

Lotion Basics

This class will walk you through the basics of making lotion from scratch.

Common Ingredients in Lotion

Oils - You will want to choose oils that have a long shelf life. Different oils offer different results in lotion based on their properties. Some examples:

Lighter base oils for a face or oily-skin lotion -

- Fractionated Coconut Oil
- Sunflower Oil
- Grapeseed Oil
- Safflower Oil
- Moringa Oil
- Monoi Oil
- Tamanu Oil
- Meadowfoam Seed Oil

Medium oils -

- Rice bran Oil
- Sweet Almond Oil
- Jojoba Oil
- Apricot Kernel Oil

Heavier oils for a heavy body lotion -

- Olive Oil
- Avocado Oil

Butters - Butters are great to use in lotion. They add protective barriers to the skin and help to add emolliency and thickness to the lotion. Butters can include shea butter, cocoa butter, mango butter or any other natural cosmetic based butter.

It is important to note that harder/brittle butters will make a thicker lotion and softer butters will make a looser lotion.

Emulsifiers - Oil and water don't mix. You'll need an emulsifier to emulsify your lotion. Some common ones include:

- *Emulsifying Wax - (Cetearyl Alcohol (and) Polysorbate 60)
- BTMX - (Behentrimonium Methosulfate (and) Cetyl Alcohol (and) Butylene Glycol)
- Polawax - A name brand (Croda) of Emulsifying Wax

Thickener - Lotions can be made runny or thick enough to put into containers and scooped out. Two main thickeners include:

- Stearic acid - makes a thick cream. Also is an emulsifier.
- Cetyl alcohol - makes a smoother body/face lotion. Acts as an emollient and emulsion stabilizer.

Water - Lotion is made with up to 70% water. You'll want to use distilled water. You can substitute some water with a few special ingredients including:

- Hydrosols - or flower waters are produced by steam-distilling plant material. They can add scent.
- Aloe vera

Preservative - Since lotion includes water, you'll need a preservative. Natural fungi, mold and bacteria thrive in water if not preserved. Some common preservatives include:

- **Liquid Germall Plus** - Excellent broad-spectrum antimicrobial preservative. No known inactivators. Compatible with virtually all-cosmetic ingredients. 3-8 pH range. Good for water based formulas. Added at temperatures of 122°F or below. Use at a rate of .1-.5%.
- **Germaben II** - a mixture of propylene glycol, diazolidinyl urea, methylparaben, and propylparaben. .3-1% of total lotion weight. Use with a formula containing 25% in oil phase. Added at temperature of 140°F or below.
- ***Optiphen** - is a paraben and formaldehyde-free preservative. It consists of Phenoxyethanol and Caprylyl Glycol. The Caprylyl Glycol is essentially a carrier base for the Phenoxyethanol. Optiphen is a clear liquid that has no pH restrictions (**UPDATE**: Now states best in range of 4-8) and is safe for use at temperatures below 140°F. It is suggested for usage levels at .5 - 1.5% and is best used in oil based products. (www.brambleberry.com)
- **No preservative/personal use** - Your product might last up to 5 days in the fridge.

It is important to note that a lotion that looks, feels and smells normal can still be contaminated.

*Grapefruit seed extract, rosemary extract and Vitamin E are not preservatives; they are antioxidants.

More info on preservatives:

- <http://makingskincare.com/preservatives/>
- <http://www.lotioncrafter.com/lotioncrafter-premium-ingredients-preservatives/>

Most preservatives give a usage range. If you are bottling your lotion into containers that restrict anything from getting back into the container (such as a disc cap or lotion pump), you can use the lower amount. Use the higher amount when one of two things occur:

1. You use an open jar or container that allows for more contamination (especially from fingers dipping in).
2. You use harder-to-preserve ingredients such as botanical extracts, etc.

Fragrance - You can fragrance lotions using both fragrance oils and essential oils. The typical usage rate for both is about 1% of total lotion recipe but double check IFRA guidelines to make sure you comply. www.eocalc.com

Basic Lotion Recipe

Water - 70%	(700 grams)	_____
Liquid Oil - 15%	(150 grams)	_____
Butter - 5%	(50 grams)	_____
3% - Stearic Acid	(30 grams)	_____
5% - Emulsifying Wax	(50 grams)	_____
1% - Essential Oil	(10 grams)	_____
1% - Optiphen	(10 grams)	_____

NOTES:

Heat & Hold to Kill the Nasties & Stabilize Emulsion

For preservatives to best work, your lotion needs to be as free from contamination as possible during manufacturing. A common practice in lotion making to kill off bacteria, mold and yeast is to heat & hold your raw materials. Heating & holding at 160-170°F for 20 minutes will kill off many contaminants including some mold, yeast and bacteria that might have been introduced from the manufacturer, your environment or equipment. To heat and hold you can use two methods:

1. Place water into a heat safe container and oil soluble ingredients (oils, butters, emulsifying wax and stearic acid) into a separate heat safe container and place in double boiler. Heat to 160-170°F and hold for 20 minutes.
2. Place water into a heat safe container and oil soluble ingredients (oils, butters, emulsifying wax and stearic acid) into a separate heat safe container and place into your oven turned onto lowest setting (warm setting is usually around 170°F). Heat to 160-170°F and hold for 20 minutes.

Do not heat & hold heat-sensitive ingredients such as fragrance oils, essential oils, preservatives, hydrosols, some oils/butters etc., save those for the cool down phase.

Heating & holding also helps ensure a stable and strong emulsion. Sometimes when your water and oil-soluble mixture are different temperatures or not melted enough, emulsions can suffer instability.

Sanitize Your Workspace & Equipment

Before you begin your lotion-making session, you need to sanitize your workspace, equipment (immersion blender), mixing utensils and mixing containers. To do this, spray everything down with a bleach solution (1.5 tablespoon bleach in 2 cups distilled water). Let set for 5 minutes to kill contaminants. Wipe up with paper towels.

Containers straight from your supplier *should* not need to be washed. Sometimes washing can do more damage if you happen to leave moisture in the bottles from washing.

Basic Process

Step 1: Heating & Hold

Weigh out the water into a heat-safe container. Weigh out oils, butters, emulsifying wax and stearic acid into another heat-safe container. Heat both (by either double boiler or in warm oven) to 160-170°F and hold at that temperature for 20 minutes. Remove from heat.

Step 2: Emulsion

Combine the water and oil mixture and emulsify using an immersion blender. Blend for about 5 minutes. Mixture will turn cloudy and white but will remain quite liquid. Let set for 10 minutes and blend again.

Step 3: Cool Down Phase

Let mixture set until it reaches 115°-120°F. Now it is safe to add heat-sensitive ingredients such as fragrance oils, essential oils, preservatives and hydrosols. Blend once more using an immersion blender to ensure emulsion.

Step 4: Bottling

You can now bottle your lotion. **Do not cap your containers until the lotion or cream has completely cooled.** Condensation can get trapped in bottles and jars and cause mold to grow. Once completely cooled down, cap your containers.

Bottling Tips

Depending on how thick your lotion or cream is when you bottle it, it might be hard to get it into a container. You can put it into a freezer bag, cut the tip and squeeze into bottles. You can also use a piping bag. Sometimes bottling lotion can get messy. Wipe your filled bottles with alcohol to remove any mess.