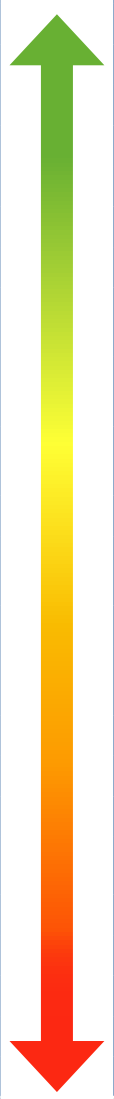


Hierarchy of Pathogen Resistance to Disinfectants

The table below lists many common pathogens (or germs) by how naturally resistant they are to disinfectants. Enveloped viruses are at the top of the list because they are generally the easiest to kill.* Bacterial spores and prions are at the bottom because they are generally very difficult to kill. Pathogens across the spectrum may survive on surfaces for a very long time, even years in some cases. It is critical to use the proper disinfectants that can kill these pathogens, and to use them correctly while meeting the contact times on the labels.

Easier to Kill	Pathogen Class	Pathogen†	Associated Diseases	Surface Survival† 1, 2	
	Enveloped Viruses	SARS-CoV-2	COVID-19	Up to 8 days	
		Human Immunodeficiency Virus	AIDS	More than 7 days	
		Hepatitis B Virus	Hepatitis	More than 7 days	
		Hepatitis C Virus	Hepatitis	Up to 5 days	
		Influenza A Virus	Flu	Up to 2 weeks	
		Influenza B Virus	Flu	Up to 24 hours	
		Respiratory Syncytial Virus	RSV	Up to 7 hours	
		Ebola Virus	Hemorrhagic fever (Ebola)	Up to 4 days	
	Bacteria	Methicillin-Resistant <i>Staphylococcus aureus</i> (MRSA)	Skin, lung and bloodstream infections	Up to 3 years	
		<i>Escherichia coli</i>	Diarrhea, urinary tract and lung infections (pneumonia)	Up to 10 months	
		<i>Pseudomonas aeruginosa</i>	Blood and lung infections (pneumonia)	Up to 8 weeks	
		<i>Streptococcus pyogenes</i>	Strep throat and impetigo	Up to 4 months	
		<i>Acinetobacter baumannii</i>	Blood, urinary tract, wound and lung infections (pneumonia)	Up to 5 months	
		<i>Bordetella pertussis</i>	Whooping cough	Up to 5 days	
		Fungi	<i>Candida auris</i>	Bloodstream and wound infections	Up to 4 months
	<i>Candida albicans</i>		Yeast infections	Up to 4 months	
	<i>Trichophyton interdigitale</i>		Athlete's foot	Up to 20 months	
	Large, Non-Enveloped Viruses	Adenovirus	Cold and flu-like illnesses	Up to 3 months	
		Rotavirus	Severe diarrhea	Up to 60 days	
	Small, Non-Enveloped Viruses	Coxsackievirus	Hand, foot and mouth disease	More than 2 weeks	
		Norovirus	Stomach flu	Days to weeks	
		Poliovirus	Polio	Up to 8 weeks	
		Rhinovirus	Common cold	Up to 25 hours	
	Bacterial Spores	<i>Clostridium difficile</i>	Large intestine infection	Up to 5 months	
		Prions	Prion protein	Creutzfeldt-Jakob disease (CJD)	May maintain infectivity for years
	Harder to Kill				

*Within pathogen classes, some species may be harder to kill than others. For example, pathogens that are known to create biofilms, such as *Pseudomonas aeruginosa* and *Candida auris*, can be much more difficult to disinfect than other pathogens in the same class. †Always check the product master label for approved kill claims and follow directions for use regarding contact times and any required precleaning steps. ‡Surface survival is dependent on a number of factors, including temperature and relative humidity.

References:

1. Kramer A., Schwebke I., Kampf G. How long do nosocomial pathogens persist on inanimate surfaces? A systematic review. BMC Infect. Dis. 2006; 6:130.
 2. Wißmann, J. E., Kirchoff, L., Brüggemann, Y., Todt, D., Steinmann, J., & Steinmann, E. (2021). Persistence of pathogens on inanimate surfaces: A narrative review. Microorganisms, 9(2).

CloroxPro® Product Solutions

CloroxPro® Clorox® Disinfecting Wipes

- ▶ Clean and disinfect with one quick wipe
- ▶ Kills 22 viruses, including cold and flu viruses, in just 15 seconds¹
- ▶ Thick textured wipes are ideal for spills and dirt



EPA Reg. No. 67619-31
Lemon, 6/75 ct., Case UPC: 15948
Fresh, 6/75 ct., Case UPC: 15949
Fresh, 2/700 ct., Case UPC: 31428
Fresh, 1/700 ct., Case UPC: 31547

CloroxPro® Clorox® Anywhere® Daily Disinfectant & Sanitizer

- ▶ Kills illness-causing cold[†] and flu viruses¹
- ▶ Sanitizes food-contact surfaces in 1 minute¹



EPA Reg. No. 67619-42
12/32 oz. Spray, Case UPC: 01698
4/128 oz. Ready to use, Case UPC: 31651

CloroxPro® Clorox® Disinfecting Bio Stain & Odor Remover

- ▶ EPA-registered to kill 19 pathogens found in bio soils, including some in as little as 30 seconds¹
- ▶ Kills 99.9% of bacteria on soft surfaces¹



EPA Reg. No. 67619-33
9/32 oz. Spray, Item #: 31903
4/128 oz. Refill, Item #: 31910
6/32 oz. Pull-Top, Item #: 31911

CloroxPro® Clorox EcoClean™ Disinfecting Cleaner

- ▶ U.S. EPA Design for the Environment certified
- ▶ Disinfecting cleaner made with a plant-based active ingredient
- ▶ Kills 99.9% of germs in 2 minutes¹
- ▶ Kills 99.9% of *E. coli*², MRSA³, Influenza A Virus and Norovirus⁴
- ▶ Sanitizes non-food-contact surfaces in 15 seconds⁵
- ▶ Tested for compatibility across more than 20 common surfaces



EPA Reg. No. 67619-45
9/32 oz. Spray, Case UPC: 60213
4/128 oz. Refill, Case UPC: 60094

CloroxPro® Clorox® Total 360® Disinfectant Cleaner¹

- ▶ Kills 99.9% of bacteria in 5 seconds¹
- ▶ Kills 54 pathogens, including cold and flu viruses, MRSA and Norovirus, in 2 minutes or less¹
- ▶ Eliminates odors
- ▶ Sanitizes soft surfaces
- ▶ Inhibits the growth of mold and mildew for up to 7 days
- ▶ For use with electrostatic devices



EPA Reg. No. 67619-38
4/128 oz. Gallon, Case UPC: 31650

CloroxPro® Clorox® 4 in ONE Disinfectant Sanitizer

- ▶ Kills 24 microorganisms¹
- ▶ Sanitizes soft surfaces⁶ in just 30 seconds
- ▶ Sanitizes the air and kills airborne odor-causing bacteria
- ▶ Reduces allergens⁷ that can trigger allergies
- ▶ Deodorizes and leaves fresh citrus and lavender scents
- ▶ Fast and efficient with no precleaning required



EPA Reg. No. 67619-29
Citrus, 12/14 oz. Aerosol Spray, Case UPC: 31043

Clorox Healthcare® VersaSure® Cleaner Disinfectant Wipes

- ▶ 1-step cleaner disinfectant kills bacteria and fungi, including MRSA and TB, in 2 minutes¹
- ▶ Kills viruses, including mumps and measles viruses, in 30 seconds¹
- ▶ Alcohol-free quat formula offers low odor and low residue



EPA Reg. No. 67619-37
6/85 ct., 6.75" x 8" Multi-Purpose, Case UPC: 31757
6/150 ct., 6" x 5" Multi-Purpose, Case UPC: 31758
2/110 ct. bucket, 12" x 12" Terminal, Case UPC: 31759
2/110 ct. refill pouch, 12" x 12" Terminal, Case UPC: 31761

CloroxPro® Clorox® Germicidal Bleach

- ▶ EPA-registered to kill more organisms than private label bleach⁸
- ▶ Suitable for food-contact surfaces
- ▶ Kills *C. difficile* spores¹
- ▶ Ergonomically enhanced packaging is easier to pour, handle, carry and store



EPA Reg. No. 67619-32
3/121 oz., Case UPC: 30966

Clorox Healthcare® Hydrogen Peroxide Cleaner Disinfectant Wipes

- ▶ Kills 50 microorganisms in 1 minute or less, including SARS-CoV-2 in 30 seconds¹
- ▶ Kills *C. auris* in 5 minutes¹
- ▶ 1-step product for efficient cleaning and disinfecting with less residue
- ▶ No added fragrances or harsh odors



EPA Reg. No. 67619-25
6/95 ct., 6.75" x 9" Multi-Purpose, Case UPC: 30824
6/155 ct., 6.75" x 5.75" Clinical, Case UPC: 30825
2/185 ct. bucket, 12" x 11" Terminal, Case UPC: 30826
2/185 ct. refill pouch, 12" x 11" Terminal, Case UPC: 30827
6/50 ct. individual, 6.75" x 9", Case UPC: 31426

¹Kills Rhinovirus and Human Coronavirus. [†]On hard, nonporous surfaces. Sanitization claims valid for all vegetative, non-spore-forming bacteria. ²This product has demonstrated effectiveness against viruses similar to SARS-CoV-2 (the coronavirus that causes COVID-19) when used in accordance with the directions for use on hard, nonporous surfaces. ³When used as directed on hard, nonporous surfaces. See product label for list of organisms. ⁴Kills SARS-CoV-2 on hard, nonporous surfaces. ⁵*Escherichia coli* O157:H7. ⁶Methicillin-resistant *Staphylococcus aureus*. ⁷Tested as Feline Calicivirus. ⁸On hard, nonporous surfaces. ⁹100% cotton or 100% polyester. ¹⁰Dust mite matter, cockroach matter, pet dander. ¹¹Austin's A-1 Ultra Disinfecting Bleach, as of 9/17/18.