**The Soap Process**

Natural hand-made soap is not difficult to make, once you understand the basics. You can make a batch of soap in as little as one hour, depending on the formula.  
The following is the basic formula for making all soap:  
  
**Fatty acid (oil) + Base (lye) = “A Salt” (soap)**  
  
The oil or fat is heated gently. Lye and water are combined separately. When both ingredients reach the required temperature, they are combined. When the mixture becomes the desired consistency, it is poured into a mould. The bars are then removed from the mould after setting up (approximately 24 to 48 hours). They are restacked and allowed to “cure” or dry until hard. This can take anywhere from 3 to 8 weeks depending on the formula.   
There are 3 keys to successful soap making:

**1.     Accurately weighed ingredients.  
2.     A good formula.  
3.     Proper technique.**

**Cold Process Method:** This process is widely used by home-based soap makers. The neutralization stage takes place during the moulding stage. Our kits follow this method.

**Semi-boiled Method:** After the soap mixture traces, heat is added using a double-boiler to cause the soap to neutralize before being moulded.

**Full-boiled Method:**This method is where all ingredients are prepared in one large container. Heat is added causing neutralization. Large commercial manufacturers use this method to achieve the by-product called glycerin.

**Transparent Soap:** This soap is made clear by adding solvents such as alcohol to prevent crystals from forming as the soap cools. Transparent soap is often referred to as Glycerin Soap. However, this is a fallacy as glycerin is not needed to produce a clear or transparent soap. This soap can be drying to the skin.

**Melt and Pour Soap:** Or also known a solid Glycerin blocks. Pure glycerin, animal or vegetable derived, is always liquid and can only be solidified by the addition of plastizer chemicals. To produce a foam, detergents are added. This method is simply making soap from soap and is more expensive than starting from scratch. Melt and pour soaps may have natural ingredients added to them but they are synthetically based.

**Preservatives**

A preservative is defined as something that protects against decomposition. However, nature has its own agenda and decay is inevitable. There are no preservatives, synthetic or natural, that can completely stop this process — they can only slow it down.  
  
Oxidation occurs within fats/oils which causes rancidity and spoilage to occur. Carrot oil, Vitamin E oil, and Grapefruit Seed Extract are three natural preservatives that are recommended. They contain powerful anti-oxidants such as vitamin A, E and C, which can help prevent spoilage.   
  
The formulas in this booklet do not require any additional preservatives, unless you choose to add an ingredient that is vulnerable to rancidity, i.e. fresh fruit or vegetable matter.

**Equipment Needed**

* One large stainless steel mixing bowl (the larger the better). This greatly reduces the amount of splatter leaving the bowl during the mixing process
* One heat-resistant container that hold 2 cups (glass Pyrex works well) to mix Lye and water. Note: Using a large container may result in rapid heat loss and temperatures not reaching their goal
* A container to heat oils. If using the stove, a stainless steel pot will do. If using the microwave, use a microwave-safe container
* Candy or meat [thermometer](http://ca.store.yahoo.com/cranberrylane/accessories.html) made of glass and stainless steel (having two works best — one for the lye and one for the oil)
* Protective wear: long sleeved shirt, pants, shoes (no bare feet), glasses and rubber gloves. Keep a bottle of vinegar nearby to neutralize lye spills
* Soap moulds; [plastic](http://ca.store.yahoo.com/cranberrylane/moulds-trays.html), cardboard, or [wood](http://ca.store.yahoo.com/cranberrylane/sm-wd.html) (use wax paper to line, see “Soap Moulds”)
* Measuring spoons, pot holders or oven mitts, and plastic spatulas
* [Digital scale](http://ca.store.yahoo.com/cranberrylane/digitalscale.html), accurate to at least two grams (if not using our [kits](http://ca.store.yahoo.com/cranberrylane/soapmakingkits.html))

**Soap Moulds**

Generally, you can use just about any type of plastic, [wood](http://ca.store.yahoo.com/cranberrylane/moulds-trays.html), or cardboard as a soap mould. Do not use tin, aluminum, Teflon, or copper as they react with the lye. Candy and candle moulds may work well, too. If you want something simple, choose a square or rectangular container and cut the bars to size after your soap has set. Cardboard milk or juice containers work well as they are coated with wax.   
  
To make round soaps try recycling a plastic bottle. Using an empty, clean, plastic pop or round shampoo bottle, carefully slice the sides of the bottle lengthwise. Tape sides using plastic packing tape to prevent leakage. Pour the soap mixture and let set for required amount of time. Peel tape back and release your soap, then cut the bars to a desired size. Set to cure as usual.  
  
If you are having trouble getting your soap to release from the mould, try placing it in the freezer for two hours. This will cause the soap mixture to shrink from the sides and make removal easier.  
  
To help with release, use vegetable shortening to grease your moulds. Cardboard or wooden moulds require a combination of waxed paper or freezer paper and vegetable shortening.

Tip: Line your moulds with brown freezer or butcher’s paper. Apply some vegetable shortening to the inside surfaces of your mould, lay in some freezer paper, shiny side up, and trim to fit. After removal, simply peel off the paper from your soap block the next day.

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| **Basic Soap Formula** oily to normal skin | | | |
| **Ingredients** | | **Temperatures & Times** | |
| 598 g  296 g  30 g  58 g  150 g  368 ml | Coconut Oil Vegetable Shortening Beeswax Avocado Oil Lye (6% discount) Distilled Water | Oil Temperature  Lye/Water Temperature  Cure Time  Trace Time  Mould Time | 55°C (130°F) 55°C (130°F) 3 Weeks 15 Minutes 24 Hours |