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AT A GLANCE

Disinfectant Tables

This document is an excerpt from the Guide to Infection Prevention and Control in Personal Service Settings. It helps to classify equipment/instruments and determine the level of reprocessing required based on the intended and actual use of the equipment/instruments. For more information, please consult the full Guide, visit the IPAC in Personal Service Settings webpage or email ipac@oahpp.ca.

Level of Disinfection: High

Destroys or irreversibly inactivates all microbial pathogens (bacteria, fungi, and viruses), but not necessarily large numbers of bacterial spores.

When to Use: Use on semi-critical items and items that hold, manipulate, or contact critical items.

Disinfectant Active Ingredients	Contact Times (Approximately)	Advantages	Disadvantages
1:10 chlorine bleach solution‡ (1 part bleach and 9 parts water); 5,000 parts per million	10 minutes	Inexpensive, fast-acting	Extremely corrosive to metal; may destroy adhesives with prolonged soaking; solution is to be made daily; inactivated by organic material
≥6% hydrogen peroxide (enhanced action formulation)	20 – 30 minutes (follow manufacturer's instructions)	Inexpensive, fast-acting, environmentally friendly, no residue	Is to be stored in a cool place; protect from light; oxidizing properties may be destructive to some equipment (brass, zinc, copper and nickel/silver)
2% hydrogen peroxide (enhanced action formulation)	5 – 8 minutes (follow manufacturer's instructions)	Inexpensive, fast-acting, environmentally friendly, non-toxic, active in the presence of organic materials	May be destructive to some equipment (copper, brass, carbon-tipped devices, anodized aluminum)
0.55% ortho-phthalaldehyde	10 minutes (follow manufacturer's instructions)	Fast-acting, no mixing needed, active in the presence of organic materials	Stains proteins

‡Based on regular household bleach solution of 5.25% sodium hypochlorite solution (50,000 parts per million available chlorine).

Level of Disinfection: Intermediate

Destroys vegetative bacteria, mycobacteria, most viruses, and most fungi but not bacterial spores.

When to Use: Use on non-critical items that require intermediate-level disinfection.

Disinfectant Active Ingredients	Contact Times (Approximately)	Advantages	Disadvantages
1:50 chlorine bleach solution‡ (1 part bleach and 49 parts water); 1,000 parts per million	10 minutes	Inexpensive; fast-acting	Corrodes metal; may destroy adhesives with prolonged soaking; solution is to be made daily; inactivated by organic material
70 – 90% ethyl or isopropyl alcohol	10 minutes	Fast-acting; leaves no residue	Can damage rubber and plastics; flammable; evaporates quickly
0.5% hydrogen peroxide (enhanced action formulation) with efficacy claims against tuberculosis (TB) or mycobacteria	3 – 5 minutes (follow manufacturer's instructions)	Inexpensive; fast-acting; environmentally friendly; non-toxic; active in the presence of organic materials; available in a wipe; cleans and disinfects	May be destructive to some equipment (copper, brass, carbon-tipped devices, anodized aluminum)

‡Based on regular household bleach solution of 5.25% sodium hypochlorite solution (50,000 parts per million available chlorine).

Level of Disinfection: Low

Destroys vegetative bacteria and some fungi and viruses but not mycobacteria or spores.

When to Use: Use on non-critical items that require low-level disinfection and environmental surfaces.

Disinfectant Active Ingredients	Contact Times (Approximately)	Advantages	Disadvantages
1:500 chlorine bleach solution‡ (1 part bleach and 499 parts water); 100 parts per million	10 minutes	Inexpensive; fast-acting	Corrodes metal; may destroy adhesives with prolonged soaking; solution is to be made daily
Quaternary ammonium	10 minutes (follow manufacturer's instructions)	Good cleaning agent for environmental surfaces	Limited use as disinfectant because of narrow microbiocidal spectrum; not recommended as an antiseptic
3% hydrogen peroxide	10 minutes	Inexpensive; fast-acting; environmentally friendly	Oxidizing properties may be destructive to some equipment (brass, zinc, copper and nickel/silver)
0.5% hydrogen peroxide (enhanced action formulation)	Follow manufacturer's instructions	Inexpensive; fast-acting; environmentally friendly; non-toxic; active in the presence of organic materials; available in a wipe; cleans and disinfects	May be destructive to some equipment (copper, brass, carbon-tipped devices and anodized aluminum)
Phenols	Follow manufacturer's instructions	Easy to obtain; cleans and disinfects	Residual phenols on porous materials may cause tissue irritation even when thoroughly rinsed; for environmental surfaces only

‡Based on regular household bleach solution of 5.25% sodium hypochlorite solution (50,000 parts per million available chlorine).

Citation

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