



# Quick Reference:

## Decontamination Procedures



### DECONTAMINATION

#### Methods

- **Sterilization** – physical or chemical procedure that destroys ALL microbial life
  - **Wet Heat** – autoclaves
  - **Dry Heat** – less efficient than wet, requires long exposure
- **Disinfection** – eliminates virtually all pathogenic organisms, but not necessarily all microbial forms on inanimate objects
  - **Liquid** – practical for surfaces. Must be EPA approved.
  - **Gases and Vapors** - effective on large scale. Can be hazardous and corrosive. Often used for equipment/rooms
- **Radiation** – Ionizing radiation - effective but not practical
- **UV light** – low penetration, limited effectiveness

#### Liquid Disinfectants

##### Aldehydes

- *Formaldehyde Cidex, Gluteraldehyde*
- Biocidal as a gas and liquid

##### Halogenes

- *Betadyne, Wescodyne, Clidox, Virex*
- Oxidizer, binds to organic matter, less optimal with high organic loads

##### Quats

- *Zephirin, CDQ, A-3*
- Effective against gram positive bacteria, not effective against viruses or spores. Good for water baths

##### Phenolics

- *O-phenophenoate-base compounds*
- Causes membrane damage – effective against enveloped viruses, fungi, and vegetative bacteria

##### Acids/Alkalis

- *Peracetic acid*
- Disruption of enzymes and structural proteins. Weak organic acids work best

##### Heavy metals

- *Silver nitrate, mercuric chloride*
- Disruption of proteins, used in aqueous solutions

##### Alcohols

- *Ethanol and isopropanol* – 70-80%
- Effective against broad spectrum of bacteria. Evaporation interferes with contact time.

### PROCEDURES

1. Choose an appropriate disinfectant according to the surface and infectious material
2. Organic material (dirt, soil, etc.) often decreases effectiveness of disinfectant
3. Allow sufficient contact time according to manufacturer guidelines
4. Dispose of materials in infectious waste container
5. Disinfect equipment, tools, and surfaces **OFTEN**
6. Disinfection prevents spread of infectious materials and potential contamination

#### EHRHS

Contact EHRHS for assistance with choosing disinfectants or with hazardous spill cleanup.



#### BLEACH

Bleach is one of the most effective disinfectants but degrades quickly. Household bleach is typically 5.25% sodium hypochlorite. A 1:10 dilution of standard household bleach is appropriate to disinfect labs. Check the concentration of sodium hypochlorite in the lab supply of bleach before diluting. Make fresh solutions weekly to prevent weak, degraded solutions.

