

The Antimicrobial Spectrum of Disinfectants

This table provides general information for selected disinfectant chemical classes. Antimicrobial activity may vary with formulation and concentration. *The use of trade names does not in any way signify endorsement of a particular product. They are provided as examples.*

Removal of organic material must always precede the use of any disinfectant.

most susceptible

susceptibility of microorganisms to chemical disinfectants

most resistant

	Acids hydrochloric acid, acetic acid, citric acid	Alcohols ethanol, isopropanol	Aldehydes formaldehyde, paraformaldehyde, glutaraldehyde	Alkalis sodium hydroxide, ammonium hydroxide, sodium carbonate	Biguanides chlorhexidine, Nolvasan®, ChlorHex®, Virosan®	Halogens sodium hypochlorite iodine		Peroxygens accelerated hydrogen peroxide (Rescue®), potassium peroxymonosulfate (Virkon-S®), peroxyacetic acid, (Oxy-Sept 333)	Phenolic Compounds (Lysol®, Osiyl®, Amphyl®, TekTrol®, Pheno-Tek II®)	Quaternary Ammonium Compounds (Roccal®, Zepharin®, DiQuat®, Parvosol®, D-256®)
mycoplasmas	+	++	++	++	++	++	++	++	++	+
gram-positive bacteria	+	++	++	+	++	+	+	+	++	++
gram-negative bacteria	+	++	++	+	++	+	+	+	++	+
pseudomonads	+	++	++	+	±	+	+	+	++	-
rickettsiae	±	+	+	+	±	+	+	+	+	±
enveloped viruses	+	+	++	+	±	+	+	+	± ^a	±
chlamydiae	±	±	+	+	±	+	+	+	±	-
non-enveloped viruses	-	-	+	±	-	+	±	±	-	-
fungal spores	±	±	+	+	±	+	+	±	+	±
picornaviruses (i.e. FMD)	+	N	+	+	N	N	N	+	N	N
parvoviruses	N	N	+	N	N	+	N	±	N	-
acid-fast bacteria	-	+	+	+	-	+	+	±	±	-
bacterial spores	±	-	+	±	-	+	+	+	-	-
coccidia	-	-	-	+	-	-	-	-	+	-
prions	-	-	-	-	-	-	-	-	-	-

LEGEND
 ++ highly effective
 + effective
 ± limited activity
 - no activity
 N information not available

a-varies with composition
 b-peracetic acid is sporicidal
 c-ammonium hydroxide
 d-some have activity against coccidia



REFERENCES: Fraiese AP, Lambert PA et al. (eds). *Russell, Hugo & Ayliffe's Principles and Practice of Disinfection, Preservation and Sterilization*, 5th ed. 2013. Ames, IA: Wiley-Blackwell; McDonnell GE. *Antisepsis, Disinfection, and Sterilization: Types, Action, and Resistance*. 2007. ASM Press, Washington DC. Rutala WA, Weber DJ, Healthcare Infection Control Practices Advisory Committee (HICPAC). 2008. Guideline for disinfection and sterilization in healthcare facilities. Available at: http://www.cdc.gov/hicpac/Disinfection_Sterilization/toc.html; Quinn PJ, Markey FC et al. (eds). *Veterinary Microbiology and Microbial Disease*. 2nd ed. 2011. West Sussex, UK: Wiley-Blackwell, pp 851-889.