

SCIENCE FAIR PROJECT



COMPARATIVE STUDY OF CaCO_3 WITH METALS

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INTRODUCTION

What is CaCO_3 ?

Calcium carbonate is a chemical compound with the formula CaCO_3 . It is a common substance found in rocks as the minerals calcite and aragonite and is the component of pearls and the shells of marine organisms, snails and eggs .

What are metals?

Metals are a solid material which is typically hard, shiny, malleable, fusible, and ductile with good electrical and thermal conductivity.

What is toothpaste?

Toothpaste is a paste or a gel or a dentifrice used with a toothbrush as an aesthetics and health of teeth. Toothpaste is used to promote oral hygiene.

Is toothpaste useful or cleaning the metals?

Yes toothpaste are useful of cleaning the metals as when we will apply any kind of toothpaste and keep it for some time and wash then we may see that the metals got cleaned.

I got this idea of my research from my neighbour he is working as a mechanic and one day he brought all rusted metals at his home for cleaning I asked him how he will clean the metals he told me that he will clean the metals with the help of toothpaste then I got an idea that as he is cleaning with only one toothpaste I will try it with all different toothpaste so I started my research work and then I observed it for 3 hours then when I washed the metals and came to an conclusion that the bases[toothpaste]are good for metals.

REVIEW OF LITERATURE

DABUR RED PASTE

Dabur red paste is a strong paste and also useful for cleaning the rust of metals when we will apply it on the metals we may see that the metals are cleaned



MESWAK

Meswak is also good toothpaste but not like Dabur red paste when we will apply Meswak on all the different kind of metals and keep it for 3 hours we may observe that some rust will still remain.



CLOSE UP

Close up is mostly loved by the children but not useful for cleaning the rust of metals. When we will apply close up on any kind of metal we may see that the metals are not cleaned.



PEPSODENT

Pepsodent is an American brand of toothpaste with a minty flavor and it is also useful but it is like Meswak when we will apply it on metals we may get the result that some rust has been cleaned and some rust is still remaining.



COLGATE

Colgate is mostly used by the families and also recommended by doctors and it is so much helpful for mechanics and human beings as it will clean the rust of metals. Like Dabur red paste it is also a strong paste.



I recommend you Dabur red paste and Colgate for cleaning the rust of metals as they can clean the metals they can be harmful for our teeth so I recommend Meswak and Pepsodent for cleaning our teeth.

EXPERIMENTAL WORK

In this research work we have to see that which toothpaste is better for cleaning metals and which one is useful for cleaning our teeth. so we have to take 5 metals and 5 toothpaste then we have to apply Dabur red paste and keep it for 3 hours then we have to apply Meswak on the metals and keep it for 3 hours then we have to apply close up and keep it for 3 hours then we have to apply Pepsodent and keep it for 3 hours and then at last we have to apply Colgate and then keep it for 3 hours . Then we may observe that Dabur red paste and Colgate are very good for cleaning the metals and Meswak and Pepsodent are useful for cleaning our teeth as it contain less CaCO_3 in them.

MATERIALS

- 5 Different types of toothpastes

Dabur red paste

Meswak

Pepsodent

Close up

Colgate

- 5 different kinds of metals

Iron

Steel

Gold

Copper

Aluminum

HYPOTHESIS

My hypothesis is to help all the human beings and mechanics who contain all rust material with them so if they get this idea they can easily clean the metal this can be helpful to women's also as when they want to clean their gold ring or earring they can easily clean as it toothpaste is easily available at home

PROCEDURE

First we have to apply Dabur red paste on the metals and keep it for 3 hours then we have to apply Meswak on the metals and keep it for 3 hours then we have to apply close up and keep it for 3 hours then we have to apply Pepsodent and keep it for 3 hours and then at last we have to apply Colgate and then keep it for 3 hours . Then we may observe that Dabur red paste and Colgate are very good for cleaning the metals and Meswak and Pepsodent are useful for cleaning our teeth as it contain less CaCO_3 in them.

OBSERVATION

We may observe that the metals may get cleaned when they are reacted with toothpaste here the toothpaste are bases which contain CaCO_3 in them so by this we can say that bases are good for metals.

CONCLUSION

We may conclude that the reaction of bases with the metals has been identified and the materials made of metals are cleaned. By this we can say that bases are good for metals.

ANALYSIS

S.NO	TOOTHPASTE	QUANTITY	OBSERVATION AFTER 1 DAY
1	DABUR RED PASTE	50 gm.	The metals rust is cleaned
2	MESWAK	50 gm.	It is not fully cleaned
3	CLOSE UP	40 gm.	It is not cleaned
4	PEPSODENT	27 gm.	It is not fully cleaned
5	COLGATE	23 gm.	It is cleaned

REFERENCES AND ABBREVIATION

WWW.funofsciencefairbydr.qazi.com/

www.sciencebuddiesorg.com/

www.sciencemadesimple.com/

www.science-fair-projects.com/

www.super-science-fair-project.com

www.calciumcarbonate.com

www.whataremetals.com

www.benefitsofcalciumcarbonate.com

www.toothpaste.com

www.istoothpasteuseful.com

Abbreviation

CaCO₃-calcum carbonate

SELECTION OF PROBLEM

I have selected this project because to help our society as they face a lot of problems while cleaning the metals there is a process called electroplating which is of a very high cost but my research is of less budget and it is also very helpful for human beings and mechanics if they get this idea they can easily clean all the metals.

DEDICATION

I dedicate my project to all my science teachers.



THANK YOU