GOVERNMENT DEGREE COLLEGE,PADERU,ASR DIST.

DEPARTMENT OF CHEMISTRY

STUDENT GROUP PROJECT WORK

TOPIC: SOAP MAKING

DATE: 12/10/2022

NAME OF THE GUIDE: CH.ANITHA, LECTURER IN CHEMISTRY

ACKNOWLEDGEMENTS

I would like to express our special thanks of gratitude to my chemistry madam "Mis.Ch. Anitha" for their able guidance and support in completing our project.

I would also like to extend our gratitude to the principal sir "Dr. V. Chittabbai" and vice principal sir "Dr. T .N. Rasool " for providing us with all the facility that was required.

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INTRODUCTION

In present age, all people want to appear smart and elegant in his personality. The history of soap industry in India is very old say since 1889. The use of soap or soap like cleaning agent has always been associated with man's inherent instinct to keep his body and other belonging clean. Soap help remove slag from skin to make skin a brilliant glow. The principal raw material of soap is oil and fats. According to these raw materials the quality of soap and category of soap is changed. The necessary raw materials are needed to be of high purity and the finished product should have the balanced pH as its froth may enter the eye. Toilet soaps are made by combining liquid fats (like vegetable oils or animal fat) with an alkali like sodium hydroxide (also called lye). The process is called saponification‖; the definition of saponify‖ is literally to turn fat or oil into soap by reaction with an alkali. During the curing process, the sodium hydroxide and water evaporate out of the product, leaving behind just awesome soap‖. Superfatting,‖ which refers to the process of adding liquid fats to soap after saponification, is popular for its rich, moisturizing effect. Clear soaps will add glycerin and sorbitol (a sugar alcohol with emollient properties), and products labeled antibacterial‖ usually rely on triclosan, a substance that kills bacteria and helps prevent fungus growth. A simple production method with high return soaps are invariably used in every household. The antibacterial soap with a moisturizer added has huge market potential. The market is spread from remote village to the metro cities alike. The industry gives a good profit and high employment oriented.

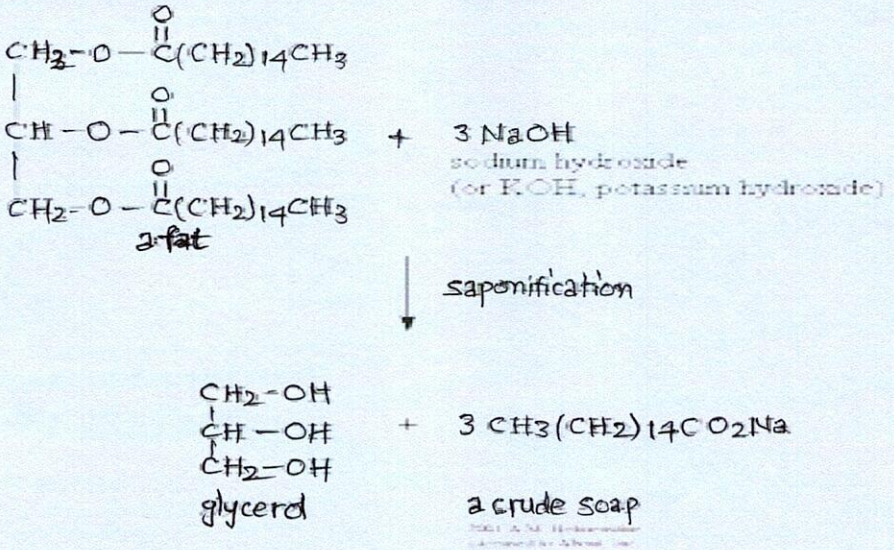
Objectives:

The objective of this laboratory is to make lye soap via the saponification reaction.

Soap making has remained unchanged over the centuries. The ancient Roman tradition called for mixing rain water, potash and animal tallow (rendered form of beef or mutton fat). Making soap was a long and arduous process. First, the fat had to be rendered (melted and filtered). Then, potash solution was added. Since water and oil do not mix, this mixture had to be continuously stirred and heated sufficiently to keep the fat melted. Slowly, a chemical reaction called saponification would take place between the fat and the hydroxide which resulted in a liquid soap. When the fat and water no longer separated, the mixture was allowed to cool. At this point salt, such as sodium chloride, was added to separate the soap from the excess water. The soap came to the top, was skimmed off, and placed in wooden molds to cure. It was aged many months to allow the reaction to run to completion.

All soap is made from fats and oils, mixed with alkaline (basic) solutions. There are many kinds of fats and oils, both animal and vegetable. Fats are usually solid at room temperature, but many oils are liquid at room temperature. Liquid cooking oils originate from corn, peanuts, olives, soybeans, and many other plants. For making soap, all

different types of fats and oils can be used anything from lard to exotic tropical plant



oils.

Saponification Reactions:

Benefits of Using Natural Soap

There are several benefits to using natural soap, including:

1. Real Soap Instead of "Fake Soap"

Many products that are advertised or displayed using terms like ‘cleanser,’ ‘body bar,’ ‘body wash,’ ‘beauty bar,’ ‘skincare bar,’ and even ‘deodorant soap’ are actually detergent based products, and not really soaps at all.

2. Natural Soap is Highly Moisturising

One of the benefits of using real soap is that one of the by-products of the production process is glycerine. Glycerine is an excellent skin moisturiser because it attracts moisture to itself in and around the skin. Traditionally made soaps contain glycerine, and so they hydrate the skin during bathing, whereas many commercially manufactured soaps can dry skin out. Why? Because store-bought, commercial soaps usually undergo a process designed specifically to remove the glycerine.

3. Better for the Environment

Organic soaps do not produce harmful environmental poisons or toxins. The soap breaks down more easily after use and does not harm the water cycle or the wildlife that shares the water in our rivers, lakes, and the oceans. This eco-friendliness would be a strong argument for using organic soaps, even if all else was equal. Add to it the great

quality and efficacy of the soaps, and the pleasure you get from a more unique product, and they are a clear winner.

4. Rich in Antioxidants

Since the ingredients used in organic soaps include many that are natural antioxidants, and since the process doesn't extract these substances for other purposes, organic soaps can actually help to repair the skin by reducing inflammation, keeping skin hydrated, and therefore helping the user to have young-looking, healthier skin. The gentler pH levels of organic soaps (usually between 9 and 10) help care for your skin in the long term, as well as keeping you looking and feeling clean and fresh now

5. They Don't Use Preservatives

Organic products do have a shorter shelf life, but that is for good reason. The preservatives used in non-organic products tend to be toxic to humans or the environment. It sometimes comes down to a choice: do you want the product to be able to sit, unused, on a shelf for a long time, or do you want it to be healthier for the user? The answer is clear.

6. Natural Antibacterial Properties

In most antibacterial soaps you will find triclosan, parabens, sulphates and other toxic chemicals that are thought to increase the risk of some cancers, can alter hormonal balance, and can affect your reproductive system.

Organic soaps, on the other hand, do not contain these chemicals and instead use antibacterial agents like essential oils. Not only do these help fight harmful bacteria, but they also have great fragrances, like lavender, tea tree, eucalyptus

PROCEDURE

The beauty toilet soap can be made or manufactured into 2 steps namely preparation of soap base and to obtain finished products soap base. For making the soap base the specifications is carried which is done by either remitting and perfuming and secondly by milling process. Fat should be used of high standard quality. Weigh fat oil & lye (sodium- hydroxide) accurately, if the lye is weighed more, the soap will be hard and harmful to skin and if the lye is low, the fat will not be saponifed properly. Melt oil fat into a kettle and filter it to remove any impurity. Now add caustic soda lye into it slowly and stir continuously when the oil is saponified

Extraction of fresh aloe for soap making

1. Cut the aloe leaf into several sections.
2. Use a sharp knife to run along the inside edges of each section, separating the inner gel from the outer skin.

3. Use your fingers or a spoon and press the aloe gel from the leaf.
4. Place in a small food processor or blender.
5. Process until smooth. (It will get fluffy, almost like egg whites.)
6. Store in the refrigerator if you'll be making soap within a few days, or freeze in ice trays for longer storage.

Ingredients for aloe Vera soap

- 71 g distilled water
- 55 g lye (sodium hydroxide) – 6% superfat
- 57 g fresh aloe gel
- 170 g olive oil
- 85 g coconut oil*
- 57 g sunflower oil (or sweet almond or apricot kernel)
- 57 g tallow (or shea, mango or cocoa butter)
- 28 g castor oil

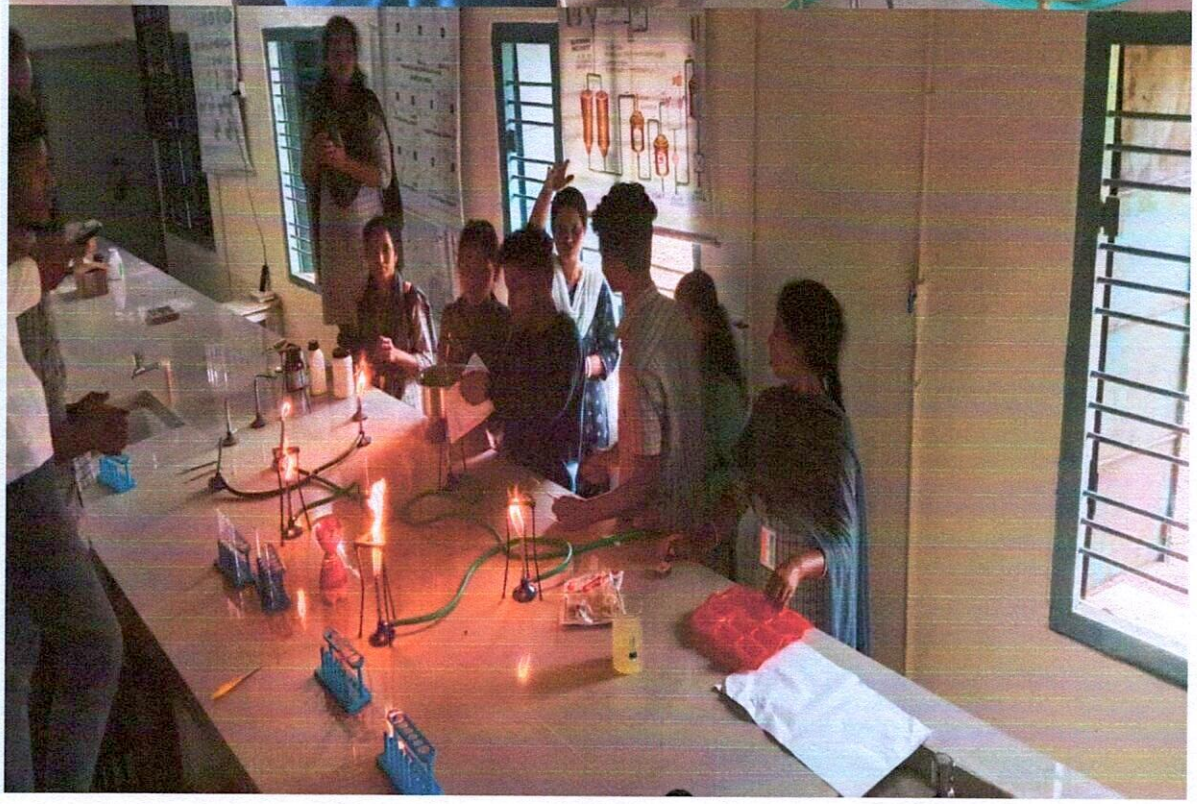
Directions

1. Put on goggles and gloves.
2. Weigh the water into a stainless steel or heavy duty plastic container.
3. Weigh the lye into a small cup.
4. Sprinkle the lye into the water and stir well.
5. If using, stir in the green clay and chlorella powder.
6. Cool the lye solution in a safe spot for 30 – 40 minutes, or until about 100 to 115 degrees F.
7. Stir in the sodium lactate, if using.
8. Melt the tallow (or butter) and coconut oil, then combine with the remaining oils.
9. Add the rosemary oleoresin extract (ROE) to the oils, if using.
10. Use an immersion blender to thoroughly blend the fresh aloe gel into the oils.
11. Pour the cooled lye solution into the warm oils/aloe mixture.
12. Use a combination of hand stirring and brief short bursts of the immersion blender to mix until soap reaches trace.
13. Pour soap into molds.
14. Cover lightly with a sheet of wax paper, then a towel or blanket to insulate.
15. Keep the soap in the mold for 1 to 2 days or until easy to remove.

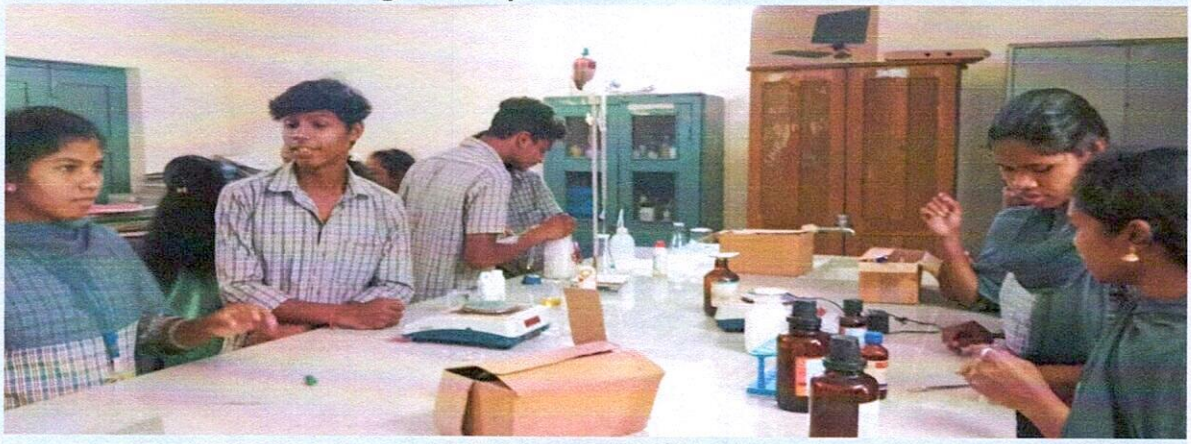
16. Cure the soap on sheets of wax paper in the open air for 4+ weeks before using.

Soap unit, Girijan Cooperative Corporation, Arakuvalley visit with students

Extraction of aloe



Making of soap



References:

WSDL interface | SOAP and WSDL

ReadyAPI: SOAP and WSDL Reference

Reference - WSDL interface | SOAP and WSDL

SoapUI

https://www.soapui.org › docs › wsdl-interface

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6	KIMUDU PUJITHA (w)	II MPC	K. Pujitha
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DEPARTMENT OF CHEMISTRY

REPORT

Student group project work was conducted in the Department of Chemistry during the academic year 2022-23 on the topic "SOAP MAKING" on 12/10/2022 in which 20 students of II year MPC Group have actively participated. Student participation is very good and Experiential Learning is progressing and Team work skills are progressing.

Signature of the Guide

Signature of the Principal

Principal
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GOVT DEGREE COLLEGE [P.D.R]

PROJECT WORK

Name :- Adapa poragathi

topic :- Strong electrolyte

Group :- IInd BSc [MPC]

-: Strong electrolyte Example:

* Strong acids, strong bases, and ionic salts that are not weak acids (or) bases are strong electrolytes. Salts much have high solubility in the solvent to act as strong electrolytes.

HCl (hydrochloric acid), H_2SO_4 (Sulfuric acid), NaOH (Sodium hydroxide) and KOH (potassium hydroxide) are all strong electrolytes.

originally, a "strong electrolyte" was defined as a chemical that, when in aqueous solution, is a good conductor of electricity. With a greater understanding of the properties of ions in solution, its definition was replaced by the present one.

A concentrated solution of this strong electrolyte has a lower vapor pressure than that of pure water at the same temperature. Strong acids. Strong bases and soluble ionic salts that are not weak acids (or) weak bases are Storg electrolytes.

A substance whose aqueous solution (or) molten state decomposed into ions by passing electricity is known as electrolytes.

Strong Acids.

* Perchloric acid ($HClO_4$)
* Hydriodic acid (HI)
* Hydrochloric acid (HCl)
* Hydrobromic acid (HBr)
* Sulfuric acid (H_2SO_4)
* Nitric acid (HNO_3)
* Chloric acid ($HClO_3$)
* Bromic acid ($HBrO_3$)
* Perbromic acid ($HBrO_4$)
* Periodic acid (HIO_4)
* Fluoroantiminic acid ($HSbF_6$)
* magic acid [FSO_3HSbF_5]
* Carborane superacid $H(CHB_{11}Cl_{11})$
* fluorosulfuric acid [FSO_3H]
* Triflic acid [CF_3SO_3H]

Strong Bases:

* Lithium hydroxide [LiOH]
* Sodium hydroxide [NaOH]
* potassium hydroxide [KOH]
* Rubidium hydroxide [RbOH]
* caesium hydroxide [CsOH]
* Calcium hydroxide [$Ca(OH)_2$]
* strontium hydroxide [$Sr(OH)_2$]
* Barium hydroxide [$Ba(OH)_2$]
* Lithium diisopropylamide [LDA] $C_6H_{14}LiN$.
* Sodium amide [$NaNH_2$]
* Sodium hydride NaH

Salts:

* Sodium choride [NaCl]
* potassium nitrate [KNO_3]
* magnesium chloride [$mgCl_2$]
* Sodium acetate [CH_3COONa]

See also

* Electrolyle
* Dissociation constant.

* Reference:

1 ^ Brown, Theodore L. Chemistry ; the central Science , 9th edition.

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