

COURSE: HOUSEHOLD PRODUCTS

MODULE 1: LIQUID SOAP

WHAT ARE HOUSEHOLD PRODUCTS?

Household products are goods and products used within households. They are the tangible, important and movable personal property placed in the living rooms, dining rooms, kitchens, family rooms, great rooms, bedrooms, bathrooms, recreation rooms, hallways, and other rooms of a house.

Home appliances, tools and products play a major role in the domestic life of the modern man. They have always had a significant place in the life of man ever since the Stone Age when man began to use tools. Industrialization has ushered in dramatic as well as uneven transformation in world society. It has altered the technological pattern and work processes of the preindustrial ways of life. This socio-technological revolution has changed the domestic ways and means of dealing with food provision, clothing, cleaning, personal care and medical care. Today, twenty-first-century human beings use more sophisticated appliances and products for his/her daily life. The more we try to make our life convenient and comfortable, the more significant the role of household tools turn out to be in determining the lifestyle of a man. These items provide for basic human needs: Food, water and shelter. In addition, household products include items to provide comfort and safety. The items a family might consider to be necessities may vary depending upon income.

We can classify household products and tools into the following:

1. **Furniture and Appliances:** Couches, chairs, a kitchen table, beds, dresser drawers, bookshelves, table or floor lamps and light bulbs are all appliances and products necessary in a household. A stove and refrigerator are household necessities because they are required for safely cooking and storing food. Other common household appliances like microwaves, televisions, computers, dishwashers and clothes washers and dryers are not considered necessities by many families, but are found in most households.

2. **Kitchen:** Kitchens should house enough food and water for those living in the household. Kitchen necessities also include plates, bowls, glasses, mugs and silverware for eating and drinking. Pots, pans, skillets, can openers, serving spoons, baking dishes and serving and mixing bowls required for cooking and baking in the home. Cutting boards and knives, as well as, dish towels, pot holders and kitchen cleaners (such as liquid soaps, abrasives, bleaches, etc.). Small kitchen appliances or gadgets like toasters, coffee pots, can openers, bottle openers and blenders are also household needs.
3. **Beddings, Window Coverings and Linens:** Homes require bedding for comfortable sleeping. Beddings should include sheets, blankets and comforters. Pillows and pillow cases are also needed. For the bathroom, most homes need a shower curtain and bath mat. In addition, bath towels, hand towels and washcloths are also necessary. Window blinds or curtains are also a necessity.
4. **Cleaning:** To keep a clean home, a vacuum cleaner and brooms with dustpans are necessary. In addition, cleaners, insecticide, sponges, dishcloths, scrub brushes and paper towels are also required. A mop and mopping bucket are needed to keep floors clean. A toilet brush, disinfectant, laundry detergent and laundry basket are also needed.
5. **Personal Hygiene:** Personal hygiene items that are necessities include toilet paper, soap and deodorant. Also included are shampoo, conditioner, shaving stick/cream, aftershave, bleach. A toothbrush, toothpaste, dental floss and mouthwash are also necessities. Keep a first aid kit containing bandages, first aid cream and alcohol for minor accidents.

We will be learning how to make some few of these household products in this modules and following modules.

ABOUT LIQUID SOAP

Dishwashing liquid, known as dishwashing soap, dish detergent and dish soap, is a detergent used to assist in dishwashing. It is usually a highly-foaming mixture of surfactants with low skin irritation, and is primarily used for hand washing of glasses, plates, cutlery, and cooking utensils in a sink or bowl. In addition to its primary use, dishwashing liquid also has various informal applications, such as for creating bubbles, clothes washing and cleaning oil-affected items.

Liquid soap was used for dishwashing before detergents were invented in Germany during World War I. Liquid detergent used for dishwashing was first manufactured in the middle of the 20th century. Dishwashing detergent producers started production in the United States in the 1930s – 1940s. The first dishwashing liquid in Europe commenced production in 1942. In 2005, dishwashing detergent retail sales totaled nearly USD \$10 billion worldwide

Any dishwashing liquid may contain bleach, enzymes, or rinsing aids. Some dishwashing detergents may be homemade, using ingredients such as perfume, color and grated bar soap, among others. Dishwashing liquid is something many of us take for granted. We use it every day as it is a kitchen essential.

The way dishwashing liquid works is very clever. The solution contains molecules that have two opposing sides – one side is hydrophilic (meaning it loves water) and one end is hydrophobic (meaning it does everything it can to stay away from water). The hydrophobic ends of the molecules cling to the grease on your dirty plates, while the hydrophilic ends try their best to get into the water. Fortunately, the hydrophilic ends are a little stronger, and the molecules are drawn into the water, with the grease attached. Liquid soap is becoming a very popular product in the country today. Many use it for domestic purposes at home to wash clothes and kitchen utensils; restaurants and eateries are not left out too. One interesting thing that makes the demand for liquid soap very high, is the fact that it is easier and cheaper to use than every other washing substances. Little wonder a lot of people are now venturing into the business. Capital for production is usually very low and one may not require any further teaching since internet has made everything beautiful in this generation of ours.

This course has been carefully put together to teach you how to produce liquid soap by yourselves. Note that there might be other methods used for production, but the method used in the video is

one of the best, because it is the product of so many researches and it is the area of expertise of the trainer, you may however, stick to whatever method that will best work for you in future. By doing more research and practicing continuously. You can start the business today on your own and specialize in the production and marketing of liquid soaps to earn for yourself.

CHEMICALS USED AND THEIR SIGNIFICANCE

The chemicals required to produce liquid soaps all have their peculiar uses and significance, they all have unique properties that they contribute to the making of liquid soap to provide the final result. These chemicals are not far-fetched and are not expensive; they are readily available in our main markets. You can ask traders around where you can buy chemicals for liquid soap and you will be directed accordingly. The vendors that sell the chemicals can advise you on the quantities of chemicals to buy for the volume of liquid soap that you plan to produce.

These chemicals are:

1. **NITROSOL:** This serves as a thickener in the production of the liquid soap. It comes as a whitish substance and has the texture of powdered milk. Nitrosol dissolves immediately in water.
2. **SULPHONIC:** This is a dark looking liquid substance. Sulphonic acid is an organic acid which is very important in liquid detergent production. It neutralizes the basic effect of sodium hydroxide (Caustic soda), and is majorly used as a foaming and cleaning agent. Please note that the word spells **S-U-L-P-H-O-N-I-C** and not S-U-L-P-H-U-R-I-C. The latter (SULPHURIC) is very strong acid and can be very corrosive, it is easy to mix the names of the two in fact **Sulphuric** acid tends to be more popular so please beware.
3. **TEXAPON:** The Texapon is a pasty and jellylike substance. It also functions as a foaming agent and serves as foaming booster too. SLS (Sodium Lauryl/Laureth Sulfate) is also a common soaping agent used, but many liquid soap producers don't use Texapon and SLS together in the same production, because both perform almost the same function.
4. **SODA ASH:** This is a whitish substance but with much coarse grains. The addition of soda ash prevents hard water from bonding with detergent, allowing for a more even distribution of the cleaning agent during the washing cycle.

5. **TRIPOLYPHOSPHATE (S.T.P.P):** STPP is a sodium salt of triphosphoric acid. It has the appearance of white crystal powder and looks very much like a table salt. In liquid detergent, it helps to soften water, suspends soil, and serves as an anti-spotting agent. It is a good builder and also ensures stability of liquid detergents when used. It is a strong cleaning agent too and helps the SLS to work on its full potential.
6. **PERFUME:** This gives your soap a sweet fragrance. Most people prefer lemon, pineapple, lavender, banana or strawberry fragrance in their production.
7. **COLOR:** This usually comes as a powder and should be diluted with water before adding to the soap mixture. The color adds beauty to the finished product. Most producers go with green color.

HOW TO MAKE LIQUID SOAP

These are the chemicals we will be using to learn our liquid soap production.

Note: Chemicals and Quantity Ratio (20 Liters)

S/N	CHEMICALS/MATERIAL	UNIT(s)
1	Nitrosol	125g
2	Sulphuric	50cl
3	Texapon	250g
4	Soda ash	250g
5	Tripolyphosphate (S.T.P.P)	250g
6	Caustic soda	1 table spoon
7	Perfume	50ml
8	Color	1 unit

Other important items needed in soap production are:

- **Spatula:** To mix and melt chemicals into the right consistency.
- **Plastic or rubber container:** You will need a large container because most of the mixing will be done in a bowl.
- **Measuring bowl:** To make sure you add the right quantity of chemicals.
- **Turning Stick:** To stir and mix chemicals and solutions.

- **Face mask/ Nose cover:** It is important to cover your nose or face when working with chemicals to avoid inhaling toxic chemicals that might be dangerous to your health.
- **Rubber Gloves:** To avoid direct contact with chemicals as some of them are harsh on the skin.
- **Water:** Water is the main solvent needed for the process, to dissolve the various ingredients. It is very essential in the production of liquid soap.
- **Sulphonic acid:** This is used in soap making NOT Sulphuric acid. Sulphuric acid is highly corrosive and dangerous. This mistake was made in the video as well. Please, note this correction.

PROCEDURE

- Dissolve thoroughly 125g of Nitrosol inside 3 liters of water by stirring continuously with turning stick. Make sure you use a container big enough or else you might have to divide the mixtures later on.
- Pour the stated amount of Sulphonic and Texapon in another bowl and stir till both chemicals dissolve completely. Then, pour the mixture inside the already diluted Nitrosol solution.
- Add 2 liters of water to the mixture already on ground. Add water carefully and gradually.
- Dissolve Soda Ash in another ½ liter of water and pour it inside the solution. Stir till solution becomes very foamy. (*The foam will make the mixture look like it doubled or tripled in quantity.*)
- Add 2 liters of water to very foamy mixture. **Note: for the purpose of this production, because the container is small, most of it was poured into another container, hence, a small quantity was left in the container to ensure adequate mixture.**
- Dissolve the S.T.T.P into ½ liter of water.
- Pour dissolved S.T.T.P inside the solution. We gradually added the mixture that was earlier poured into another container. (Meanwhile, if you have a bigger container, you may not need to divide the mixture).

- Add another 2 liters of water.
- You can now add perfume. You will smell the fragrance. For the purpose of this tutorial, we made use of “banana flavor”.
- Dissolve color in some water and add it to the mixture. (The color used in this video is green). Stir rigorously and start bottling your soap.
- You can further add water for a lighter mixture.
- Now you have a finished product that you can bottle and start selling.

REFER TO VIDEO FOR MORE CLARITY

REFERENCES

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