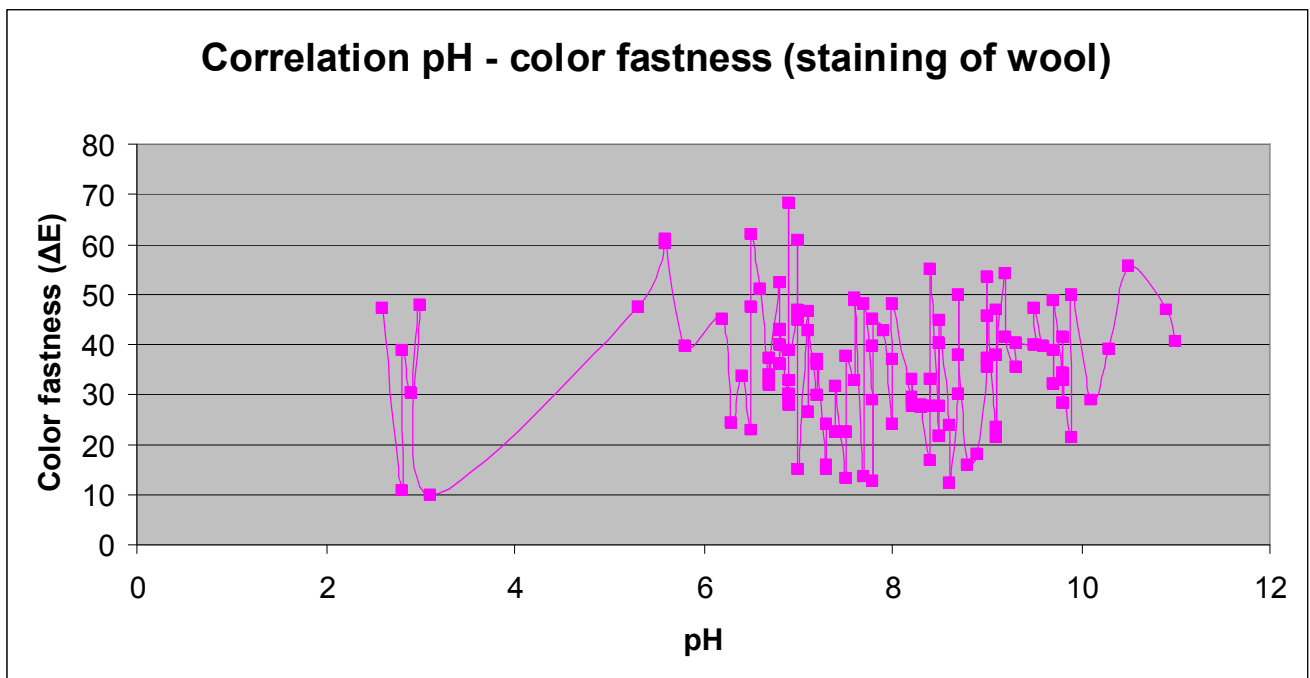


WoolSafe Study on pH versus alkalinity

In the carpet cleaning community and primarily in the United States, there have been flaws in the development of guidelines that are based upon the pH of the cleaning products. With both wool and nylon there is a false assumption that these rules will reasonably prevent bleeding and felting of wool fibers and the loss of stain resistance on nylon. The scope of this study centres on wool, but the same principles exist for all carpet fibers.

WoolSafe and other entities have done research that shows there is little correlation between the pH of cleaning products and their ill effects. It would seem apparent that the study of pH has overwhelmed the minds of rule-makers to the exclusion of molarity, buffering, and reactivity. What is often believed and is not safe to assume, is that equal concentrations of acids and alkalines that are equal distance from natural will yield a neutral solution if mixed.

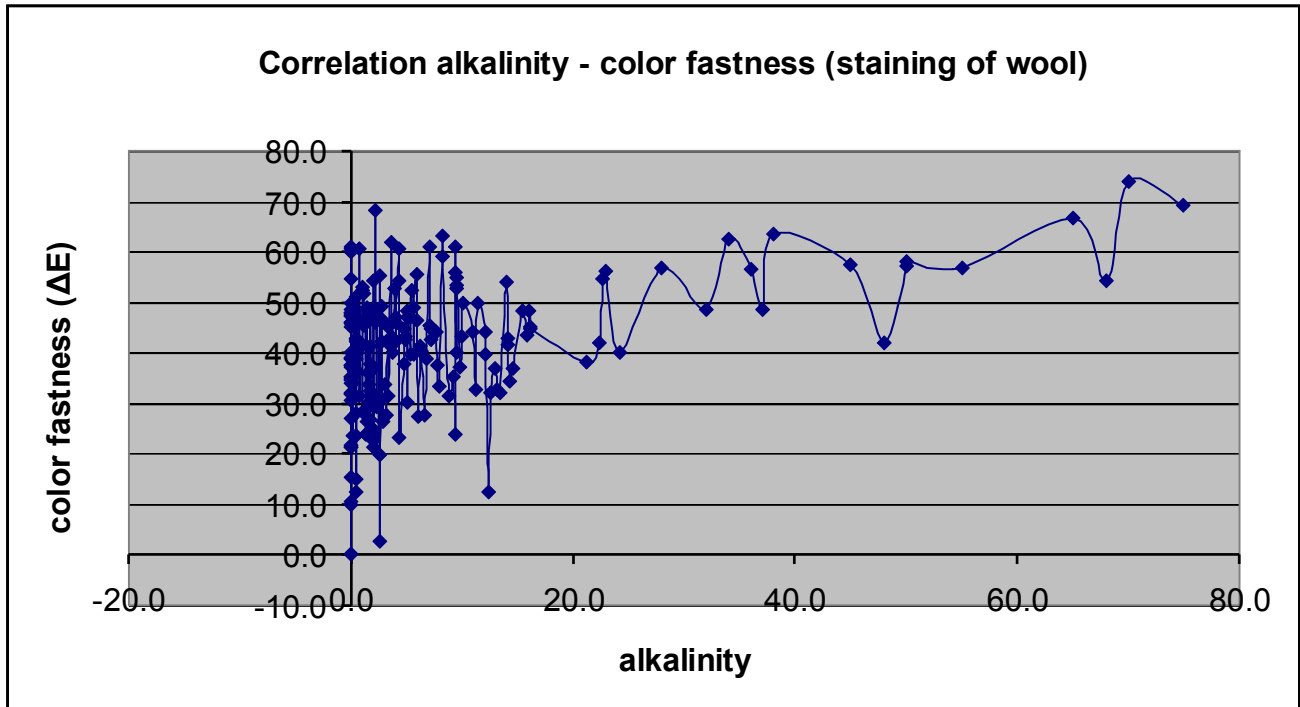
Thus, to illustrate this more clearly, WoolSafe tested 114 cleaning products whose manufacturers intended their use for wool. The pH of these products varied from 2.6 to 11.0. All of these products were submitted for WoolSafe testing and accreditation. The results of these tests show products with a pH as high as 10.5 pass the tests; many that were between 6.0 and 8.5, failed.



On the scale above, less than '50' on the colorfastness axis is a "Pass". If there were a direct correlation between pH and colorfastness, then the scale would have a gradual curve going upward from left to right. In addition, if the pH 4.5 to 8.5 rule had merit, then one would expect pH 4.5 to 8.5 to all be under 50 on the colorfastness axes. Instead, most of this curve shows no direct correlation between pH and colorfastness. The only exception would be between 4.5 to 5.5.

Therefore, if the carpet cleaning community must have a 'product rule' to live by, it would be to use products between 4.5 and 5.5. This would work, because the wool carpet pile fibers have a typical pH of 4.5 – 5.5 as a result of the dyeing process. Thus, the new rule for cleaning products for wool without WoolSafe accreditation is 4.5 – 5.5. However, this would dramatically limit the selection of available product and forsake the advantages of higher pH products that have accreditation.

To illustrate the effect of alkalinity versus colorfastness, WoolSafe tested 209 cleaning products whose manufacturers intended their use for wool. All of the 114 cleaning products used in the pH test were included in this group. In the graph below the line is very different and shows a great deal of correlation between alkalinity and colorfastness. Most products that are not buffered passed. Those that are buffered often failed.



The remaining issues with this study are whether the products will actually clean; if they do clean, will it not leave a soil-attracting residue; if all of this can be accomplished, will it be safe for the operator to use? This is what the WoolSafe accreditation program is about. If the question were posed for the proper selection of an electrical appliance, the answer would seem obvious, look for the UL label which would say that the product had been tested by UNDERWRITER'S LABORATORIES and earned their accreditation. By the same token, for the proper selection of wool carpet, one should look for the WOOLS OF NEW ZEALAND logo. The same applies for cleaning products for wool. WoolSafe had its origin with the International Wool Secretariat, who later became the WOOLMARK Company, which passed it on to WOOLS OF NEW ZEALAND. Since then, WoolSafe has accredited over 150 products world wide for not only colorfastness, but performance, resoiling, and operator safety.