

Table 4a Properties and Applications of Disinfectants

Disinfectants			Practical Requirements				Inactivates				
Type	Category	Use Dilution	Contact Time		Temperature (°C)	Relative Humidity (%)	Vegetative Bacteria	Lipoviruses	Nonlipid Viruses	Mycobacteria	Bacterial Spores
			<i>Lipovirus</i>	<i>Broad Spectrum</i>							
Liquid	Quat. Ammon. Cpds	0.1%-2.0%	10	NE			+	+			
	Phenolic Cpds	1.0%-5.0%	10	NE			+	+	B		
	Chlorine Cpds	500 ppm ^C	10	30			+	+	+	+	
	Iodophor	25-1600 ppm ^C	10	30			+	+	+		
	Alcohol, Ethyl	70%-85%	10	30			+	+	B		
	Alcohol, Isopropyl	70%-85%	10	30			+	+	B		
	Formaldehyde	0.2%-8.0%	10	30			+	+	+	+	
	Glutaraldehyde	2%	10	30			+	+	+	+	
Gas	Ethylene Oxide	8-23 g/ft ³	60	60	37	30	+	+	+	+	
	Paraformaldehyde	0.3 g/ft ³	60	60	>23	>60	+	+	+	+	

NE = not effective

^B Variable results dependent on virus^C Available halogen (1:100)

Table 4b. Properties and Applications of Disinfectants

Disinfectants		Important Characteristics										
Type	Category	Effective Shelf Life > 1 week ^A	Corrosive	Flammable	Explosion Potential	Residue	Inactivated by Organic Matter	Compatible for Optics ^D	Skin Irritant	Eye Irritant	Respiratory Irritant	Toxic ^E
Liquid	Quat. Ammon. Cpds	+					+	+	+	+		+
	Phenolic Cpds	+	+				+		+	+		+
	Chlorine Cpds		+				+	+	+	+	+	+
	Iodophor	+	+				+	+	+	+		+
	Alcohol, Ethyl	+		+						+		+
	Alcohol, Isopropyl	+		+						+		+
	Formaldehyde	+					+		+	+	+	+
	Glutaraldehyde	+					+	+	+	+	+	+
Gas	Ethylene Oxide	N/A		+ ^B	+ ^B			+	+	+	+	+
	Paraformaldehyde	N/A		+ ^C	+ ^C			+	+	+	+	+

N/A = not applicable.

^A Protected from light and air.

^B Neither flammable nor explosive in 90% CO₂ or fluorinated hydrocarbon, the usual form.

^C At concentrations of 7%-73% by volume in air, solid-exposure to open flame.

^D Usually compatible, but consider interferences from residues and effects on associated materials such as mounting.

^E By skin or mouth, or both. Refer to manufacturer's literature and the Material Safety Data Sheet.

Table 4c. Properties and Applications of Disinfectants

Disinfectants		Potential Applications										
Type	Category	Work Surface	Dirty Glassware	Large Area Decon	Air Handling System Decon	Portable Equip. Surface Decon	Portable Equip. Penetrating Decon	Fixed Equip. Surface Decon	Fixed Equip. Penetrating Decon	Optical & Electronic Instruments	Liquids for Discard	Books Papers
Liquid	Quat. Ammon. Cpds	+	+			+		+				
	Phenolic Cpds	+	+			+		+				
	Chlorine Cpds	+	+			+		+			+	
	Iodophor	+	+			+		+				
	Alcohol, Ethyl	+	+			+		+				
	Alcohol, Isopropyl	+	+			+		+				
	Formaldehyde	+	+			+		+				
	Glutaraldehyde	+	+			+		+				
Gas	Ethylene Oxide					+	+			+		+
	Paraformaldehyde			+	+	+	+		+	+		