Antimicrobial Agents Suitable for Use in Lab. Animal Facility Sanitization Programs

Antimicrobial Agent	Applications	Advantages	Disadvantages
Chlorine as Cl_2, or as sodium hypochlorite	Water disinfectant Food and dairy industry	Relatively quick kill May be used on food preparation surfaces Generally not affected by hard water	Effectiveness is pH dependant Inactivated by heavy organic, material and exposure to UV light and heat Objectionable odor No sporicidal claim Poor cleaner Corrosive to some metals May bleach some surfaces
Chlorine dioxide	Hard surface disinfecting and sterilizing	Tuberculocidal, virucidal, and sporicidal Quick kill including Mycobacterium tuberculosis Can be used as sterilizing agent on thermolabile materials	Corrosive to some metals Limited useful life after activation Inactivated by organic matter
Iodophors	Hard surface disinfecting	Not affected by hard water May be used on food preparation surfaces Good cleaning action	May stain May be irritating to mucous membranes Inactivated by exposure to UV light, heat, or high organic soil load.
Phenolic compounds	Hard surface disinfecting	Tuberculocidal and sanitizing Broad spectrum activity May be bacteriostatic Good for cleaning Well-suited for high-risk areas	Effectiveness reduced by presence of cation Some localities have disposal restrictions Not sporicidal

Quaternary ammonium chloride compounds (Quats)	Hard surface disinfecting	Fairly broad spectrum activity May be bacteriostatic Good deodorizers Some may be used on food preparation surfaces	May not be effective against Pseudomonas sp. Not generally tuberculocidal Not sporicidal Effectiveness reduced by presence of soaps
Alcohols – in order of increasing activity: methyl, ethyl, propyl, butyl, amyl	Hard surface disinfecting	Tuberculocidal and air sanitizing Broad spectrum activity May have residual activity if formulated with quats or phenolics	No detergent action Volatile and inflammable Not sporicidal
Glutaraldehye	Hard surface disinfecting and sterilizing	Nonstaining and relatively noncorrosive Sporicidal, tuberculocidal, virucidal Usable as a sterilizer on plastics rubber, lenses, and other items that cannot be autoclaved Once activated, some formulations remain active up to 28 days	Not extremely stable in use dilution solutions Corrosive in low pH formulations Can be irritating to sensitive skin and mucous membranes Inactivated by heavy organic loads; potential sensitizer; strong odor

From AALAS Reference Directory 2007