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

<table>
<thead>
<tr>
<th>Antimicrobial Agent</th>
<th>Applications</th>
<th>Advantages</th>
<th>Disadvantages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chlorine as Cl₂, or as sodium hypochlorite</td>
<td>Water disinfectant, Food and dairy industry</td>
<td>Relatively quick kill, May be used on food preparation surfaces, Generally not affected by hard water</td>
<td>Effectiveness is pH dependant, Inactivated y 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</td>
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<tr>
<td>Chlorine dioxide</td>
<td>Hard surface disinfecting and sterilizing</td>
<td>Tuberculocidal, virucidal, and sporicidal, Quick kill including Mycobacterium tuberculosis, Can be used as sterilizing agent on thermolabile materials</td>
<td>Corrosive to some metals, Limited useful life after activation, Inactivated by organic matter</td>
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<tr>
<td>Iodophors</td>
<td>Hard surfacedisinfecting</td>
<td>Not affected by hard water, May be used on food preparation surfaces, Good cleaning action</td>
<td>May stain, May be irritating to mucous membranes, Inactivated by exposure to UV light, heat, or high organic soil load.</td>
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<tr>
<td>Phenolic compounds</td>
<td>Hard surface disinfecting</td>
<td>Tuberculocidal and sanitizing, Broad spectrum activity, May be bacteriostatic, Good for cleaning, Well-suited for high-risk</td>
<td>Effectiveness reduced by presence of cation, Some localities have disposal restrictions, Not sporicidal</td>
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</tbody>
</table>
| 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 flammable  
Not sporicidal |
| Glutaraldehyde | 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 |

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