

# INFECTION CONTROL SNAPSHOT

## Disinfectants



The choice of specific cleaning or disinfecting agents is largely a matter of judgment, guided by product label claims and instructions and government regulations. A single product might not satisfy all disinfection requirements in a given dental facility. Use of disinfectant products depends on consideration of multiple factors, including the degree of microbial killing required; the nature and composition of the surface, item, or device to be treated; and the cost, safety, and ease of use of the available agents. Low- and intermediate-level disinfectants are used to disinfect environmental surfaces. High-level disinfectants are used to disinfect heat-sensitive semicritical items and should never be used on environmental surfaces.

**High-level disinfection:** a disinfection process that inactivates vegetative bacteria, mycobacteria, fungi, and viruses but not necessarily high numbers of bacterial spores. According to the Joint Commission High Level Disinfectant Sterilization Booster Pak, High-level disinfection (HLD) is, “the process of complete elimination of all microorganisms in or on a device, except for small numbers of bacterial spores” (pg.3). Examples include *Glutaraldehyde*, *Hydrogen Peroxide* and *Ortho-phthaldehyde* (OPA).

**Hospital disinfectant:** a liquid chemical germicide that is registered by the EPA for use on inanimate objects in hospitals, clinics, dental offices, or any other medical-related facility. Efficacy has been demonstrated against *Salmonella enterica* (formerly *Salmonella choleraesuis*), *Staphylococcus aureus*, and *Pseudomonas aeruginosa*.

**Intermediate-level disinfectant:** a liquid chemical germicide that is registered by the EPA as a hospital disinfectant and with a label claim of potency as a tuberculocidal. Destroys vegetative bacteria, most fungi, and most viruses; does not inactivate *Mycobacterium tuberculosis var. bovis*. Not necessarily capable of killing bacterial spores.

**Low-level disinfectant:** a liquid chemical germicide that is registered by the EPA as a hospital disinfectant. Destroys most vegetative bacteria, some fungi, and some viruses. Does not inactivate *Mycobacterium tuberculosis*

### In USAF dental clinics, environmental surface disinfectants must be

- ☑ Registered with the Environmental Protection Agency (EPA),
- ☑ Hospital-grade (i.e., kills three specific organisms: *Staphylococcus aureus*, *Salmonella enterica* (formerly *Salmonella choleraesuis*), *Pseudomonas aeruginosa*), and
- ☑ Intermediate-level\* (i.e., have tuberculocidal activity).



### It's also important to review

- ☑ Manufacturer/distributor contact information
- ☑ Active ingredients
- ☑ Instructions for use (IFU) including:
  - dilution instructions, if required (pre-mixed or “ready-to-use” products are more convenient).
  - contact time (use the longest contact time on the label).
  - whether the product is also a cleaner (or if a separate cleaning agent is necessary before disinfecting, choose a product that has cleaning and disinfecting capabilities).
  - any special handling, storage, or disposal issues.

\* Although the scientific evidence supports the use of low-level disinfectants if certain conditions are met (i.e., the product has both HIV- and HBV-label claims, the surface is not visibly contaminated with blood), for reasons of convenience USAF dental clinics will continue to use products with a higher degree of potency (i.e., intermediate-level disinfectant products) on environmental surfaces to cover all situations.

Abbreviations: EPA=Environmental Protection Agency; FDA=Food and Drug Administration

### Just a few things to think about

- What disinfectant(s) do you use in your clinic?
- Are you using the longest recommended contact time on the label of your product?

### If you want more info

- CDC Guidelines for Infection Control in Dental Health-Care Settings ([www.cdc.gov/oralhealth](http://www.cdc.gov/oralhealth)).
- InControl Fact Sheet: Environmental Asepsis ([http://www.airforcemedicine.af.mil/Portals/1/Documents/DECS/InfectionPrevention\\_Control/Fact%20sheets\\_SNAPSHOTS/Disinfection/environmental\\_asepsis.pdf?timestamp=1435252388640](http://www.airforcemedicine.af.mil/Portals/1/Documents/DECS/InfectionPrevention_Control/Fact%20sheets_SNAPSHOTS/Disinfection/environmental_asepsis.pdf?timestamp=1435252388640))
- USAF Guidelines for Infection Control in Dentistry (<http://www.airforcemedicine.af.mil/DECS>).



Infection Control SNAPSHOTs provide a brief overview of infection control topics and highlight several important issues; they are not intended to be a comprehensive review of the subject matter. Possible uses may include, but are not limited to presentations at staff meetings or sending out e-mail reminders to the dental staff.

USAF Dental Evaluation & Consultation Service/Dental Infection Control <http://www.airforcemedicine.af.mil/DECS>