

ODOROX® Independent Lab Tests

Representative Organisms

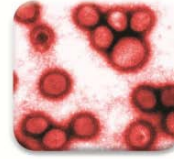
Antimicrobial efficacy against *Staphylococcus aureus* is frequently required by the U.S. EPA and is identified as a "reference bacterium" for Gram positive bacterium for testing purposes. Similarly, antimicrobial efficacy against *Pseudomonas aeruginosa* is frequently required by the U.S. EPA as a

representative pathogen of clinical importance, which is often associated with hospital-acquired infections. *Pseudomonas aeruginosa* is a "reference bacterium" for Gram negative bacterium for testing purposes. In the food processing area, another important representative pathogen is the Gram

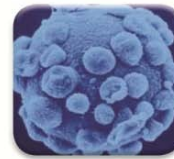
negative bacterium *Escherichia coli*. Mold is a much tougher organism to kill when compared to bacteria organisms. *Aspergillus niger* is considered one of the most resilient fungal strains and is identified by the EPA as a "reference organism" for testing purposes on the Mold group.



Test Organism	Carrier Type	Exposure Time	Percent Reduction	Log ₁₀ Reduction
Aspergillus niger (ATCC 16404)	Stainless Steel	48 hrs	>99.9%	3.5
		72 hrs	>99.99%	4.4
		96 hrs	>99.99%	>4.4
	Cotton Fabric	48 hrs	97.0%	1.52
		72 hrs	98.5%	1.81
		96 hrs	99.6%	2.37
Staphylococcus aureus (ATCC 6538)	Stainless Steel	4 hrs	93.9%	1.211
		8 hrs	>99.8%	2.841
		12 hrs	>99.999%	>5.1
	Cotton Fabric	4 hrs	>99.9%	>3.5
		8 hrs	>99.9%	>3.5
		12 hrs	>99.9%	>3.5
Escherichia coli (ATCC 11229)	Stainless Steel	4 hrs	>99.99%	>4.2
		8 hrs	>99.99%	>4.2
		12 hrs	>99.99%	>4.2
	Cotton Fabric	4 hrs	>99.9%	>3.4
		8 hrs	>99.9%	>3.4
		12 hrs	>99.9%	>3.4
Pseudomonas aeruginosa (ATCC 15442)	Stainless Steel	4 hrs	>99.999%	>5.1
		8 hrs	>99.999%	>5.1
		12 hrs	>99.999%	>5.1
	Cotton Fabric	4 hrs	>99.9%	>3.5
		8 hrs	>99.9%	>3.5
		12 hrs	>99.9%	>3.5



Test Organism	Carrier Type	Exposure Time	Percent Reduction	Log ₁₀ Reduction
Influenza A virus (ATCC VR-544)	Glass	3 hrs	99.98%	3.7
		6 hrs	>99.997%	>4.5
	Cotton Fabric	3 hrs	99.9994%	5.25
		6 hrs	>99.9997%	>5.5
Listeria monocytogenes (ATCC 19111)	Stainless Steel	4 hrs	94.7%	1.27
	Cotton Fabric	4 hrs	98.6%	1.87
Clostridium difficile (ATCC 700792)	Stainless Steel	48 hrs	>99.8%	>2.8
	Cotton Fabric	48 hrs	>99.2%	>1.7
PRRS Porcine Respiratory & Reproductive Syndrome virus	Glass	3 hrs	49.9%	.30
		6 hrs	97.9%	1.68



Antiviral and Antimicrobial efficacy of ODOROX Mobile Disinfection Unit (M.D.U.) Hydroxyl Generator

Independent study was performed following Standard Operating Procedures (SOPs) and internal quality systems

Representative Organisms Influenza type A viruses are the most dangerous human pathogens among the influenza types and cause the most severe disease. Influenza epidemics result in 250,000 to 500,000 deaths globally each year. *Listeria monocytogenes* is a gram-positive, rod-shaped bacterium responsible for listeriosis, a lethal food-borne infection that has a devastating fatality rate of 25% (*Salmonella*, in comparison,

has a less than 1% mortality rate). It is incredibly hardy and able to grow in temperatures ranging from 39°F (4°C) to 99°F (37°C). *C.difficile* is a spore-forming, gram-positive bacillus that causes potentially life-threatening colitis. Its spores can survive outside the human body for months on surfaces including bedrails, commodes, bedpans, thermometers, wheelchairs, endoscopes, bathing tubs, and the hands of health care workers. Porcine

Reproductive and Respiratory Syndrome (PRRS) is a small, enveloped RNA virus that causes a disease of pigs. This economically important pandemic causes reproductive failure in breeding stock and respiratory tract illness. The PRRS virus cost the US swine industry in excesses of \$560 million in losses each year.

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