



## Episode 7: Criteria for Selecting a Disinfectant

5 Main factors to consider with a disinfectant are: Kill Claims, Kill Times and Wet Contact Times, Safety, Ease of Use and Other Factors

### Kill Claims

- What organisms are of concern in your setting?
  - Respiratory viruses: Influenza, Coronavirus, Parainfluenza, Human Metapneumovirus, Rhinovirus
  - Vomiting and diarrhea viruses: Enterovirus D68, Norovirus
  - Bacteria such as Staph, fecal organisms, etc.
- What does your solution kill?
  - Enveloped viruses – Label would include viruses such as Influenza and Cold Viruses, Bloodborne pathogens (Hepatitis B, Hepatitis C or HIV)
  - Gram positive and Gram negative organisms – usually listed as Staph, *E. coli*, Pseudomonas
  - Fungi – Usually listed as Athlete's Foot fungus or black mold
  - Non-enveloped viruses – This is rare unless product is a hospital disinfectant, label viruses could include Norovirus, Hepatitis A, Rhinovirus

### Kill Times and Wet Contact Times

- How quickly does the product kill the pathogens of concern?
  - Times listed can be different, some will list a kill for sanitizing (about 99.9% of organisms), some will indicate 99.99%
- Product should stay wet for this time without re-application
  - Anything with a contact time of more than 3 minutes will require re-application to meet the total wet contact time (surface must appear 'wet')



### Safety

- Some chemistries are known to cause some breathing issues in certain groups. Quaternary ammonium compounds and sodium hypochlorite (bleach) can affect those with asthma, or a reactive airway disease
- Who are your clientele?
  - General public
    - Public spaces, restrooms, counters, tables
  - Children, infants
    - Day cares, change tables, play areas
- Acceptable toxicity rating
  - Found on the Safety Data Sheet for the product (SDS)
  - Store-bought brands available to the public are not required to have an SDS, but these can usually be found at the manufacturer's website
- Acceptable flammability rating
  - HMIS (Hazardous Materials Identification System)
    - Health/Flammability/Reactivity and Physical Hazard
    - Best is 0/0/0

### Ease of Use

- Wipes, spray, dilutable
  - Pre-wetted wipes are easiest to use, need to know the contact time
  - Sprays can be an issue depending on the chemistry (See Safety, above), and many regulatory bodies will not like to see sprays used around children
  - Dilutable products can seem more economical, but the dilution needs to be checked periodically, as recommended by the manufacturer
    - If manually measuring a concentrate into water, safety becomes a concern
    - The cloth used to apply the diluted disinfectant has to be compatible with the disinfectant, as some cloths bind the disinfectant to the cloth, so no disinfectant, or a reduced amount of disinfectant gets on the surface
- Odor
  - Pine or minty fresh scent does not mean organism free!
- What surfaces need to be cleaned/disinfected
  - Soft, hard, porous, glass, toys, etc.

### Other Factors

- Hospital Disinfectant (DIN, EPA, EN)
- Cost when all factors considered
  - What does it clean/disinfect
    - If two or three products are required for various surfaces, this is an added cost
  - Stability
    - Good shelf life



- Cost per use
  - If a wipe will not keep a surface wet for the contact time, then more than one wipe is required, which will increase the cost per clean/disinfect
- Shelf Life
  - If using in a diluted form, the shelf life can vary by product
    - 1 day, 14 days, 28 days, etc.
- Cleans and disinfects in one step
  - Some products will indicate “apply to a cleaned surface”, or “Clean first, then apply”
  - A one-step disinfectant cleans and disinfects in one step
  - If the wipe is grossly soiled after one use, a second application will be indicated!
- Soft surface sanitizer claim?

**Green Products versus ‘Natural’ Products**

- Ecologo
- Green Seal
- Design for the Environment – Now Safer Choice

Vinegar is not a good disinfectant