinet	4	99.99%	501 mg/L	99.99%	652 mg/L
Steering Wheel	5	99.99%	653 mg/L	99.99%	602 mg/L
Passenger Dashboard	6	99.99%	556 mg/L	99.99%	526 mg/L
Airway Chair	7	99.99%	815 mg/L	99.99%	310 mg/L
Bench Wall	8	99.99%	686 mg/L	99.99%	766 mg/L
Forward Open Storage	9	99.99%	469 mg/L	99.99%	267 mg/L



## LABORATORY TESTING SUMMARY EPA REG #90748-1

Breezy BioCare™ RTU can be found on EPA List N and List Q of disinfectants and is Green Clean Certified.\*

Tested method: AOAC Germicidal Spray conducted in a GLP facility.  
Recommended method: Fogging

PATHOGEN	SOIL / LOAD CONTACT TIME	CONCLUSION
<b>Staphylococcus aureus</b> (Blood infections, sepsis)	5% Soil Load / 2 minutes	✓ Successful Disinfection
<b>Pseudomonas aeruginosa</b> (Blood and lung infections)	5% Soil Load / 2 minutes	✓ Successful Disinfection
<b>Salmonella enterica</b> (Salmonella)	5% Soil Load / 2 minutes	✓ Successful Disinfection
<b>Trichophyton mentagrophytes</b> (Fungi causing ringworm)	5% Soil Load / 2 minutes	✓ Successful Disinfection
<b>Listeria monocytis</b> (Infection to bloodstream, sepsis)	5% Soil Load / 2 minutes	✓ Successful Disinfection
<b>A. Baumannii</b> (Infection to blood and lungs)	5% Soil Load / 2 minutes	✓ Successful Disinfection
<b>Escherichia coli</b> (E. coli)	5% Soil Load / 5 minutes	✓ Successful Disinfection
<b>H1N1</b> (Swine flu)	5% Soil Load / 10 minutes	✓ Successful Disinfection
<b>Rhinovirus</b> (Common cold)	5% Soil Load / 10 minutes	✓ Successful Disinfection
<b>Feline calicivirus/Human norovirus</b> (Gastrointestinal bug)	5% Soil Load / 10 minutes	✓ Successful Disinfection
<b>Human Coronavirus</b> (COVID-19)	2% Soil Load / 10 minutes	✓ Successful Disinfection
<b>Clostridium Difficile</b> (C. diff)	5% Soil Load / 10 minutes	✓ 4-log reduction (99.99%)

\*Breezy BioCare™ RTU appears on these lists under its EPA Registration number (#90748-1).

