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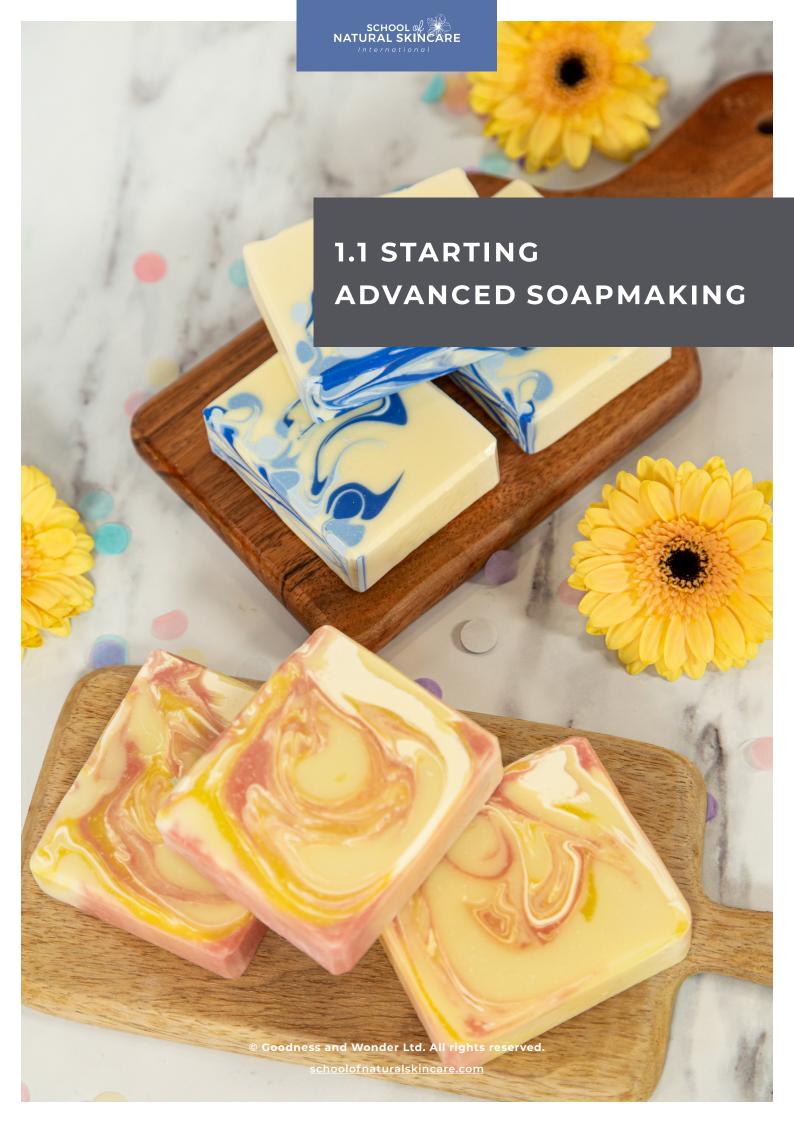
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# 1.1 STARTING ADVANCED SOAPMAKING

#### In this lesson, we will cover:

- 1. Slow moving soap.
- 2. Soda ash problems.

Once you are familiar with making plain soap and with adding colorants to your soap, you can move on to making beautifully designed soaps using different swirling techniques.

## SLOW MOVING SOAP

Simple swirls allow you to use almost any recipe, but more advanced swirls require a very slow moving recipe – this way you will have enough time to divide the soap into several containers, color each of them and then slowly pour all of the soap.

There are several factors to consider when making a slow moving soap.

#### **Temperature**

In order to prevent the soap from thickening up too fast, we usually work at low soap mixture temperatures (below 40°C) and avoid any accelerating ingredients, such as spice essential oils and floral synthetic fragrances.

### **Mixing**

To ensure the soap remains completely fluid, we use a stick blender for only as long as it takes to achieve emulsion. After that, we use a spatula, spoon or a whisk to mix the soap.

## Oil composition in the recipe

In most cases, liquid oils saponify relatively slowly, while solid oils (butters) saponify faster. For this reason, we usually include approximately only 30-45% solid oils/butters into a slow moving recipe.

Castor oil, despite being liquid at room temperature, increases the reaction speed due to its high content of ricinoleic fatty acid.

# Lye concentration

The higher the water content (or, less concentrated lye solution), the more fluid the soap mixture will remain. In order to achieve optimal fluidity, we usually use 25-30% lye concentration.

#### **EXAMPLE RECIPE**

Below is a recipe that works well for intricate swirls.

Ingredient	Oil percentage (%)	Weight (g)
Olive oil (INCI: Olea Europaea Fruit Oil)	30	150.0
Coconut oil (INCI: Cocos Nucifera Oil)	20	100.0
Palm oil (sustainably sourced) (INCI: Elaeis Guineensis Oil)	20	100.0
Sunflower oil (INCI: Helianthus Annuus Seed Oil)	20	100.0
Almond oil (INCI: Prunus Amygdalus Dulcis Seed Oil)	10	50.0
Lye (INCI: Sodium Hydroxide)		69.6
Purified water (deionized) (INCI: Aqua)		141.3

5% superfat, 33% lye concentration



### SODA ASH PROBLEMS

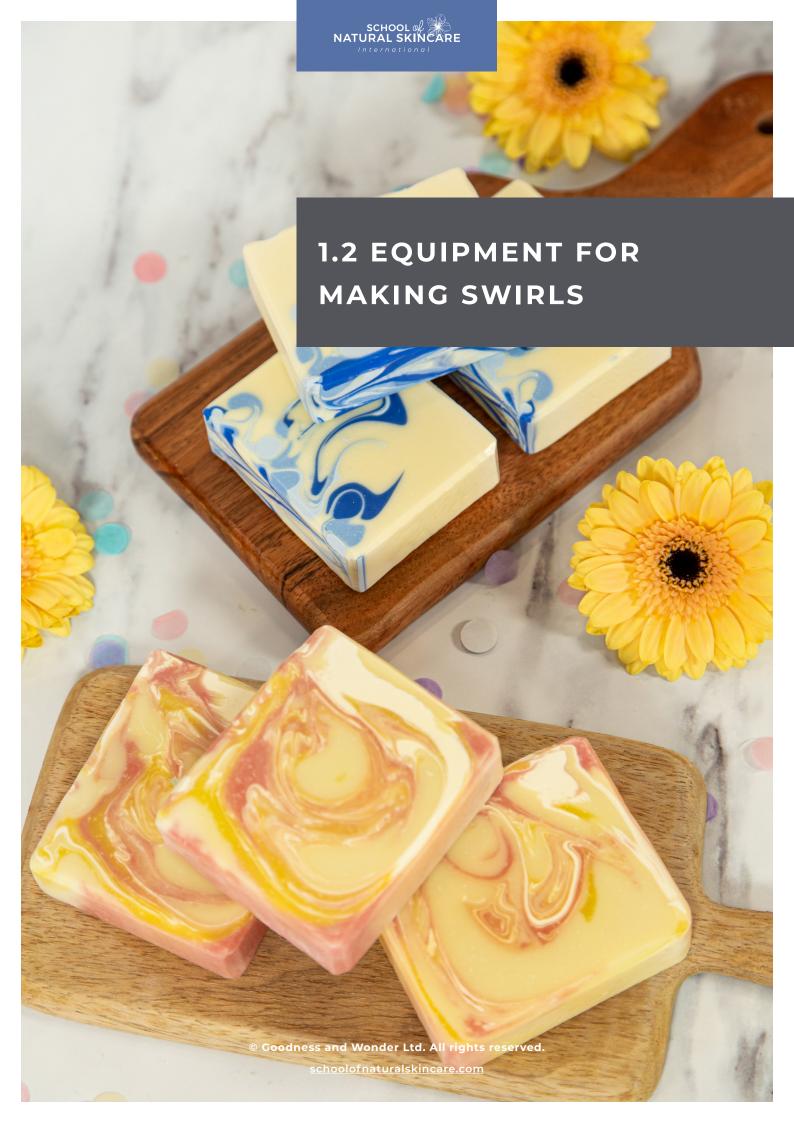
Whenever we work with very fluid soap, it is very likely to develop soda ash while saponifying. Because the soap mixture is at the early stages of saponification, plus we usually work at lower temperatures when creating soap swirls, the unreacted lye in the soap will remain present for a long period of time. As a consequence of this, soda ash will form.

Since we cannot increase the temperature of soaping nor the lye concentration, there are two main solutions to soda ash on a slow moving recipe:

- 1. **Spritz the surface of poured soap with alcohol.** Pouring some alcohol (ethanol or isopropanol) into a spray bottle and gently spritzing the alcohol on the surface of finished soap will accelerate the saponification on the surface (due to alcohol acting as an accelerator). The layer of soap on the top will saponify faster, leaving less time for lye to react with carbon dioxide.
- 2. Oven processing the soap. After we are done with pouring the soap into a mold and creating the swirls, the soap does not have to remain liquid any longer. This means that we can force the saponification to happen more quickly. The easiest way to do this is to carefully transfer the filled soap mold into an oven that was preheated to its lowest setting (usually around 50°C). Turn the heater off and leave the soap in a closed oven overnight. A warm oven will provide just enough heat to speed up the saponification. Make sure you are using an oven-safe soap mold for this (eg wooden or silicone molds).

#### **SUMMARY**

In this lesson we discussed the factors that affect the speed of saponification, which is very important when making advanced soap swirls. We also mentioned solutions for soda ash issues.



# 1.2 EQUIPMENT FOR MAKING SWIRLS

# In this lesson, we will cover:

- 1. Equipment for making swirls.
  - containers
  - droppers
  - dividers
  - · rods

Below: Soap cutter



# **EQUIPMENT FOR MAKING SWIRLS**

Making detailed swirls in cold process soap requires additional equipment, in addition to soap molds and liners. Equipment is easily obtainable from soapmaking supply shops and other general shops.

#### Containers

Since soap swirls require soap in different colors, we usually divide the soap mixture into separate containers. You can use disposable plastic or paper cups for this, but regular measuring cups work very well too, are better for the environment, and they can be used over and over again.

Whenever we need to pour the soap in very fine lines, squeeze bottles are a great option. To ease the washing up process, the squeeze bottle can be lined with a plastic freezer bag.

It is also good to have several small containers on hand, for example small beakers, as they will be used for premixing the mineral pigments. Each pigment used will require a separate container.

Below: Squeeze bottles



## **Droppers**

A dropper or a pipette is also very handy when adding the pigments to the soap mixture.

#### **Dividers**

Some swirls require soap to be poured into the mold using one or more mold dividers. They usually divide the mold vertically into two or more sections. They are usually made from HDPE or acrylic, but they can also be made at home using corrugated cardboard covered in adhesive/packing tape.

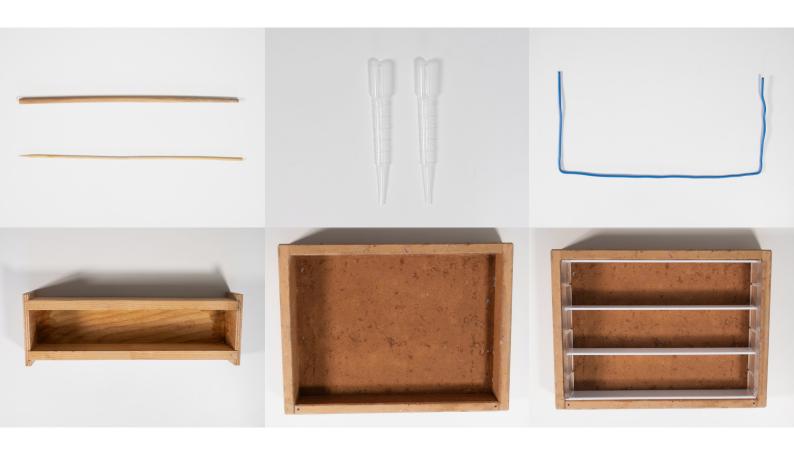
#### Rods

A rod or a stick is often needed to create swirls. A glass mixing rod can be used, as well as wooden sticks, eg a chopstick.

For certain swirls, a piece of wire is needed. A wire hanger can be used to create them, but the wire needs to be covered with adhesive tape so it does not react with the soap. An easier option is to use coated wire, such as a gear tie or rubber-coated electrical wire.

The wire must be flexible enough so that you can fold it to the size that fits into the mold you are using, and stiff enough to hold its shape.

Top, left to right: Wooden stick and chopstick rods, pipettes, rubber-coated hanger tool Bottom, left to right: Loaf mold, slab mold, slab mold with dividers





# **SUMMARY**

In this lesson we talked about which equipment is commonly needed when making soap swirls.





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