**Homemade Soap**

(Cold Process)

**Group 7**

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Equipment:

* Two separate containers for measuring lye and water. (Label and look for Heat-Resistant containers w/ lids.)
* Gloves
* Goggles
* Apron
* Weighing Scale
* Blender
* Heat Source
* Stainless Steel Pots (Don’t Use Aluminum or Iron)
* (2) Candy/ Deep Fry Thermometers
* Measuring Spoons and Cups
* Variety of Mixing Spoons and Ladels
* Notebook and Pen
* Mold (at least a 1 pound size)
* Freezer Paper/Aluminum Foil
* Towel

Materials

* Lye (Sodium Hydroxide)
* Palm Oil and Olive Oil
* Distilled Water
* Fragrance Oil

Precautions:

* Lye can be extremely dangerous if it gets ingested or on the skin, if you do get any on your skin rinse with vinegar and not water.
* Anything you use when making homemade soap should be used ONLY for soap making.
* Avoid using any metal molds unless you can be sure they are stainless steel.
* You will need to measure your ingredients carefully, as when you make homemade soap it needs the right mixture to complete the saponification process.
* Never add water to lye. Always add lye to water.

**PROCEDURE**

1. Gather the ingredients from one of our homemade soap recipes in the nav to your left.
2. Prepare a mold for your soap. If you don't have a specific soap mold, then any good size container will do. Plastic, glass, wood, ceramic or cardboard all lined with freezer paper will make suitable molds.
3. Avoid using any metal molds unless you can be sure they are stainless steel. The best way to line your mold when using freezer paper is to cut two strips, one to go across the width box and the other going across the length leaving the corners bare and with enough length to fold the freezer paper over the edges secure with tape.
4. You will need to measure your ingredients carefully, as when you make homemade soap it needs the right mixture to complete the saponification process.

Making Your Lye-Water Solution

1. Put on some safety glasses and gloves, and then begin to add the lye to the distilled water, do this SLOWLY and stir well. The water will start to heat when it reacts with the lye.

Measuring the Oils

1. Put the soap pot onto the scale and zero out the weight. Weigh the oils one by one into the pot. Ensure to zero out the weight after you have measured each oil. Do the pouring slowly as you cannot take it out once it’s put in the mixture.

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| Oil | Sodium Hydroxide (NaOH) |
| Olive | 0.1340 |
| Palm | 0.1410 |

1. Slowly heat the oils to around 110F (43C) then set it aside whilst maintaining the temperature of the oil.
2. Once the lye-water solution has cooled, start adding the lye to the oil, do this SLOWLY, and remember that you should always add lye to other materials, not the other way around, pouring a liquid into lye crystals can cause it to splash and can burn your skin. Choose a well ventilated area when working with lye.
3. Begin carefully stirring the mixture by the hands. By hand this will take a little longer, maybe up to an hour longer but with consistent slow even stirring you will eventually reach the trace stage.



1. By dipping your spatula or spoon into the mixture and dribbling a small amount back into the mix. It should leave a light "trace" behind (like a small mound of soap that takes a few seconds to blend back within the mixture.) This is when you know you've reached the "trace" stage. That is the time to add any extras e.g...Fragrance, colour or texture into your soap recipe.
2. Pour your soap into the mold and smooth out using a spatula. If your mold doesn't have a lid, then place a piece of cardboard over the top of it, and wrap an old towel around the whole thing to keep the heat in. Allow your soap to set for 24 hours in a warm place until the soap has hardened. Don't be too alarmed if you take a quick peek at your soap and it looks translucent, this is called the gel stage and is perfectly natural.
3. When the homemade soap has hardened, remove from the mold and cut it into blocks, the soap will still be caustic at this point so I would recommend still handling the soap with gloves for the first 48 hours.
4. Cover/line a cooling rack, tray or box with a cloth, and Stand the soap blocks up right without touching each other so the air can circulate, then Store in a dry place for 3 to 4 weeks before using.