

Basic Soapmaking
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History [Gleaned from various sources – not for documentation purposes!]

When soap making actually came about, is completely unknown. It is possible that cavemen used a crude soap, made of fat and wood ashes, several thousand years ago. The first recorded accounts of soap were on Sumerian clay tablets dating back to 2500 B.C. At that time in history soap was used in the washing of wool. One Sumerian tablet, describes soap made from water, alkali, and cassia oil. Historical evidence shows that Egyptians bathed regularly and that they combined animal and vegetable oils with alkaline salts to create a soap-like substance for washing. It is well known that Cleopatra, who captivated the leaders of the Roman world, attributed her beauty to her baths in mare's milk. Ancient Rome was well known for their public baths, though soap was generally not used for personal cleaning. To clean the body the Greeks and then the Romans would rub the body with olive oil and sand. A scraper, called a strigil, was then used to scrape off the sand and olive oil also removing dirt, grease, and dead cells from the skin leaving it clean. Afterwards the skin was rubbed down with salves prepared from herbs.

Soap was also used by physicians in the treatment of disease. Galen, a 2nd century physician, recommended bathing with soap would be beneficial for some skin conditions. Soap for personal washing became popular during the later centuries of the Roman era. Legend has it that Roman women washing clothes in the Tiber River discovered soap. The ashes and grease of the animals from the sacrificial fires of the temples atop Mount Sapo mixed with the rain making soap. It is also believed that the Romans acquired the knowledge of soap from the Gauls. Today Gaul is known as France were French milled soap still receives a premium price. Pliny, the Roman historian, described soap being made from goat's tallow and causticized wood ashes. He also wrote of common salt being added to make the soap hard. The ruins at Pompeii revealed a soap factory complete with finished bars. The Celtic peoples are also thought by some historians to have discovered soap making and were using it for bathing and washing. Maybe due to increased contact with the Celts by the Romans, using soap for personal washing care became popular.

After the fall of the Roman Empire in Western Europe, there was little soap making done or use of it in the European Dark Ages. In the Byzantine Empire, the remains of the Roman world in the eastern Mediterranean area, and in the expanding Arab world soap was made and used. Around the 8th century soap making was revived in Italy and Spain. By the 13th century, France also became a producer of soap for the European market. This is when the history of soap making becomes more concrete. Marseilles emerged as the first great center of soap making and remained an important producer through the Middle Ages. Genoa, Venice, and Bari in Italy came to rival it, as did Castila in Spain. Each of these regions had a plentiful supply of olive oil and barilla (a fleshy plant whose ashes were used to make lye). This formulation became the standard through the 17th century. During the 14th century, soap making was started in England. Soaps produced in the south of Europe, Italy, Spain, and the southern ports of France (Marseilles and Castle soaps) were made from olive oils. These soaps made using olive oils were of a higher quality than those made by the soap producers of England and northern France. These northern soap makers, not being able to obtain the olive oil, made their soaps with only animal fats. Tallow, the fat from cattle, was the chief fat used. Northern European soap makers even resorted to making soap from fish oils. Soaps made from the poor quality animals

fats and oils, while adequate for laundry and textile usage, were not desirable for bathing and washing. The soap from southern Europe with their olive oils were superior. This resulted in a lively trade of exporting fine soaps from southern Europe.

There is documentation of soap-making centers, or guilds, in Europe by 800 A.D. Soap reached England by the 10th century, and in 1192 the monk Richard of Devizes is known to have made a remark about the number of soap-makers in Bristol and the smelly nature of their occupation. There was also a "sopehouse" at Bishopgate in London in the 15th century and another soap works near Bankside, London, during Queen Elizabeth I's reign. During this time, however, bathing by the nobility had lost its popularity, mostly due to the outrageous clothing worn that had to be sewn on the person.

Up until 1790, when Nicolas Leblanc, a French chemist, discovered how to make sodium hydroxide from common salt, soaps were very crude indeed, having to rely on the leachings of water through wood ash to make the alkali used in making them. They were often dark colored and unattractive to look at; however, they were a luxury in Tudor times. Besides the leachings, the soaps were made with tallow; rendered whale, beef and mutton fats. These also attributed to some of the rather unpopular attitude we now have for homemade soap. Later soaps were often made from vegetable oils; however, some of the best soap and also the oldest recorded is made of olive oil. It earned the name of castile soap due to its origin in Castile, Spain.

Period Sources

"Mappae Clavicula: A little Key to the World of Medieval Techniques" an 1800's English translation of a 12th century Latin document. The 12th century recipe in Mappae Clavicula for olive oil soap resembles modern Castille soap recipes. This kind of recipe can be found in many modern soapmaking books and web sites (see the bibliography at the end). It's a soap that's still preferred today because olive oil creates a heavy lather and soaps made with olive oil dry very quickly. This 12th century recipe describes a variation of the hot process method of soapmaking. In the cold process method of soapmaking you start your oil and lye solution at 150 and 200 degrees and let them cool to somewhere between 85 and 105 degrees. In a modern hot process you're mixing your oil and lye between 105 and 115 degrees and simmering the liquid until all excess water has evaporated. The remaining mix is spooned into molds. In this period variation of the hot process method you're simmering your lye and directly adding oil to the lye. However you only continue to simmer until you reach trace.

p 70 entry #280 How soap is made from olive oil or tallow

"Spread well burnt ashes from good logs over woven wickerwork made of tiny withies, or in a thin-meshed strong sieve, and gently pour hot water over them so that it goes through drop by drop. Collect the lye in a clean pot underneath and strain it two or three times through the same ashes, so that the lye becomes strong and colored. This is the first lye of the soapmaker. After it has clarified well let it cook, and when it has boiled for a long time and has begun to thicken, add enough oil and stir very well. Now, if you want to make the lye with lime, put a little good lime in it, but if you want it to be without lime, let the above mentioned lye boil by itself until it is cooked down and reduced to thickness. Afterwards, allow to cool in a suitable place whatever has remained there of the lye or the watery stuff. This clarification is called the second lye of the soapmaker. Afterwards, work [the soap] with a little space for 2, 3, or 4 days, so that it coagulates well and is dewatered, and lay it aside for use. If you want to make [your soap] out of tallow the process will be the same, though instead of oil put in a well-beaten beef tallow and add a little wheat flour according to your judgment, and let them cook to thickness, as was said

above. Now put some salt in the second lye that I mentioned and cook it until it dries out, and this will be the afronitrum for soldering.”

There is also a soap recipe in Thomas Dawson's "The Second Part of 'The Good Huswives Jewell' "...

“To make good sope. First you must take half a strike of (asshen?) ashes, and a quart of Lime, then you must mingle both these together, and then must fill a pan full of water and seeth them well, so done, you must take four pound of beastes tallow, and put it into the Lye, and seeth them together until it be hard.”

There is a complete chapter on soapmaking in "Tidings from the 18th Century," by Beth Gilgun. This chapter covers rendering the fat as well as making your own lye by dripping water through wood ashes.

Also, there are two "milled soap" recipes in "Delights for Ladies, Sir Hugh Plat, 1609" chapter on Sweet powders and ointments. It is in Cariadoc's collection.

Finding written recipes and techniques can be difficult as soap guilds guarded these recipes, but we have enough to begin with.

Redaction of Mappae Clavicula:

To make your own lye: The recipe says line the bucket with withies (or small twigs). Cover the lining with hard wood ash. Hardwood is denser and will burn more completely than pine. You want to be sure to have completely burned ash (no coals) or the water will get too dark (full of carbon). Pour water into the ash gently and strain the water through the hole. When the water has filtered through pour the same water back over the ashes and strain again. According to the recipe you must pour the water through the ashes 2 or 3 times before the lye reaches a proper strength.

Begin making the soap by simmering the lye until it has reduced to at least half. The recipe suggests the option of adding quicklime or Calcium Oxide. At this point you would add the quicklime slowly, a large spoonful at a time. The quicklime mixes with the dark water to help create calcium hydroxide or lye. It should also help clear up the water somewhat.

Basic Castille soap (olive oil soap using either hot process or cold process techniques) recipe:

52 oz olive oil
7 oz lye (Use Red Devil from the grocery store – it's easier)
20 oz cold water

Today's Class:

Using the technique described in recipe #280, we have brought the water to simmer and added the lye. Once the lye has dissolved, it needs to be kept at standard soap starting temps (105-120°F). Do NOT boil the water, as it boils at 212°F and this is too hot! When the lye is at proper temperature, add the oil. Some modern recipes require heating the oil but in this case it's not necessary. We will leave the oil at room temperature and pour gently into the simmering lye. Stir constantly until trace – this can take over an hour, so be patient. Once trace is reached we will pour into individual molds for you to take home.

The molds need to be insulated overnight (keep warm with a towel). The soap should be restirred, in the mold, every couple of hours the first day and then once a day for every 2 or 3 days after that. When the soap reaches a cake batter consistency you've probably prevented most concerns about separation and no longer need to stir. After one week, take the soap out of the mold to air dry for one more week. It is recommended that the soap be placed on freezer paper to prevent leaching or "bumps." Use.

Terms

- **Abrasives**: Gritty substances which, when used in soaps, serve to scrub away dirt, outer skin cells, and excess oils.
- **Astringents**: Substances which, when used in soaps, tighten and close the pores in skin, hence making one's skin feel smoother.
- **Additives**: Substances which are usually added to soaps during the milling process. Additives impart special qualities so soaps.
- **Basic Soap**: Simple soaps in which proportions of fats and/or oils are manipulated to produce varying degrees of mildness and different lathering qualities. Additives - ingredients which are not necessary for saponification - are not usually included in basic soap recipes.
- **Castile**: Soaps first produced in Spain during the 13th century using olive and animal fat. Traditionally, true Spanish castiles were made with 100% olive oil. Nowadays, it is entirely acceptable for a soap made with 40 - 60% olive oil to be recognized as a castile.
- **Cold Process Soap Making**: A method of making hand made soap at relatively low temperatures. Glycerin, a natural byproduct of cold process saponification, remains in the soap.
- **Continuous Process Method**: A method by which commercial soaps are produced. Saponification takes place while the ingredients are under pressure in a vat. This soap making method permits raw ingredients to be added continuously to one end of the vat while soap is continuously removed from the other.
- **Emollients**: Substances which soften the skin. Glycerin, waxes, and oils are all effective emollients.
- **Essential Oils**: High-quality oils distilled directly from plant materials.
- **Fixatives**: Substances which stabilize fragrances so they will not dissipate quickly.
- **Fragrance Oils**: Synthetically produced oils which mimic the aromas of essential oils.
- **Glycerin Soap**: Glycerin itself is a sweet, syrupy, colorless, humectant liquid which acts as a skin emollient. Glycerin soap is a soap which contains all the natural glycerin produced through the cold saponification process.
- **Hand Milled Soaps**: Soaps which are made by grating basic soaps and remelting them with water. Additional ingredients are often included during this process.
- **Rendering**: A cooking process during which impurities in animal fats are removed.
- **Saponification**: The process by which soap is formed. Occurs when fats and/or oils are combined with an alkali (such as lye).

Tools You Will Need for Cold Process (CP) Soap

Keep in mind that second hand stainless steel pots, plastic cooking spoons, etc. that you can find will work just fine as long as they are clean and in good condition. Use whatever tools you use for soaping are ONLY for making soap. Lye is very caustic and toxic! DO NOT, under any circumstances, handle lye, the lye solution, or the soap until it has cured for at least two weeks without protective rubber gloves. IT WILL BURN YOU! It will also eat right through aluminum, so only use stainless steel or enamel pots and plastic containers.

- Kitchen Scale: Find one that can be readjusted to zero each time you use. You want one that can measure up to 5-lbs so you can weigh the ingredients in the pot. A small postal scale will also come in handy for measuring smaller amounts of ingredients.
- Soap Pot: Unchipped enamel or stainless-steel kettle (lye corrodes most other material). Pot should be 8 quarts (7.6 liters) or larger. Deep and narrow is better than low and wide, as soap made in deeper pots requires less stirring.
- Plastic pitchers with pouring spouts and removable lids that snap or screw on tightly. Securely attached handles are a must.
- Long-handled wooden or plastic spoons: Lye will eventually erode wooden spoons. Using one that you already own is fine as long as you will never use it for anything else again and it is not stained.
- Candy or deep-fry thermometer that reads as low as 100°F (37.8°C). Used for more complicated soaps
- Safety Glasses or Goggles – a must! You are working with lye – it BURNS!
- Rubber or Plastic Gloves – a must! You are working with lye – it BURNS!
- Apron – a must! You are working with lye – it BURNS!
- Wooden or Stainless Steel Ladle – to remove soap from pot and put into smaller molds (easier than trying to pour into smaller molds).
- Sharp Knife – to cut up your blocks of soap!
- Mold: Large, Clear Plastic Container with Lid (smooth inner surface and square corners) – to make a large batch of square bars. Should be 12 quarts (11.4 liters). Clear is better than opaque as it makes it easier to see your mistakes :(Plastic and stainless steel material work best. Must be able to withstand high temps of soap. Flexible molds (candy molds) make it easier to remove the soap. Try not to go too small or shallow (soap shrinks as it dries). The open end of the mold must be larger than the closed end!
- Old Blanket or Towel – to insulate the mold and keep the soap from cooling too quickly. Foam rubber, polystyrene foam and old pillows work too.
- Templates: Can be made from thin Cardboard –square and rectangular templates to make cutting the soap up easier.
- Freezer Paper or Butcher Paper to cure soap on.
- Kitchen grater to make milled soaps. You want one with largish holes (the size of the holes on the 4-sided type of grater).
- Food processor for processing suet before rendering (optional)
- Place to cut bars: Rigid smooth plastic to cut bars on (plastic cutting board works – wood works o.k. too)
- Sieve or colander to strain debris during rendering of suet or beef fat.
- Stick blender (available at Wal-Mart for about \$10 - highly recommend unless you want your arm to fall off :o)

Base Oils

Almond Oil

- This wonderful oil is used widely in cosmetics. When included in soap, it makes for a hard bar and lovely soft skin. Almond oil is rich in protein and offers relief for itchy or inflamed skin.

Apricot Kernel

- This oil has been used for centuries in cosmetics as a skin softening agent. It also contains vitamins and minerals and is good for skin that has aged prematurely as well as for sensitive skin

Avocado Oil

- This oil is expressed from fruit and has been used in cosmetics for a long time. The oil is more difficult to locate than other oils but can be found in food specialty stores or health food stores. Avocado oil will make soaps rich and very emollient. It contains vitamins, protein, lecithin and fatty acids which make it beneficial for people with dry skin or eczema.

Castor Oil

- Castor oil is expressed from the seed of the castor bean plant. The oil adds mildness and richness to soap and is most successfully used in superfatting. You can find this oil at local pharmacies.

Cocoa Butter

- Cocoa butter is derived from the seeds of the cocoa tree. It improves the overall consistency of soap, making it both creamy and hard. It has wonderful soothing and emollient qualities. It is widely used as a base in cosmetics. Locate this oil with candy making suppliers.

Coconut Oil

- This is the number one oil for soapmakers. Used on it's own, it can tend to dry the skin. It yields a creamy lather and medium hard soap.

Olive Oil

- Many grades are available in olive oil. All of which are suitable for soapmaking. Soap from this oil are hard, brittle, mild, long-lasting and lathers abundantly. Olive oil is packed with vitamins, minerals and proteins. You can also use olive oil for infused herbal oils.

Palm Oil

- Palm oil is not easily obtainable but worth the effort. Palm oil produces soap with long-lasting bubbles and is kind to the skin. You can make excellent facial soap with palm oil.

Peanut Oil

- Nuts are comprised of nearly 70% fat so it's no surprise that they are a good source of oil. Peanut oil is readily available at your local grocery store. NOTE: Some people are allergic to peanuts so use it with caution and mark your soaps well.

Sesame Oil

- Is obtained from pressing of the seeds. It is available at many local grocery stores.

Vegetable Oils

- These are about 10% olive oil and 90% either corn, soy or peanut oil ~ or a combination thereof. It is economical and yields a decent soap, lathering well but it is generally softer than using all olive oil.

Vegetable Shortening

This is an alternate to animal fats and should be combined with other oils or fats as it will produce a soft, low lathering soap.

Safety Precautions

First off, CLEARLY label the lye water pitcher and the container you measure lye in with "WARNING: POISON" or other wording in BIG BOLD letters. Keep all of these items out of reach of children when not in use. Lye water looks like regular water after it is mixed.

If you have small children or pets, please keep them out of the kitchen when you are making soap. You need to be undisturbed for a reasonable period of time to make soap safely.

Some people let the fear of lye keep them from making soap. I think all of us had these concerns when we started out. However, as long as you use common sense and safety precautions when working with it, you'll do fine! I think a healthy respect for it should never become slack - lye is extremely corrosive and dangerous to humans in it's raw form. BUT - you

CANNOT make soap without lye! It's an integral part of the process. ALL soap is made with lye - if someone says their soap isn't...then it's not soap!
Allow yourself a couple of hours when you first begin. Take your time, gather all of your ingredients and tools and have everything handy.

Keep VINEGAR on hand and in close proximity to where you will be soaping. I keep mine in a spray bottle within arm's reach when I make soap. In the event you accidentally spill lye or raw soap on yourself or something, wash with lots and LOTS of water and spray with vinegar.

ALL MEASUREMENTS INCLUDING WATER MUST BE WEIGHED!

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Soap Crafters Company (801)474-2993

Soap Base, Molds!, Essential Oils & Bulk Herbs

Soap Making Instructions

<http://soapcrafters.com>