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Soap Making **GUIDE**

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Introduction To Soap Making

Making your own soap at home is fun and easy! Plus, DIY soap making gives you control over the ingredients you introduce to your skin daily.

Why would anyone want to make soap when it is readily available at the supermarket, drugstore, or discount store? That's like comparing store-bought canned tomatoes to those fresh from your garden or packaged cookies to those you bake from scratch. There is no comparison!

As you research how to make soap, you'll likely get overwhelmed by options and terminology. Don't let that discourage you. There are many ways to make soap, but it boils down to two main questions, 1) Which soap making technique suits your needs, 2) What ingredients natural and synthetic—do you wish to incorporate or leave out?

For many beginning soap makers, the idea of working with lye (sodium hydroxide) can be intimidating. Lye is the chemical that induces saponification with fats and oils. If you are on the hunt for how to make soap without lye, you have two options. You can seek out melt and pour recipes or tutorials on milling/rebatching. You may find that choosing not to work with lye limits your soap making options.

Rest assured, with the proper safety precautions, working with lye is safe. Always wear safety goggles, gloves and long sleeves when working with lye. Ventilate your soap making area. It's best to keep pets and children out of your work space when lye is present and in use.

Hot and cold process soap making involves from-scratch ingredients, and gives you the purest product. All the lye and water are used up with correct saponification. What's left are the natural ingredients you started with. With hot process soap making, the soap is available right away. That's because the lye is eliminated rapidly by the hot temperatures of the chemical reaction between the lye, water, and oil or fat.

It takes 4-6 weeks to cure cold process soap. However, cold process soap making is the preferred technique of artisan soap makers. This process allows them time to create an aesthetically pleasing end product.

Whether you want to learn how to make soap with coconut oil or are seeking goat milk soap recipes, make sure to study up and consult reputable soap making resources.



How To Make Soap: Differences In Techniques

*From Easy Soap Recipes for Beginners
to Beautiful Artisan Methods*

BY **MARISSA AMES**

Soap making is an old art with a changing history. And it's not all made the same way. Different ingredients, temperatures, and curing times come into play. If you want to learn how to make soap, first decide which process you're most comfortable with using.

But What is Soap?

By chemical terminology, soap is a salt: an ionic compound resulting from neutralization of an acid and a base. Different "soaps" exist, such as calcium or lithium emulsions used in lubricating grease. Soaps for personal hygiene are made with fatty acids, such as animal fats and vegetable oils, combined with an extremely alkaline solution such as lye or potash mixed with water. The chemical change is called saponification.

Two types of hygiene soaps exist: Soaps made with sodium hydroxide (lye) are solid while potassium soaps (potassium hydroxide, or potash) are soft, often liquid. Most old-fashioned soapmaking techniques were for soft potassium soaps, because the alkali was extracted from wood ashes then cooked over an open fire with animal fat. Pioneers and homesteaders stored the end product in boxes or ceramic crocks and scooped out what they needed. Historically, the term "lye" has referred to potash, but true lye (sodium hydroxide) is a fairly modern chemical and must be made within an industrial setting.

Both sodium and potassium hydroxide are dangerous because of their high alkalinity. Lye holds a favored place among murder mysteries and crime dramas because of its ability to digest animal and human tissues. A drop of lye solution can "burn" the skin or cause lasting eye damage, especially if it's not washed away immediately.

Because of the potential danger of the ingredients, it's crucial to fully research soap making before you try it. Also, decide which method is best for you.

Melt and Pour

The safest of all techniques, melt and pour soap recipes can involve children as long as they're protected from potentially hot splashes. There are no dangerous chemicals and little chance of injury aside from superficial burns. This is one of two choices for how to make soap without lye.

Melt and pour bases are premade. To craft soaps, purchase a block from a distributor. Cut it with a sturdy knife, melt in a microwave or double boiler, and add color and fragrance before pouring the base into molds. After the soap has set, pop it out of the mold and it's ready to use. This process can be completed within an hour or two.

The advantage of melt and pour soaps is the safety. The melting point is never boiling unless you overheat; usually it's not hot enough to scald if you remove it from the heat source as soon as it's liquefied. Add-ins such as fragrances and flower petals don't transform because the soap mixture is already neutral. You can add almost anything you want such as small toys, crushed herbs, or glitter. Melt and pour soaps work with almost any mold, unlike true soaps which might melt the molds or might react to aluminum.



Everything has downsides, though. Melt and pour soap cannot be called “natural,” since they contain petroleum products. This is necessary to facilitate the frequent melting and hardening. Many people also consider the soaps to be drying, since they contain no natural glycerin (only added glycerin that is an industrial product). The base makes cute crafts but it's not the best bet for sensitive skin.

If you want a more natural melt and pour soap, research how to make glycerin soap base from scratch. Warning, though: This process involves lye. To make a glycerin soap without lye, you must use a pre-made base.

Milling/Rebatching

French-milled soaps are cold-processed bars that have been “milled,” or ground up, several times to a smooth paste before they are pressed into attractive forms. Triple-milled soaps have been ground up three times for extra smoothness. This creates a luxurious texture and lather but also keeps batch color uniform so there is no streaking or uneven shading. Though you can't call your soaps “French-milled” unless you produced them in France using this specific technique, you can still mill your own soaps.

By using existing cold-process soaps, you skip the steps involving lye and cure time. So though milled soaps aren't as “from scratch” as hot or cold processed soaps, they can be made with the same natural ingredients.

Many soap makers produce a “master” batch of cold process soap to mill/rebatch for attractive and chemically stable bars. Fragrances which would cause the original batch of soap to seize or turn brown stay fresh within rebatching. This process is also a great way to turn ugly soaping mistakes into attractive bars. If the original soap was produced correctly, using the correct ratios of lye to oil, but seized or separated during production, it can be grated down and rebatched.

To rebatch, grate down a bar of cold process soap. Place it with a little liquid such as water or goat milk. Slowly melt the soap until it can be stirred and easily incorporates with the liquid. This can be done in a microwave, crock pot, or within a heat-resistant plastic bag placed in boiling water, and can take an hour or longer. Once the mixture is melted to a thick, goopy texture, add in any additional ingredients such as botanicals and color. Press into molds. After it cools and hardens it's ready to use.

Hot and Cold Process: The Most Natural Ingredients

Since both hot and cold process involve from-scratch ingredients, you can make the purest product. All lye and water are used up within correct saponification. That means that a properly made bar of coconut oil soap only contains coconut oil. By knowing how to make soap from scratch you can eliminate all the detergents and fragrances which can cause allergic reactions.

Safety gear must be used during both of these processes, including goggles/glasses, gloves, long sleeves, and correct ventilation to avoid breathing the fumes that waft out when lye is added to water. The correct tools must be used, such as stainless steel or silicon spoons instead of aluminum. All pets and small children must be kept away from the soaping area. Spills must be correctly cleaned up so they don't damage anything that comes in contact with them later. And though ingredients can be hazardous if used incorrectly, it is easily managed with a little education.

Hot Process

Using the same oil and lye concentrations as cold process, hot process (HP) has the advantage of being usable almost immediately. This is because the near-boiling temperatures process out lye that would otherwise take six weeks to mellow.

Home soap makers usually hot process in ovens, double boilers, or crock pots. It is a good technique for people just learning how to make soap because the ratios of lye to oil don't have to be quite as precise as with cold process. All saponification takes place in the pot, cooking until the soap reaches the "gel" stage. Before chemically pure lye became available, old-fashioned soapers often used the hot technique because they could not guarantee the exact alkalinity of the wood ash or potash. So they stood over pots in the open air, watching and stirring until the concoction was just right.



Hot process involves measuring out fragrances and colorants first because there might not be much time to add them at the end. Lye is added to water in one container; oils are measured into the pan or crock pot. Unlike with cold process, the oils don't need to cool before lye is mixed in. The lye solution is slowly added then the soap is agitated (stirred) until it resembles a pudding-like thickness called "trace." The soap is then cooked at a low temperature until it bubbles up and hits the gel stage. Color/fragrance are added then the soapmaker scoops the hot, gooey mess into a mold. After up to forty-eight hours, the soap is then unmolded and cut.

Hot process soap often doesn't turn out as pretty because the saponification stage can happen fast. A soap maker must be ready to stir in fragrance and color before quickly spooning it all into a mold before it hardens. This can be so difficult that hot process soap is often lumpy. Though this isn't the best technique for artisan soaps, it's perfect for making laundry soap which will later be ground down to mix with borax and washing soda.

Cold Process

The crowning technique of artisan soap makers is cold process. Because saponification is slower, crafters have time to create beautiful swirls and combinations. The end product is smoother than hot process, unless the product seizes (suddenly hardens). Most soap makers who work toward a beautiful product choose cold process.

Melanie Teegarden, master soap maker for Althaea Soaps, says, "My specific method is CPOP—which stands for Cold Process Oven Process. I like the fluidity of the CP method because it allows me

to make complex designs and swirls since the soap is more fluid than in hot process. By placing the soap in a warm oven after molding I feel I can have the best of both worlds with a full gel and a head start on driving off excess water weight.”

The primary advantage of cold process is that it’s more aesthetically pleasing. Most of the heat is created during chemical reactions, and though those temperatures can top 180 degrees and melt cheap plastics, you’re not stirring a simmering pot.

Cold process involves mixing lye into distilled water in one pot and bringing oils/fats up to temperature in another. Once the lye mixture has cooled and the oil has warmed to the same temperature, the lye mixture is slowly poured into the oil. The soap maker then agitates the mixture with low to no heat until it reaches “trace.” This can take five minutes to one hour, depending on the type of oil used. After that, additional ingredients such as fragrance and coloring are added before the soap is poured into heat-resistant non-metallic molds. The soap is set aside in a warm location as it undergoes the gel stage of saponification. It is safe to use within twenty-four to forty-eight hours but is much mellower and lasts longer if it’s allowed to cure in a ventilated area for up to six weeks.

Because the mixture stays alkaline for so long, certain additives are unstable. Flower petals quickly turn brown. Vanilla fragrance turns a white soap a deep chocolate color unless stabilizer is used. Some floral or fruity fragrances cause seizing or ricing (when the mixture partially seizes into little clumps.) With correct education you can learn how to deal with all these issues and still make beautiful soap.

Study Up First!

The directions given here are very basic. Do not attempt to make soap until you have read literature that goes into greater detail of the technique you wish to use, outlining safety protocols and troubleshooting.

If you want to attempt hot or cold process soap, you need know about saponification values, which refer to the specific amounts of lye each oil needs. Olive oil has a different SAP than palm oil, and not following the exact recipe can result in dangerously lye-heavy soap. You also need to know why lye should be added to water, not the other way around. And what to do if you have a caustic volcano or if your soap overflows its containers during the gel stage. All of this information can be found within published books on how to make soap, but it’s also useful to join a soap making forum for specific questions.

Once you’ve fully researched soap making, you may be excited to open your own business. Veteran soap makers advise against this. Just knowing how to do something doesn’t equal being adept at it. Overly anxious neophytes prematurely sell soaps that are poorly made, lye-heavy, or quickly go rancid. This negative experience convinces the customer that homemade soaps are inferior (quite the opposite) and the customer turns down a well-made bar the next time he is offered it.

This isn’t to discourage new soap makers from working toward entrepreneurship. Master soap making is a welcome trade. But those who have worked for years refining their art ask that you make the soap for your family, practicing often, and then join the trade when you have a product you can be proud of.

Before you research how to make soap, first decide which method you want. Are you uncomfortable using lye or would you rather have a recipe involving more natural ingredients? Do you want to craft with your children or potentially sell at an artisan show? After deciding which direction you want to take, read up on your desired techniques. The end product is rewarding.



A BRIEF HISTORY OF SOAP

FROM A MISSOURI CONTRIBUTOR

Soap, by definition, is the saponification of lye, water and fat. The consistency and appearance of the resulting soap depends on these three products. Saponification is the chemical combination of lye, water and fat.

Before beginning the soap making process it would be good to review the history of soap making which dates back to ancient man. No doubt the first soap was made – or should we say discovered – by accident. When foods were cooked over an open fire, fats would spill over into the wood ashes of these cook fires. Someone discovered that these ashes when mixed with rainwater cleaned better than simply rubbing the pots and pans with sand. Ozark natives in the early 1900's took lye water and boiled it with hot fat—skin and all—to make a heavy duty cleanser. Commonly called lye soap, it was an all purpose laundry soap.

Going back further in time, the name “soap” comes from the Latin word *sapo*, and specifically from Mount Sapo. A sacrificial alter was erected at this site before the birth of Christ. Rainwater would mix with ashes and the fat of sacrificial animals, and wash down the hillside toward the Tiber River, or so the legend goes. Women who washed their laundry adjacent to this runoff found that their clothes were cleaner with less effort.

Today soap is still made basically the same way. Tallow or animal fat can be replaced with natural vegetable oils which will lather and moisturize better than grandmother's homemade soap. Plus essential oils can be added for that special herbal scented soap.



How To Make Homemade Soap: Easy Terms You Should Know

A Soap-Making Resource and Glossary

By Marissa Ames

Even with easy homemade soap recipes, beginners get bombarded with foreign terminology. Use this glossary when you learn how to make homemade soap. Easy soap-making resources make the process more enjoyable.

Soap: A salt created when a fatty acid meets a strong alkaline solution. This creates a surfactant, which breaks the surface tension of water so it can lift away dirt and oil. Soap can also be a verb referring to the process of soap-making. As in, “Don’t bother me for an hour. I’m soaping.”

INGREDIENTS

Alkaline: Having a pH greater than 7. The opposite of an acid. Lye and potash are both alkaline.

Carrier Oil: A base oil used to dilute essential oils. If you’re learning how to make soap with scents, research your carrier oil to be sure it doesn’t react with allergies or use pure essential oils.

Cosmetic Grade: A quality high enough to be safe for cosmetics or application onto skin. Always use cosmetic grade colorants and fragrances for soap.

Essential Oil: Volatile oils from plants which possess the odor and other characteristics of the plants. Essential oils are often used in perfumes or pharmaceuticals.

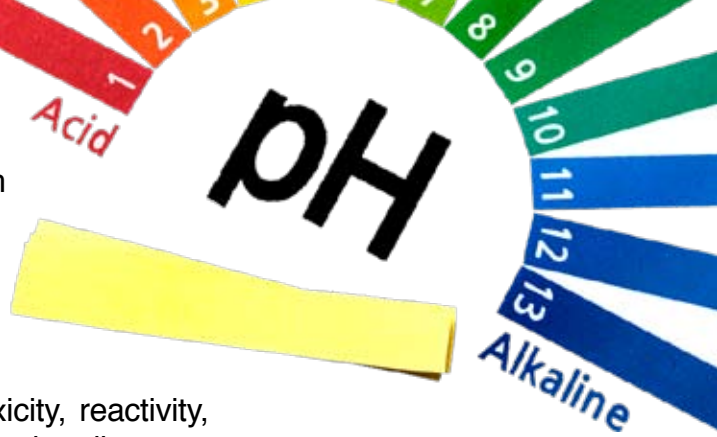
Fatty Acid: Acids consisting of a long hydrocarbon chain ending in a carboxyl group bonding with glycerol to form a fat. Animal fats and plant oils contain fatty acids. They are essential for learning how to make soap with glycerin because natural glycerin is a byproduct of saponification.

Flash Point: The temperature at which an oil ignites. Oils with low or medium flash points may require special shipping and handling.

Fixative: A substance that slows evaporation. Soap-making fixatives sustain the fragrance longer within the product.

Fragrance Oil: Oils which may contain some or no essential oil but are used to scent soaps and candles. Always use cosmetic-grade fragrance oils for soap.

Glycerin: A colorless, odorless, sweet liquid with a molecular formula similar to sugar. Homemade soap retains natural glycerin but it has been removed from commercial detergent bars.



Hydrogenated Oil: Trans-fatty acids which have been chemically changed to be solid at room temperature. Shortening is hydrogenated but olive oil is not.

Litmus Paper: Paper used to test the acidity or alkalinity of a product.

MSDS – Material Safety Data Sheet: the paper which accompanies chemicals and states their physical states, toxicity, reactivity, and health effects. You can look up the MSDS for lye or potash online.

Potassium hydroxide (POH) – caustic potash: A caustic chemical, usually a white powder or pellets, used in soap-making. Potassium hydroxide is necessary for making liquid soap.

Render: The process of melting down raw animal fat for a usable product such as tallow or lard. Fat from a pig must first be rendered before the lard can be used for soap.

Saponification value (SAP): The milligrams of potassium hydroxide necessary to turn one gram of oil into soap. Each oil has its own saponification value. Good soap calculators also have settings for sodium hydroxide.

Sodium hydroxide (NaOH) – caustic soda – lye: The caustic chemical most commonly used by people learning how to make homemade soap. Easy to measure with a constant alkalinity, it produces a solid bar.

Tallow: Fat from bovine animals which has been rendered to a solid fat which is solid at room temperature. Tallow was traditionally used for soap and candles in Europe before olive oil came into fashion.

Vegan: Materials which have never been derived from animal products. Olive and coconut oils are vegan but honey and goat milk are not.

Viscosity: The property of a fluid that resists the force tending to cause the fluid to flow. Thickness. Viscous oils may need to be heated or melted prior to soaping.

Volatile Oils: A distilled oil which does not saponify. Oils which evaporate rapidly and are not glyceride. Many essential oils are volatile.

PROCESS

Cold Process: A soap-making method which does not involve heat other than melting solid oils or warming liquid to a specific low temperature. Cold process takes longer than hot process but allows more artistic designs.

CPHP (Crock Pot Hot Process): A soap-making method where oils and lye are heated within a crock pot then cooked until the mixture reaches gel stage.

CPOP (Cold Process Oven Process): A soap-making method where oils are unheated or warmed until melted then mixed with lye. Poured soap is placed within a warm oven to force the gel stage.

Cure: The time period where finished soap sits in a cool, dry, ventilated environment so excess water can evaporate. This makes the soap milder, harder, and longer-lasting

Gel: The active saponification phase where the soap mixture heats up and resembles petroleum jelly.

Hand-Milled: Grated or ground down by hand. Also called “rebatching.” Hand-milled or French milled soaps have been made and cured prior to grinding down and melting with a little water. Hot, melted soap is then remolded and cooled.

Hot Process: A soap-making method where oils and lye are mixed then actively cooked until it reaches the gel state. Hot process is the oldest soap-making method and allows for small discrepancies in alkalinity.

Lye Discount: A factor in a soap recipe where the amount of lye necessary is reduced. This creates a higher oil percentage to ensure soap is moisturizing and not dangerous. Most lye discounts range from 5% to 20%. “Superfat” can be used for the same concept.

Melt and Pour: A petroleum-based and commercially made product designed to be melted and cooled repeatedly for easy crafting projects. It’s how to make soap without lye or glycerin but it isn’t at all natural.

Morph: Change shape or form. Due to the alkalinity of homemade soap, fragrances may be altered or dyes may discolor. Learn which fragrances and colors morph by visiting soap-making forums.

OHP – Oven Hot Process: A soap-making method where oils and lye are combined then are cooked within an oven until the mixture reaches gel phase. This method isn’t frequently used by crafters knowing how to make homemade soap; easy CP or CPHP methods are preferred.

Rebatch: Also called hand-milling, this involves grating down previously made soap then melting it with a little liquid prior to cooling within soap molds. Rebatching is recommended to fix ugly soap or use scraps but cannot correct bad recipes.

RTCP – Room Temperature Cold Process: A soap-making method where oils are not heated at all prior to mixing with water and lye. RTCP is best for oils which are already liquid, such as olive or fractionated coconut.

Saponify: To convert a fat into soap by using an alkaline solution.

Seize: A physical reaction when raw, liquid soap suddenly hardens. This is most frequently caused by water discounts or adding specific essential oils and fragrances, such as some florals or fruity scents. To learn which fragrances cause seizing, visit soap-making forums.

Trace: The stage during soap-making where the consistency resembles thin pudding. When a spatula or immersion blender is lifted from the soap “batter,” it leaves a “trace” visible at the top of the liquid. Prior to trace, any drops immediately sink back into the mixture.

Water Discount: A factor in a soap recipe where less water is used than is recommended within a safe recipe. A water discount reduces cure time but can also lead to a false trace or seizing within the pot. Do not calculate in a water discount if you are just learning how to make homemade soap. Easy mistakes happen fast.

Zap: The effect, resembling electric shock, when a tongue is touched to soap that has not completely saponified. Soap-makers often use the zap test to determine if their product is safe. If soap is properly made, zap should only occur within a couple days of processing.

PROPERTIES

Cleansing: The ability of a soap to lift away dirt and oil. A balanced soap recipe should not be too cleansing or it will make skin too dry. Laundry soap should have high cleansing properties.

Conditioning: This refers to the soap’s emollient content, which helps skin retain moisture and stay soft. Soaps with higher conditioning properties are moisturizing but may cause acne in some people.

DOS - Dreaded Orange Spot: A primary indication of rancidity within soap. DOS begins with a small rusty orange dot, often at the bottom of the bar, which spreads as the soap goes bad. Soap with DOS is still safe to use. But please, for the reputation of all soap-makers everywhere, do not sell soap prone to DOS.

Emollient: A substance which softens and smooths skin. Many soaps and lotions are emollient or contain additional emollients.

Hardness: A soap quality which refers to a bar's rigidity. Soaps with a lower iodine value are often harder.

Humectant: A substance which helps moisture absorb into the skin. Honey is a humectant often added to soaps and lotions.

INS: A theory developed in the 1930s to determine soap quality, taking into account the degree of unsaturation and molecular weight of the oil. The theory claims that a value of 160 equals perfect soap. Modern soap-makers often dispute the theory and instead lean on individual properties of a finished bar.

Irritant: A substance which causes reddening, discomfort, or allergic reactions within any of the senses. Commercially made detergent bars and perfumes contain more irritants than homemade soap does. Avoid irritants by combining pure oils with lye and avoiding colorants or fragrances.

Lather: The bubbles created when soap is agitated under water. Though lather is not necessary for a good bar of soap, the aesthetic quality is highly sought after. Soap-makers often add a percentage of coconut oil into recipes to add to the lather.

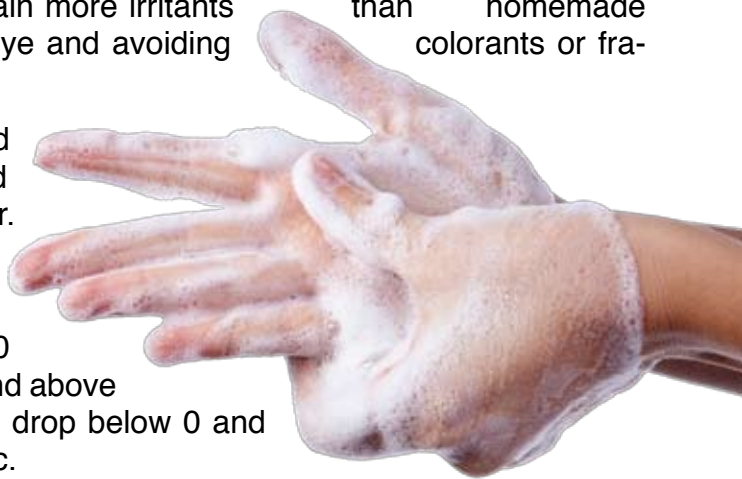
pH: The acidity or alkalinity of a chemical, on a scale of 0 to 14. Pure water is neutral. Numbers below 7 are acid and above 7 are alkaline (base). Very strong acids and bases can drop below 0 and above 14. Soap should be either neutral or slightly acidic.

Photosensitizer: A substance which makes the skin sensitive to sunlight. Some citrus essential oils can make the skin more prone to sunburn.

Rancid: Spoilage of an oil, characterized by a bad fragrance, darkening, and changes in viscosity. Because soap is made with oil, it can go rancid. Soap made with certain oils or a higher superfat are more prone to rancidity.

Superfat: The percentage of oil above what is necessary for saponification. A superfat percentage is often calculated to make soap more moisturizing or to avoid having too much lye in a recipe. The concept can also be called a "lye discount." Common superfat percentages range from 5% to 20%.

Surfactant: A substance which breaks the surface tension of water, allowing it to carry away dirt and oil. Antibacterial soaps are usually unnecessary because surfactants allow bacteria to wash away with the oil.



Use this resource when learning how to make homemade soap. Easy glossaries help you focus on the important details such as safety precautions or procedures.



SAFETY PRECAUTIONS: A Vital Soap Making Resource

Safely Learn How to Make Soap with Glycerin and Lye

BY MARISSA AMES

When learning how to make soap, attention to safety protocols is crucial. Learn from good soap making resources before you begin.

For millennia, civilizations have known how to make soap; easy and difficult recipes alike. From master craftsmen in Aleppo to Old West pioneers leeching ashes behind their cabins, people have tapped into their soap making resources and produced safe products. Modern soap making is even easier. Chemical factories produce lye, which has a constant alkalinity.

Can you make soap without lye? Yes, and no. Soap is a combination of fatty acids plus sodium hydroxide or potassium hydroxide. Basically, oil plus lye. If you make soap from scratch, you must use lye. You can skip that step if the soap has been made for you. Many crafters purchase pre-made bases, such as clear glycerin soap, to melt down and mix with colorants and fragrances. But when learning how to make glycerin soap from scratch, you need to know how to safely handle lye.

Work Spaces and Equipment

Work Space: Prior to making soap in a kitchen, remove all food products or appliances. A bead of lye can lodge in small gaps, shaking loose when you use tools for cooking. Consider covering all but your stovetop with newspaper to catch loose lye or drops of soap so you can roll it up and dispose of it all at once when you're done. If you're working in a garage or dedicated soaping room, be aware of surfaces that can harbor loose lye beads. Keep walkways clear.

Always secure pets so they don't invade your work space, and have someone else to watch small children. Be sure you aren't expecting company or phone calls for the next hour, because you'll be unable to walk away from your recipe once lye meets oil.

Protective Gear: Making soap from scratch requires additional gear to avoid chemical burns. Wear long sleeves and gloves which don't allow skin to show at the arm or wrist. Eye protection such as safety glasses or goggles keep errant drops of lye water from damaging your vision. Some soap makers wear gas masks or wrap bandanas over their faces when they add lye to water, since the mixture steams with toxins for a few minutes. Others combine the ingredients beneath a fan or outside.

Tools: Prior to saponification, lye can react with aluminum and the heat created can melt some plastics. Though glass is the most nonreactive material, it gets slippery and can drop and splatter liquids all over you. The best materials are: a cooking pot that is either stainless steel or covered with enamel. Whisks and immersion blenders made of stainless steel. Silicon spatulas, plastic spoons. Pitchers made of dishwasher-safe plastic. Molds made of approved plastic or silicon.

*Cooking implements that have been used for soap-making should never again be used for food purposes.

Ingredients: Many different oils can be made into soap. But each requires a different amount of lye to saponify one gram of oil. Always check your recipe with a soap calculator (<http://soapcalc.net/calc/SoapCalcWP.asp>) prior to starting each batch. This soap making resource is your best protection against a lye-heavy product. If you're learning how to make soap with coconut oil, check to see if you have fractionated, hydrogenated oil that is solid until 92 degrees, or the least-processed 76-degree oil. Research how to add products like honey and goat milk to avoid burning. One of the best soap-making resources available are online forums where experienced crafters share safety tips with newcomers.

The Soap Making Process

Measuring: Always measure lye, water, and oils by weight instead of volume. When learning how to make bar soap, people often want recipes measured by volume because they don't own scales. Purchase the scale. It's the only way to ensure you have the correct chemical balance.

Procedure: Select pots and pitchers deep enough to contain all the water, oils, and lye while avoiding spills and splashes. Always add dry lye to your pitcher of water; never add water to the lye. Pouring water onto the lye can result in splashes. Carefully pour the lye/water mixture into the oils. Avoid splashing as you agitate the liquid and add colorants and fragrance. As you pour the liquid soap into molds, avoid spilling.

The Gel Stage: During active saponification, your soap mixture heats up and resembles petroleum jelly. Because of the heat created, always use dishwasher-safe plastics. Silicon molds can all withstand the heat of gel stage. Certain additives, such as honey or pumice stone, can amplify the heat. Watch your product during gel stage. Though it's advised to insulate your soap with towels or place it in the oven to ensure gel occurs, this can sometimes hold in too much heat. If beads of oil rise to the top of your soap, remove insulation until it cools a little.

If Accidents Happen: Lye splashes and soap molds tip. Crafters stumble and pots fall. If you spill lye or raw soap, don't freak out. Lye quickly washes off beneath running water and won't burn skin unless you let it sit or it gets in your eyes. Forums may advise you to keep vinegar or diet soda within a spray bottle for spills, but other professionals advise against this because spraying acid onto alkali can create a caustic volcano. Rinse off skin. Always wear eye protection. Wipe up spills with a clean towel then immediately place the towel in the washing machine. A little lye or raw soap can be good for the laundry. Keep surfaces lined with newspaper so spills go right into the garbage. Dryer sheets are excellent for finding stray beads of lye.



Curing and Storage

Inspection: How do you know if the lye has been consumed and your soap is safe? Some soap-makers purchase litmus paper to test alkalinity. Others wait a few days then cut their soap and visually inspect it for dry pockets of white lye. Some use the old-fashioned “zap” method, where they touch their tongues to the soap. If they do not feel a sharp sensation resembling electric shock, the soap is safe.

If you find dry, white pockets in your soap, discard it. Experienced soap-makers may recheck their recipes and, if the initial recipes were followed correctly, may rebatch or grate the soap to make laundry detergent. If you are a new soap-maker, discard the lye-heavy bars.

Curing: Congratulations! If your soap passed the alkalinity tests, you no longer need safety protocols. The only necessary soap-making resource at this point is guidance regarding proper curing and storage.

Because soap is made with oil, it has a potential of going rancid. Some recipes go bad faster than others. To avoid rancidity, cure the bars by placing them in a cool, dry location with plenty of air flow for six weeks or longer. This makes soap milder and longer-lasting.

Storage: Soap can last months to years, and a lot depends on proper storage. Do not encase soap in plastic until it is fully cured. Even then, airflow is key to avoiding dreaded orange spots that indicate rancidity. Experienced soap makers wrap bars in paper or store in cardboard boxes, divided with paper towels. Do not store extra bars in your bathroom because the heat and moisture reduce shelf life. The best place is in the closet of a dry basement.

Before you start your first batch, educate yourself on methods and safety protocols. Ask advice from seasoned crafters. Imagine scenarios which may go wrong. Study the best soap making resources then have fun as you create a fulfilling artisan product.



Other Uses For **HOMEMADE SOAP**

Have we given you enough reasons to learn how to make soap yet?

LAUNDRY SOAP

Homemade laundry soap is economical to make and has many household uses. Here are a few ideas for how to make homemade laundry soap:

- Grate one cup of bar soap to use as laundry soap. If washing in hot or warm water, add the flakes directly to the water in the washer. If washing in cold water, dissolve first.
- Homemade laundry soap works to remove stains. Wet a bar of soap and rub directly on stained area. Launder as usual. Or, make a paste of one teaspoon flakes and a little warm water. Then rub into the stain. For tougher stains, use a toothbrush to rub paste into the stain and launder as usual.
- Garment pre-soak can be made by grating one-half cup of homemade bar soap and dissolving it in one gallon of warm water. Use a whisk to be sure the flakes dissolve. Allow water to cool. Add garment and soak 30 minutes to one hour. Launder as usual.

LIQUID SOAP

How can one bar of soap be in three or more places at the same time? By making it into liquid soap. Here's how:

- Grate one bar of soap in the blender.
- Add 1 cup boiling water and whip in blender.
- Add ½ cup of tap water (room temperature) and stir in blender.
- Add 1 tablespoon honey and 1 teaspoon glycerin and stir in blender.
- Let cool approximately 15 minutes, then whip again. Mixture should measure about two cups. Add enough cool water to blender until mixture reaches the five to six cup mark and whip.
- Pour mixture into containers for storage and allow to cool without the lids on for at least an hour. Mixture will thicken as it sets up. If needed, shake before using.

Note: Herbs such as calendula, lavender or fresh pine needles can be steeped in boiling water and strained before adding to the grated soap if desired.

DISH SOAP

Here is an easy recipe for learning how to make liquid soap for dish washing.:

Grate one-half pound of bar soap into flakes and place in a large pot with one-half gallon of water. Stir to dissolve flakes. Boil for 10 minutes, stirring frequently. Pour into a glass jar and allow to cool. After the liquid soap has cooled, cover to prevent the soap from drying out. As the soap cools, it will thicken to a gel consistency.

To help dissolve in the sink and form plenty of suds, place a tablespoon or so into a small jar when ready to use. Add hot water and the lid. Shake to dissolve the gel back into a liquid and add to the sink as you would regularly. It is also referred to as jelly soap.

And to think of all those special soap products sitting on the store shelves. Who'd think that we could take just a few bars of soap and turn them into so many useful household products?