

AFFORDABLE SOLUTION FOR TOILET CLEANING

Mrs.Manasi Vyankatesh Ghamande¹, Piyush Chaudhari², \Pranav
Zinjarde³, Rushabh Salunkhe⁴, Chaitanya Mulay⁵,
Chaitanya Gharapurkar⁶

^{1,2,3,4,5,6}Department of Engineering Sciences and Humanities, VIT, SP Pune, University, (India)

ABSTRACT

Swachh Bharat Abhiyan is a Swachh Bharat mission led by the government of India to make India a clean India. The government of India has aimed to make India a clean India by 2nd of October 2019 (150th birth anniversary of the Mahatma Gandhi) through this campaign. The father of the nation, Mahatma Gandhi had said that, "Sanitation is more important than Independence" during his time before the independence of India. He was well aware of the bad and unclean situation of the India. Toilet cleanliness is very important. It is the first place from where germs and bacteria start attacking human body. Poor Sanitation spreads various diseases such as typhoid, dengue, malaria, swine flu etc. Few of these diseases like swine flu are life threatening if not diagnosed and treated in time. To avoid this cleanliness awareness and action is very much important. Our paper aims the Awareness for the same problem because prevention is better than cure. So in attempt to help towards a cleaner India, we have experimentally determined an easy and cheap method to clean toilets which can be easily used everywhere across the globe..

Keywords: *life threatening Sanitation, Swachh Bharat Abhiyan,*

I. INTRODUCTION

As a part of Swachh Bharat Abhiyan government is building toilets in rural areas. But the cleanliness of the toilets is an issue today. Many people cannot afford expensive toilet cleaners like Harpic, lizol etc which cost minimum Rs.150/- per month. These toilet cleaners are very much essential to keep the toilet away from germs, bacteria etc. which otherwise are going to spread various diseases in and around. This project demonstrates an easy homemade solution to clean toilets. Baking soda, vinegar and lemons are some of most useful common household products that can be used to clean toilet which are readily available at home. Moreover baking soda and lemon mixture prevents the foul smell which is a big concern for public toilets.

II. THEORY

Baking Soda: Sodium Bicarbonate is easily available and used most of the people but very few are aware about its cleansing properties. It is mild enough and can be used on most of the household surface. Its result on toilet surface are impressive.

Vinegar: Vinegar is another item which is easily available and can be used for cleaning toilet. Vinegar contains acetic acid in water. Acetic acid when dissolves in water it breaks in two components, the hydrogen and remainder of molecule. The hydrogen will try to bond to any material it encounters and weakens the molecules structure. This gives it its cleaning property which can be used to clean toilets. Acetic acid also helps to get rid of odour by killing the bacteria and fungi that cause them.

Lemon Juice: - Lemons contain acetic acid and can be used for cleaning toilets. Acetic acid also helps to get rid of odour by killing the bacteria and fungi that cause them.

III. PROCEDURE

- Make a paste of Lemon juice and Baking soda, taking them in proportion given in following table.
- Pour the paste in toilet bowl and let it settle for 10 minutes.
- Spray Vinegar over it.
- Let the solution settle for 5 minutes.
- Use a toilet brush to clean and scrub.
- Flush the toilet.
- Immediately after the flush, toilet is ready for use.

IV. TABLES AND FIGURES :(FOR SINGLE CLEANING)

Commodity	Quantity
Baking Soda	40 grams.
Vinegar	25ml
Lemon	20ml (juice of 2 medium size lemons)

Cost involved for Single use: Maximum Rs.25/-. But single use cleans and maintains hygienic toilet for 1 week.

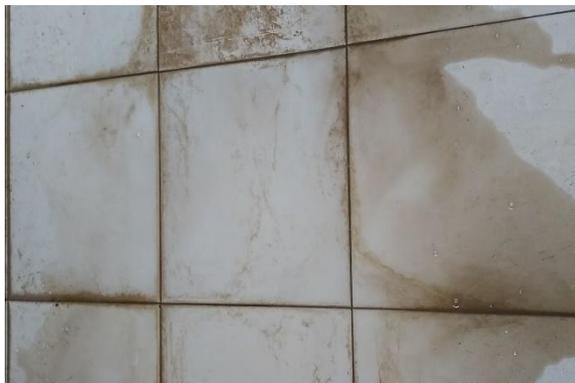
4.1 Effect of our solution on a public Toilet:



3.2 Effect of our solution on Tiles:



Before



After

V. CONCLUSION

Toilets can be cleaned effectively by simply mixing day to day materials. This can be a major step towards a cleaner India. As villagers cannot afford expensive toilet cleaners, this method is an effective and affordable way to keep the toilets clean. This in turn would reduce the spread of diseases caused due to poor sanitation which is a major cause for deaths in rural parts of India.

VI.ACKNOWLEDGEMENT

We thank Sir Dr. Rajesh Jalnekar, Director, B.R.A.C.T.'s Vishwakarma Institute of Technology, for introducing the concept of course project so that we could apply the theory that we have learnt in day to day life. Also we thank Sir Prof. Dr. C. M. Mahajan, Head Of First Year Engineering Department, for inspiring us. And at the end we express our very sincere and heartiest gratitude towards our Chemistry faculty, Mrs. Manasi Ghamande Madam for helping and guiding us throughout the project and also without her help this project would not have been successful.

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.