

Making Cold Process Soap

Cold process soap making is not only fun, but every batch is different and limited only to the creativity of the person making the batch of soap. Yes, there are a couple of “policies” that the soap maker needs to be aware of, such as the SAP (saponification) value of the ingredient (every ingredient has its own SAP value) as well as its INS (something to do with the iodine content) value, but other than that, there is no limitation on what goes into the batch of soap...except maybe the size of the batch.

The first thing I do is pull up a spreadsheet I have created which incorporates the SAP and INS values of the ingredients. I begin with what I *think* I will include, and as I measure each ingredient, I change the *intended* amount to the *actual* amount of the ingredient (the example shown below is what I *actually* ended up with). It doesn't matter what you use to measure your ingredients; just make sure that your measurement is accurate as the results of your batch of soap will only be as satisfactory as your accuracy; right now I use ounces, but I may change to grams someday.



Moisturizing Soap

	Ounces	SAP Value	SAP times Ounces	INS Value	INS * % of Total Ingredients
Cocoa Butter	9.200	0.136	1.251	158.000	28.171
Shea Butter	9.000	0.126	1.134	112.000	19.535
Coconut Oil	20.000	0.180	3.600	248.000	96.124
Olive Oil	5.300	0.133	0.705	109.000	11.196
Almond Oil	4.100	0.137	0.562	97.000	7.707
Joboba Oil	4.000	0.065	0.260	9.000	0.698
Total	51.600				163.430
Lye to be used			7.512		
9% Superfating			91%		
Superfatted Lye to be used			6.836		
Water (2.5 times Lye to be used)			17.089		
% of total fat is solid:		74.03%			

In this example, I multiplied the amount of each ingredient times the SAP value to give me the “SAP times Ounces” value. The sum of the “SAP times Ounces” amounts result in the amount of lye needed to make the fats and oils used into cold process soap.

It is *never* intelligent to use the “Lye to be used” amount, but rather a “superfatted” amount *just in case* one or more of your ingredients *might* have been a little “off” due to scale inaccuracies. In this example I’m using 9%. Multiply the “lye to be used” times the “Superfating” percentage to derive at the “Superfatted Lye to be used.” This amount of Lye times 2.5 gives you the amount of *distilled* water to use for this batch of soap.

The columns for the INS information are used to determine if the batch of soap will thicken to a pudding consistence easily. The sum total of the “INS * % of Total Ingredients” values should be between 145 and 160 indicating that the batch of soap should thicken without too much effort (in this example it is a little over but the

batch still thickened like I wanted it to). This information is not required, but I use it because I want to know what to expect.



Carefully pour the lye granules into the distilled water, stirring gently to dissolve. Putting on gloves and glasses to protect yourself from possibly splashing the lye and water solution on your skin is a safety factor and a must. I do this outside and have the wind blow the fumes **away** from me. One whiff and you'll know why – nasty comes to mind.

When all of the granules are completely dissolved, you'll notice the mixture is clear. This lye and water solution is **HOT** as the temperature of this mixture can reach as high as 200 degrees initially. It needs to cool to about 110 degrees, so either leave this mixture outside (if it's cool) or bring it in and put it on a counter to cool while you heat the butters and oils in your recipe. The temperature of your fats should also be about 110 degrees, but anywhere between 90 and 110 for both the water and lye mixture and the fats is okay too. They should be within 10 degrees of each other.



Did I mention I use stainless steel for mixing the fats and the water and lye? I use stainless steel, not plastic, and not aluminum. Lye doesn't get along with aluminum and the lye and water mixture is too hot for plastic. The oil mixture combined with lye and water is probably too hot as well. Stainless steel and porcelain are good to use.



While the lye and water solution is cooling, heat the oil and butters until the solids are *almost* completely dissolved, then turn off the heat and cover. The solids will continue dissolving with the heat off and the cover on while the lye and water continue to cool.

Set out within easy reach (I prefer waist level on a counter close by) the molds lined with freezer wrap paper. You'll want these ready and waiting for the soap "pudding," and you don't want to be scrambling after the mixing is finished to find them and set them up. For a 30 ounce mixture, I use one 13" X 3" mold, but will use two 12" or 13" length molds for a 50 ounce size batch or larger.

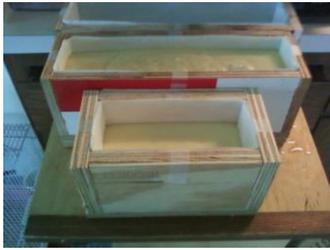


When the lye and water solution is about 115 degrees, I check the temperature of the oil mixture. Frequently the oil mixture will be substantially warmer than the lye and water solution; when the oil mixture is down to about 115 degrees, if the lye has cooled to under 95 degrees, I will heat the lye and water solution to about 105, then turn off the heat. The bottom of the pan will continue to heat the mixture, so I add the lye and water mixture to the oil mixture right away. I try to have everything within 10 degrees of each other (but between 90 and 110 degrees). If fragrance or color is going to be added, have it ready to add when the mixture becomes a thin pudding consistency. I put in one ounce of fragrance oil to every 30 to 40 ounces of soap, and two ounces of fragrance oil to 70 ounces and above of soap.



Stir initially to blend, than use an electric stick blender in bursts lasting about 8 to 10 seconds, with stirring in between. When the mixture resembles thick buttermilk or thin pudding, it is time to add fragrance oil and color if you are going to; if not, continue until pudding consistency is attained. After adding

fragrance and/or liquid dye, stir initially, then use the electric stick blender in bursts lasting about 3 to 5 seconds followed by stirring; do several times to ensure complete blending of any added ingredients. "Saponification" or thickening to pudding consistency will be accelerated by adding fragrance oil.



Pour into molds that you have already set up. The depth of your mold will determine the width of your soap bar. If you want a relatively narrow bar, only pour about 2 inches in depth; if you want a bigger bar, pour about 3 inches in depth.

Cover the soap molds with either a wooden or a hard surface.



Set your soap somewhere where there is no draft or disturbance, and cover with at least two blankets (putting the soap "to bed"). Leave undisturbed for 24 hours.

Wash everything twice. Again, human factor; something is not going to get as clean as it should, and by washing everything twice, this won't be a problem. When finished with cleanup, **then** remove

your gloves and protective glasses.



After 24 hours, gently pull the freezer paper lining out of the mold, thereby removing the soap "loaf." Carefully unwrapping the soap will preserve the freezer paper liner for another use. I gently scrape the lining with a butter knife to remove all traces of the soap so the next batch, if a different color, won't contain traces of the previous soap. Cut the soap "loaf" into slices with a butcher knife or similar instrument. Allow to dry on racks with circulation of air beneath and above. Allowing the soap to dry for 30 days makes it last a little while, although you can use the soap right away if you want to. Just remember that the soap is fresh and will quickly "melt" down the drain the sooner you use it. Allowing the soap to air dry for a few weeks helps the bar harden and last longer. *Never* wrap the soap in plastic. Allow the soap to breathe to prevent spoilage. Use within two years (never a problem for me and my family!).

Before doing this the first time, I read the following books twice, cover to cover, to ensure I understood what I was doing. Ingredients are not cheap, and wasting a batch is more than I can endure. This is a learning process, and errors are bound to occur, but you learn from them. Measure twice, and use once ☺

Smart Soapmaking (Anne L. Watson)

Basic Soap Making (Elizabeth Letcavage, Patsy Buck)