

SIMPLE SOLUTION ON WALL SPIT STAINS

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ABSTRACT

This paper describes method for developing a simple, modular, cost effective, environment friendly and innovative solution to remove spit stains from walls using baking powder, bleaching powder, and vinegar without damaging the paint of the wall .The solution is found to be effective in cleaning tiles/toilets also.

The Solution involves combination of amounts of baking powder, bleach and vinegar. Here the amount of vinegar can be reduced by using an alternative of dil.HydroChloric acid to make the Solution an even more concentrated and effective one.

Keywords: Cost effective, Modular.

I. INTRODUCTION

In a Country where Tobacco addiction is a huge problem, it is followed by the problem of spit stain on walls and tiles. As of now no particular solution addressing this problem specifically has been devised, only water and different detergents were used widely which were not much effective. Thus it is necessary to find a solution wherein the stains can be removed easily without damaging the paint of the wall and tiles itself. The contents of the solution are easily available, and cost effective to implement on a larger scale.

II. THEORY

Three components have been used to formulate the solution. Vinegar, Sodium bicarbonate, Bleaching powder. Vinegar is mainly a dilute aqueous solution of acetic acid and this is reflected in its physical and chemical properties. It is the product of two biochemical processes. These processes are alcoholic fermentation and acid fermentation .the acid part of the vinegar is what gives its antiseptic properties as well as cleaning properties .Baking Soda also called as Sodium Bicarbonate is a white, water soluble fine powder with a crystalline shine. It is prepared from purified sodium carbonate or sodium hydroxide solution with passing carbon dioxide which is bubbled into the solution of pure carbonate and the bicarbonate precipitates out to be dried as it is less soluble than the carbonate. As applications in cleaning preparations as it has an ability to reduce the odours chemically by neutralizing the acid by products of contaminants. The chemical formula of bleaching powder is CaOCl_2 and its chemical name is calcium oxy-chloride. Bleaching powder is manufactured by passing chlorine gas over dry slaked lime. Its bleaching action is due to the release of chlorine gas from it. is also used for disinfection. The combined action of these three components results into the effective removal.

III. TABLES AND FIGURES

Table-Composition of Solution.

Name of the component	Concentration
Sodium Bicarbonate	5gm
Calcium Oxy-chloride	5gm
Acetic acid(mild acid)	10ml

3.1 Effect on Walls



Fig.1 Before



Fig.2 After

3.2 Effect on Tiles



Fig.3 Before



Fig.4 After

IV. CONCLUSION

This simple solution will facilitate the use of villagers, as it is cost effective simple treatment which is otherwise a problem. The stains can be wiped out easily by application of solution and gentle scrubbing with cotton. Unlike the commercially available acids used for cleaning the tiles no damage is observed even on repeated use. The components are common household materials and hence the solution can be easily prepared anywhere. It also proves useful in removing burnt marks on tiles. It can reduce the intensity of crayon and oil paint marks however it does not remove them completely. It can be further modified to overcome these limitations.

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REFERENCES

- [1] J. Mendham and R. C. Denney and J. D. Barnes and M. J. K. Thomas; Vogel's Text Book of Quantitative Chemical Analysis; Sixth Edition, Pearson Education Limited, 2012.
- [2] A. K. De; Environmental Chemistry; Eighth Edition, John Wiley and Inc., 1999.