

The Soap Maker's Planner

by Jackie Ziegler



In My Soap Pot

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First printing: 2019

ISBN 978-0-244-46480-6

In My Soap Pot
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To Tim
who loved soap bubbles



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A quick note about soap making

If you have never made soap before, I recommend you check out YouTube for soap making videos for beginners or google for websites offering (free) soap making tutorials. Alternatively, check the internet if there are any soap making workshops available in your area.

Here is a list of some great places to start:

www.brambleberry.com

www.modernsoapmaking.com

www.lovinsoap.com

www.inmysoappot.co.nz

If you don't like to calculate your recipes by hand, one of the best soap calculators available is:

soapcalc.net

And if you want to catch up with like-minded, passionate soap makers for support, to share ideas or for inspiration, this forum has been around for at least a decade:

soapmakingforum.com

Safety & Precautions

Making soap uses strong alkali (caustic soda) which can be dangerous if not used correctly. Alkali can cause severe burns and can be fatal if ingested.

When working with lye it is very important to follow these safety guidelines:

- Always store the caustic soda in its correctly labelled, secure container away from children.
- Do not make soap if you have young children (or pets) running around. Or if you will be distracted.
- Never leave your prepared lye solution unattended.
- Pour caustic soda into the water and never the other way round!
If you add water to the caustic soda, this can cause an extreme reaction of the caustic soda and could explode in your face!
- When making soap, have a good air circulation in the room and keep windows open. Especially when adding the caustic soda to the water, the chemical reaction causes caustic fumes, which should not be breathed in!
- Wear goggles and gloves, long sleeved protective clothing and closed shoes

If lye does splash on your skin, rinse under cold water. If the burn is severe, or in your eyes, or ingested, call the medical emergency number immediately.

How to use this planner

Soap making is very creative, and there are so many times that I've doodled a design or an idea on a piece of paper, only for it to get lost again. This is why I've designed this planner. I've been using the same template for a few years now and just always printed them out on paper and kept them in a folder. But having it in a handy book format makes it a lot easier to keep all your ideas together. Use the recipe page to write down your soap recipe. There is a special box which you can use to draw and colour your design. Any special instructions can be written in the extra space at the bottom.

The recipe page is on the right hand side, the page opposite on the left hand side is the log page. This page will allow you to keep track of the testing and batches you've made.

There is an extra section at the back with lots of helpful information, such as SAP values and properties of common oils, fats and butters for those of you who like to calculate your recipes by hand, or if you need to swap out an oil, conversion tables to switch between metric and imperial measurements, usage rates for essential oils, fragrances, colourants and other additives, and even a troubleshooting section. There are also blank pages to use as you like.

The last pages of this planner serve as a recipe index. Write down the name of your recipe and the page number, and you'll have a handy reference to find your recipe quickly.

The planner contains exactly 52 recipe and log pages - one design per week!

RECIPE PAGE

Recipe title

How much the recipe will yield, i.e. 1200 ml

Ingredients to make up the lye solution

Oils, fats and butters used in the recipe

Fragrances and/or essential oils

Other ingredients, such as clays, botanicals, exfoliators etc.

Amount of superfat (extra oils added) or lye discount (lye reduced), usually between 2 - 10%

Strength of the lye solution, i.e. 25% or 1:3 (= 25% lye and 75% water)

If applicable, write down the design technique i.e. drop swirl

Draw and colour your soap design in this box

Colourants used and how to use them

Any special instructions that apply or need to be followed

LOG PAGE

Date when you made your soap or made the observation

Date	Notes

Space to write down any notes about making the soap, curing, or any other observations.

Recipe: LAVENDER AND OATMEAL SOAP

CP

Yields: 1250 ml soap (10 bars)

Superfat/lye discount: 5%

Lye concentration: 33%

Ingredients

Lye: 137 g NaOH

250 g water

2 teaspoon sodium lactate

Oils: 300 g coconut oil

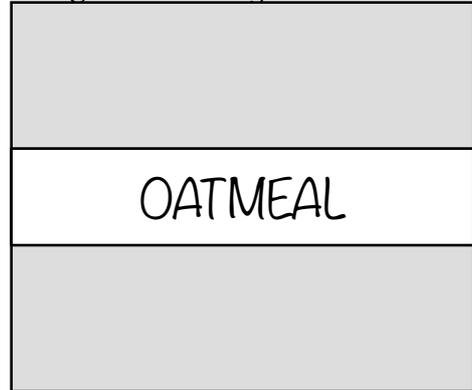
300 g olive oil

100 g cocoa butter

300 g sunflower oil

Design

Layered



Fragrance:

40 ml lavender essential oil

Colourants:

1 teaspoon purple mica

Other additives: 1/2 cup oatmeal

Special instructions:

Separate 1 cup of soap. Leave uncoloured and add oatmeal.
Colour the remaining soap in the pot with the purple mica.
Layer the soap: purple, oatmeal, purple.

Conversion tables

Volume

	Metric	Imperial
1 teaspoon	5 ml	0.16 fl oz
1 tablespoon	15 ml	1/2 fl oz
2 tablespoons	30 ml	1 fl oz
1 cup	240 ml	8 fl oz
1 gallon	4 L	128 fl oz

Weight

Imperial	Metric (rounded)
1 oz	30 g
1 pound (= 16 oz)	454 g

Metric	Imperial (rounded)
1 g	0.035 oz
1 kilogram	35.3 oz (= 2.2 pound)

Length

Imperial	Metric (rounded)
1 inch	25 mm
1 inch	2.5 cm

Metric	Imperial (rounded)
1 mm	0.04 inch
1 cm (= 10 mm)	0.4 inch

Temperature

	Celsius	Fahrenheit
Freezing point of water	0	32
Fridge temperature	4.4	40
Room temperature	20 - 24	68 - 76
Body temperature	37	99
Luke warm	37 - 40	98 - 105
Ideal soaping temperature	32 - 43	90-110
Boiling point of water	100	212

Common soap making terms & abbreviations

CP - cold process soap making technique
HP - hot process soap making technique

CPHP - crockpot hot process soap making
CPOP - cold process oven process soap making
OHP - oven hot process

NaOH - sodium hydroxide (for solid soap making)
KOH - potassium hydroxide (for liquid soap making)

SAP - saponification value used to calculate the lye amount

Acceleration - Some ingredients, such as fragrances, can speed up the chemical reaction (saponification) and this is referred to as accelerating trace.

Alkaline - the opposite of acid/basic on the pH scale. Oils are acidic, and the lye you are using is alkaline. Soaps are always slightly alkaline and have a pH of around 9.

Caustic - lye is highly caustic, which can corrode and burn. Always use proper equipment (silicon, polypropylene (PP) plastic, tempered glass or stainless steel) and follow the appropriate safety procedures when handling.

Curing - after making your soap, the soap will need to cure. This is the time when the saponification process is completed (in cold process soap making), excess water is evaporated and the soap hardens, and ideally when the soap molecules can crystallise. Curing time for cold process soaps is at least 6-8 weeks, for hot process soaps 4-6 weeks. Note: the longer the curing time, the better quality soap you will have!

SAP values and properties of oils

Saponification(SAP) values are the ratio between an oil and the amount of lye (NaOH or KOH) necessary to convert a particular oil to soap. For example 1 oz of olive oil needs 0.134 oz of lye (NaOH), or 100 g of coconut oil needs $100 \times 0.178 = 17.8$ grams of lye (NaOH).

OIL/FAT/BUTTER	SAP (NaOH)	SAP (KOH)	Hardness	Lather
Apricot kernel oil	0.135	0.190	Soft	Medium
Argan oil	0.135	0.190	Soft	Creamy
Avocado oil	0.133	0.187	Soft	Medium
Babassu oil	0.178	0.250	Brittle	Medium
Baobab oil	0.143	0.201	Soft	Rich, fluffy
Beeswax	0.069	0.097	Hard	Inhibits
Canola oil	0.132	0.185	Soft	Poor
Castor oil	0.128	0.180	Soft, sticky	Boosts lather
Cocoa butter	0.137	0.192	Brittle	Rich, creamy
Coconut oil	0.178	0.250	Hard	Rich, fluffy
Coconut oil, fractionated	0.232	0.325	Soft	Rich, fluffy
Evening primrose oil	0.133	0.187	Soft	Poor
Flaxseed oil	0.136	0.191	Soft	Poor
Grapeseed oil	0.136	0.191	Soft	Medium
Hazelnut oil	0.136	0.191	Soft	Medium
Hempseed oil	0.135	0.190	Soft	Medium
Jojoba oil	0.069	0.097	Soft	Inhibits
Kukui nut oil	0.137	0.192	Soft	Stable, creamy
Lanolin	0.074	0.104	Hard	Inhibits
Lard	0.138	0.194	Hard	Stable, creamy

Usage guides

Whilst oils and lye need to be calculated accurately to the gram, most additives allow a bit of leeway. The following usage rates are guidelines and you can add a bit more or less if you like.

Fragrances and essential oils

Fragrances and essential oils can affect the chemical reaction (saponification) in soap making. Some can speed up the reaction, thickening the soap faster (accelerating trace), others add heat, resulting in a very hot chemical reaction.

These essential oils are known to accelerate trace: cinnamon, clove, geranium, and ylang ylang.

Another problem is that fragrances can discolour your soap. The most common culprit is vanillin, which will turn your soap between a tan and dark brown colour, depending on the amount of vanillin the fragrance contains. Other components in fragrances can discolour soap in varying colours, most commonly yellow, and less likely, red or purple.

Always test fragrances before using or check the reviews for other people's experiences with a particular fragrance. Also make sure that the fragrance you are using is skin-safe.

Photo-sensitive: angelica, bergamot, cumin, grapefruit, lemon, lime, mandarin, orange, tangerine.

Dermal irritants: benzoin (resinoid), cinnamon, citronella, clove, cumin, ginger, oregano, black pepper, pine, sage, thyme, yarrow.

Usage rate for fragrances and essential oils is usually between 2% and 5%.

Troubleshooting

Accelerating and seizing

Acceleration occurs when a soap thickens too quickly and makes it difficult to work with. This happens when the chemical reaction (saponification) during soap making moves too fast. The chemical reaction is controlled by the following:

1. **Temperature**
2. **Water**
3. **Ingredients**

To slow down the chemical reaction, you will need to:

1. **Soap at cooler temperatures**
2. **Increase the amount of water**
3. **Check the ingredients.**

Some fragrances and essential oils can accelerate trace. Butters will in general speed up trace as well. Reduce the amount of fast-moving, hard oils, and increase the amount of slow moving oils.

Seizing is when a soap accelerates so fast that it literally becomes solid in seconds. This is usually caused by a fragrance. Unfortunately, it is very unlikely that you can work with that fragrance.

Not tracing

On the other hand, sometimes a soap will not reach trace or takes a long time to trace. First thing to do is check if you have added your lye, which happens a lot more often than you think!

