COMPARISON DISINFECTANT PRODUCTS

Generally, disinfectants can be placed into seven categories based on the specific active ingredient and combination (the chemical or combination of chemicals in the product that actually kill the target microorganisms) they contain. They are:

1. **Alcohol based**
2. **Chlorine and chlorine compounds based**
3. **Glutaraldehyde based**
4. **Peroxygen (Hydrogen Peroxide or Peracetic Acid) based**
5. **Iodine based**
6. **Phenol based**
7. **Quaternary Ammonium based**

	Perfect Shield™	Alcohol	Chlorine	Glutaraldehyde	Peroxygens	Iodine	Phenol	Quaternary
24 hours protection	X							
Non Flammable	X		X			X	X	X
Non Corrosive	X	X						X
No Irritating Fumes	X				X			
No Skin Irritation	X							
Stable in Solution	X	X	X		X	X	X	
Category IV Toxicity	X							X
Significant Residual Activity	X				X			

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Disadvantages associated with the use of each active ingredient by category include:

Alcohol (Brand Names: Lysol I.C. Spray, Lysol II Spray, Virahol, Metriguard, Disaptic)

- **Requires wet contact of at least five minutes to achieve a reasonable level of disinfection. Also, only certain types of alcohol contain true disinfectant properties.**
- **Not effectives against some viruses.**
- **Volatile, flammable.**
- **Can dry and irritate skin, Fumes can be irritating.**
- **Can damage synthetic mounting of lensed instruments will swell and harden rubber and plastic surfaces.**

Chlorine and chlorine compounds (Brand Names: Clorox, Purex, Dispatch, MicroStat)

- **Extremely corrosive to metals.**
- **Very Coustic to tissue.**
- **Rapidly inactivated by organic debris (Blood, Tissue, Saliva, Microbes).**
- **Fumes can be irritating. Can emit a carcinogenic gas if it comes in contact with formaldehyde, or is hyperchlorinated by hot water.**
- **Diluted solutions quickly lose their effectiveness.**

Glutaradehyde (Brand Names: Cidex, ProCide, Cetylcide, Metricide)

- **Can cause chemical burns on skin, cornea and mucous membranes, especially with prolonged occupational exposure. Cause eye and respiratory irritation.**
- **Thorough and copious rinsing is required to prevent toxicity to patient and staff.**
- **Unstable, effective life of solution can range between two weeks to thirty days. Requires use and chemical test strips to ensure effective concentration is present.**
- **Can be corrosive to metals. O fixes organic debris from waste and tissue to the instrucment fiber optics and lenses.**

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Peroxygen

- **Oxidizing properties can be corrosive to equipment.**
- **Can cause pseudomembrane- like enteritis and colitis if not properly rinsed from surface.**
- **Unstable, particularly when diluted.**

Iodine (Brand Names: Biocide, Iodo Five, Aspect, Vanodine, Betadyne, Providone)

- **Have relatively slow kill times. Dilutions and contact times are critical for efficacy.**
- **May dry and crack skin, possibly burn tissue with prolonged exposure. Toxic if ingested.**
- **Must be discarded and remixed daily, inactivated by hard water.**
- **Solutions can stain fabrics, plastics, and others synthetic materials.**
- **Corrosive to metal and rubber.**
- **Some staff acquires extreme sensitivity and develops anaphylactic shock upon exposure.**

Phenols (Brand Names: Professional Lysol Brand Disinfecting Spray, Sporicidin, Birex SE, Discide)

- **Can be toxic to the skin and eyes. Depigmentation can occur with long periods of use. Commonly causes sinus and respiratory tract problems.**
- **Corrosive to rubber and certain plastics.**
- **Flammable.**
- **Can leave a film on the surface, creating a build-up that eventually must be removed.**
- **Most solutions need to be discarded and remixed daily.**
- **Smell is obnoxious.**

Quaternary Ammonium (Precise QTB, Cetycide II, Cavicide, Envirocide, Discide Ultra)

- **Not tuberculocidal, or virucidal against hydrophilic viruses.**
- **Action is markedly depressed in the presence of organic material.**
- **May cause respiratory problems.**
- **Cationic, incompatible with soap.**
- **Absorbed and / or neutralized by various materials (e.g: Cotton, wool) that absorb the active ingredients.**
- **May be inactivated by hard water.**
- **Many pathogens are resistant.**

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