Technical Bulletin – ProSpray™ Disinfectants

And Effect of Potential Chemical Interactions

ProSpray™ liquids and wipes have a long history of safe and effective use. Water based disinfectants such as ProSpray are often recommended by equipment manufacturers as this category of disinfectant chemical is LESS likely to create cracking, hazing or other damage.

Testing simulated the application of ProSpray wipes equivalent to one year's use in clinical settings on a variety of surfaces including tubing, firm and soft upholstery and polycarbonate plastic light cover material. This testing confirmed that ProSpray wipes will not cause damage or staining of materials not previously exposed to other chemicals.

What's the difference between my disinfectant at home and ones I use in the office?

Disinfectant cleaners sold for household use are usually low-level disinfectants targeting less resistant germs. They frequently use quaternary ammoniums and are priced to meet consumer needs. But all disinfectants with a claim to kill germs in the U.S. must have EPA registration and list active chemical ingredients on the label. Hospital grade intermediate level disinfectants must be effective against more resistant germs such as bench mark Tuberculosis var. bovis and have a wider variety of active chemical agents.

Why should I use a water-based disinfectant?

Water based disinfectants are better cleaners. Cleaning is essential as soil must be removed to let chemicals attack germs. If diluted and used according to label directions, water-based disinfectants are usually safer and less toxic on users, surfaces and the environment.

What is a solvent?

In general solvents are agents that help break up other materials or soils. Water is a natural solvent that helps break up soils and dirt. Some solvents are far more toxic and aggressive such as glycol ethers, also used in dry cleaning fluid. Glycol ethers, alcohols and similar compounds are used in some disinfectants to speed up kill time (also referred to as contact, wet or dwell time).

How do high solvent based disinfectants cause damage?

It takes strong chemicals to achieve quick disinfecting kill times. A short contact time may mean that the disinfectant product has a higher percentage of alcohols and / or solvents in it. While everyone is in a hurry, it is critical to understand the trade-off: higher percentages of toxic chemicals may increase damage to equipment and surfaces.

The real problem is that this damage is often hidden. Alcohols and other aggressive solvents harden plastics and create micro cracks in the surface over time. Most disinfectants have little or no color so the damage continues unseen and becomes irreversible.

Vinyl, which is found in most offices, has a protective layer of plasticizers that create a barrier between chemicals and the vulnerable material below. High solvent disinfectants will break down this protective layer exposing the material and allowing for absorption of chemicals into the vinyl itself with continued cracking and hazing.

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What happens when I switch disinfectant brands and the chemicals interact on my equipment?

If a popular disinfectant with a fast kill time and high percentage of aggressive solvents is used on plastics, tubing and vinyl upholstery, ***it will lead to unseen micro damage over time***. If the facility then switches to a water-based disinfectant with different chemicals and slight color, there will be an interaction as the new product is easily absorbed into the previously damaged micro cracks.

Some chemicals also have basic interactions independent of damage such as the reaction between bleach and phenols leading to permanent brown staining.

How do I prevent damage to my equipment?

1. ***Check the instructions for cleaning your equipment first***, especially new equipment. Follow recommendations for upholstered chairs, exam tables, electronic equipment and other expensive devices.
2. ***Understand the chemicals you select for use***. Read the label AND the Safety Data Sheet to fully know the chemicals in the product.
3. ***Consider the use of water based disinfectants*** as the first choice to avoid subsequent damage. Testing confirmed that ProSpray disinfectants will not cause damage to NEW surfaces and equipment not previously disinfected with other chemicals.
4. ***Use single use disposable barriers*** especially on clinical contact surfaces that are more likely to have blood or other body soils or are hard to clean quickly.
5. ***If you switch disinfectant products***, understand that if a high alcohol or alcohol / solvent disinfectant was previously used, it has caused micro damage over time, even if not easily seen. Before using new or different chemical disinfectants, clean off the equipment as thoroughly as possible with a mild soap such as Simple Green using only a drop or two in a quart bottle. Follow with a thorough "rinse" with wet paper towels and dry off surfaces.
6. Minimize disinfectant use on house-keeping surfaces that are not clinical contact and not semi-critical.
7. For ALL brands of disinfectant including ProSpray products: ***At least daily at the end of the day, clean off accumulated chemicals and soils with wet paper towels, especially upholstery.***

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