



4550 Jackson Street Denver, CO 80216
FAX (303) 355-3516 / (800) 447-8326

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For More Information, Contact Steam Way International at (303) 355-3566

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THE CASE AGAINST FRESH WATER RINSING

Every few years, certain controversies within our industry seem to rise again. And rather than view them as simple differences of opinion, certain “experts” seem to always come out of the woodwork and profess to have the answer. They seemingly suggest that if we don’t agree with them, we are putting the security of the free world at risk. Fortunately, we can still have different opinions about how to do something. That creates competition and competition is good for everyone—especially the consumer.

One of the latest controversies revolves around “fresh-water” rinsing. “Fresh-water” rinsing could best be defined as rinsing the carpet with clean, fresh (no chemical) water after a preconditioner has been applied. The main advantage of this point-of-view is stated to be that it leaves less residue in the carpet. And, of course, the main suggestion is that if we profess to disagree, we’re just trying to sell chemicals,



Although our evidence indicates that the concept of fresh water rinsing was originated by Mr. Elrod C. Schwartz who, while operating his cleaning business, happened to run out of chemical and money at the same time. Seriously, though, there are several knowledgeable chemists, instructors, and even carpet fiber and carpet manufacturers today who advocate fresh-water rinsing. So, while keeping in mind that everyone has a right to his own opinion and that no professional is trying to “cheat” his customer no matter what method is advocated, let’s take a closer examination of fresh-water rinsing .

We at Steam Way promote a simple A-B-C method of cleaning. Step A is the application of a preconditioning chemical whose pH and makeup are best for the fiber being cleaned. Step B is “rinsing” the preconditioning chemical, soil, grease, and other deposits out of the carpet using the extraction equipment with a rinsing or “primary” cleaning detergent. Step C is to apply appropriate spotting solutions to the remaining problem areas.

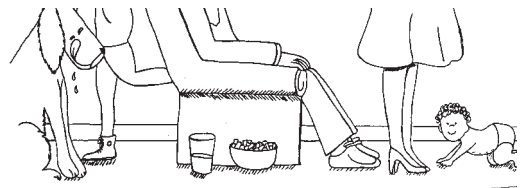
Therefore, the first thing that we need to keep in mind, when discussing fresh-water rinsing, is the entire method itself. When someone advocates fresh-water rinsing, the first question you should ask them is what they suggest using as a preconditioning agent. If they are suggesting using a shampoo, then usually we would agree that following the application of a shampoo no rinsing chemical is needed. Within this, of course, lie the inherent weakness of using a shampoo and the fiber manufacturers objections to rotary scrubbing. But that is another discussion. Also, it is important to separate carpet and upholstery cleaning applications. With many natural and delicate upholstery fabrics, chemical usage of any kind increases risk, and we must adjust our cleaning procedures accordingly. But in the case of most upholstery fabrics and almost all carpet fabrics, when a preconditioning agent is used, it is important to use a rinsing detergent.

Let’s look at some reasons we suggest rinsing with a primary cleaning chemical, a rinsing detergent (running a chemical through your extraction equipment).

1. **FIRST, LET’S TALK ABOUT RESIDUE.** One simple fact stands out. **COMPLETE RESIDUE REMOVAL IS IMPOSSIBLE.** If you prespray, you leave residue. Since it seems obvious that the less residue you have the better, that is where the question lies. But complete residue removal is impossible. Because of the chemical requirements of an effective pre-treatment, molecular

adhesion, dissolving, and stripping abilities, the inherent residues are tacky. Neutralization of these agents is accomplished in the emulsifying (rinse agent) detergent and the result is the lowest residue amount possible.

2. Our research and testing, in addition to tests by a British Trade Association, indicate that when professional cleaning procedures are followed closely, we achieve amazing recovery results. When powerful portable equipment is used, and proper vacuuming procedures are followed, we achieve 93 to 95% recovery. What that means is, in addition to the soils and greases, we recover 93 to 95% of the moisture and chemical that we put into carpet. Then truck-mounted equipment is used, we achieve 95 to 97% recovery. This is amazing cleaning and one of the most important attributes of extraction cleaning. If we are concerned about leaving a higher level of residue, then we need to make sure our equipment is operating correctly, and that the cleaning technician has been properly trained and is not over-using the rinsing detergent.
3. One of the strange things about presprays - they are often referred to as traffic lane cleaners. If you examine closely the purpose of a prespray, there are areas where the application of a pre-spray is not necessary. Also, a fatigued or careless technician may not evenly distribute or even apply a pre-spray in all needed areas. If this occurs and you're fresh-water rinsing, then virtually none, or very little cleaning takes place. We are leaving soils behind. These soils will contribute greatly to rapid re-soiling.
4. Recent studies in Great Britain indicate that when the dye sites of a fiber are closed, often small impurities on the fiber face can remain where these dye sites are located. A quality rinsing agent residue may actually retard soiling by leaving a slight dry crystal residual which fills the irregularities on the surface of the fiber. This keeps subsequent soiling out of these irregularities and on the fiber surface where they can be more easily removed with routine vacuuming procedures.
5. Think about how your prespray is applied for a moment. Does it have the capability to effectively reach and penetrate all layers of the carpet? Because carpet is multi-layered, for effective cleaning, we must penetrate all these levels. The prespray may not do this. When we inject our rinsing chemical under pressure, it can effectively clean out the deeper soils in the carpet. If we did not clean out these soils, they would serve as a much worse resoiling agent than chemical residues.
6. Although there is some disagreement in this area, it is generally recognized that we are most concerned with the type of residue that may be left behind—sticky versus crystallized residue. Quality rinsing agents dry to a crystallized residue, which can be removed by subsequent vacuuming. Sticky residues from poorly formulated chemicals (including many cheap traffic lane cleaners) cannot be removed by vacuuming. **New studies in indoor air quality , however, lead us to believe that there is no such thing as good residue from an I.A.Q. standpoint, therefore we must ALWAYS concentrate on low residue cleaning.**
7. Another important reason to use a rinsing chemical lies in the fact that rinsing chemicals perform a softening function in hard water areas. If you are rinsing with fresh water in an area where you have hard water or water with a high mineral content, you may be leaving mineral deposits in the carpet, which serve as a much worse resoiling agent than the chemicals which would have treated the water in the first place. Simply stated, fresh water is not always "fresh", nor "pure".
8. Another reason to use a rinsing chemical lies in equipment maintenance. Heater coils, whether from a propane, kerosene, or heat exchanger system will scale up. A rinsing chemical leaves a slight coating on the coils which will help prevent the "rusting-out" of the coils (inhibitors).
9. Properly mixed and applied rinsing detergents will not affect a topical treatment (fabric protector). Traffic and wear are what will wear it out; therefore, we are not contributing to it in any way by using a rinsing agent.
10. Probably the most important reason for not fresh-water rinsing lies in the whole design of extraction cleaning and the chemicals we are using.



Your prespray or traffic lane cleaner is not designed to perform the total cleaning job. The prespray is designed to loosen (break surface tension) and suspend ground-in soiling from the fiber itself. A prespray needs the contribution that a rinsing chemical gives it by being injected under pressure into the carpet. If you want maximum soil removal, then a prespray and rinsing detergent should be used in combination. The emulsifying function of the rinsing chemical is an important and necessary part of cleaning and serve as a compatible compliment.

To summarize, it is our belief the professional cleaner should use a rinsing detergent chemical. We believe in the long run, it cleans better and leaves less residue.



What About Acid Rinsing For pH Neutralization?

There is a lot of discussion these days about low residue cleaning and the best way to achieve it. We've already discussed one approach that many cleaners take in fresh water rinsing. Another step that many professional cleaners use is to use an acid based rinsing detergent. The theory behind this is simple. Since we are primarily using alkaline based cleaning solutions, when we rinse we want to leave a neutral pH on the fiber. This concept, although it is being marketed that way, is not a new one. We have long used acid treatments in the cleaning of delicate and natural fabrics to prevent browning and promote colorfastness. When carpets primarily used jute backing, and prespray technology was not used, an acid rinsing was an important step in preventing browning. This is old chemistry however. Carpets have changed. Dye technology has changed. Mill applied topical treatments have changed. ***The truth is that an acid rinse does not leave any less total residue.*** But there is certainly nothing wrong with it apart from the disadvantages of having very little or no cleaning power in the rinsing phase that we have previously discussed. Another factor to consider is the IICUC Cleaning Standards. The entire industry had input to developing these standards. You will note that there is no mention of a need for an acid rinse to reduce residue. It only talks about rinsing, period. The jury is still out on the very best way to leave the least amount of residue. The most important point is the total amount of residue that we are leaving. pH neutralization is simply not needed and is not an issue on synthetic carpets when you are using lower pH chemicals to clean with in the first place. From a chemistry standpoint, resoiling is caused by the amount of residue left, not whether a neutral pH has been achieved. The idea that acid rinsing promotes colorfastness in synthetic carpets is a moot point. Synthetic carpet manufacturers are not concerned about dye loss. They are concerned about residue and its contributions to resoiling. They are concerned about cleaning chemistry and its effect on stain resistant treatments. They are concerned about cleaning chemistry and its contributions to yellowing.

Let us restate our point. If you want to use an acid detergent rinse, there is nothing wrong with it. It is not however the most efficient way to clean a carpet and it does not leave less overall residue than a Steam Way prespray and detergent combination. The reason that some chemical manufacturers have gone to advocating an acid rinse is because the concentrated pH of their presprays are high. Steam Way agrees with the ASTM, Carpet Fiber Producer, and Carpet Mill standpoint that we are just as concerned about the concentrated pH of a cleaning chemical as we are about the final dilution pH. The residue that is left behind from a cleaning chemical will always return to its concentrated pH as the water evaporates. Therefore Steam Way makes sure that its concentrated pH on its chemicals are what are examined. If a company uses an unbuffered high pH in its prespray chemistry, it may advocate an acid rinse because it has to neutralize the high pH of the residue that is left behind.

However, if you want to do an acid rinse there is no need to add another product to your inventory. Because of its unique formulation, STEAM WAY FORMULA "D" can be used effectively as an acid rinse. If you wish to do this and you own a truck mount, mix 32 ounces of STEAM WAY FORMULA "D" with 5 gallons of water and set your solution flow meter at 2 to 3. If you are using a portable mix 2 ounces with 5 gallons of water.