Practical Disinfectants for Use in Biological Research

DISINFECTANTS			PRACTICAL REQUIREMENTS				INACTIVATES							
				Contact Time (mins)										
Category	Type	Examples	Use Dilution	Lipovirus	Broad Spectrum	Temper-ature (°C)	Relative Humidity (%)	Vegetative Bacteria	Bacterial Spores	Lipo-viruses	Non-lipid viruses	HIV	HBV	TB
Quant. Ammonia Compounds	Liquid	A-33, Mikro-Quat	0.1 - 2%	10 - 30	-			+	+	-	-	+	-	-
Phenolics, Amphyl	Liquid	Hil-Phene, Matar, Midro-Bac	1 - 5%	10 - 30	-			+	+	*	-	+	*	+
Chlorine Bleach	Liquid	Chloramine T, Chlorox	5 - 10%	10 - 30	30			+	+	+	+	+	+	+
Iodophor	Liquid	Wescodyne, Mikroklene, Isoprep	0.5 - 10%	10 - 30	30			+	-	+	+	+	*	+
Ethyl Alcohol	Liquid		70 - 85%	10 - 30	-			+	-	*	-	+	*	-
Isopropyl Alcohol	Liquid		70 - 85%	10 - 30	-			+	+	*	-	+	*	-
Formaldehyde	Liquid	Sterac	0.2 - 8%	10 - 30	30			+	+	+	+	+	+	+
Gluteraldehyde	Liquid	Cidex	2%	10 - 30	30			+	+	+	+	+	+	+
Ethylene Oxide	Gas	Carboxide, Cryoxicide, Steroxicide	8 – 23 g/ft^3	60 - 240	60	37	30	+	+	+	+	+	+	+
Paraformaldehyde	Gas		0.3 g/ft^3	60 - 180	60	>23	>60	+	+	+	+	+	+	+

Key:
+ positive effect - no effect * variable effect

Also consider: What is the target organism you are trying to inactivate? Spore-forming bacterial are very resistant to disinfectants.
What are the physical characteristics of the item being disinfected? Some surfaces may be corroded or may absorb disinfectants.
What contact time is required between the organism and the disinfectant? High concentrations of organisms may require longer contact.
What concentration is the disinfectant as it is applied? Some disinfectants may need to be diluted. A solution that is too dilute may not lyse or denature cell components.
How toxic is the disinfectant? Paraformaldehyde, formaldehyde, glutaraldehyde and ethylene oxide should not be used without consulting with REHS.

This chart is designed to illustrate the efficacy of several disinfectants with regard to commonly used organisms. Be sure to review the effective concentration (dilution), contact time, and organism type before selecting a disinfectant. If you have any questions, please contact REHS as 732/445-2550.

Adapted from Stanford University's original document, published at http://www.mcl.tulane.edu/oehs/decon.pdf, accessed September 26, 2003.