Soap Making Oil Chart

(information taken from ModernSoapmaking / LovinSoap / The Spruce /SBM etc. and consolidated here; any mistakes are mine)

Oil	Class	Character in Soap		% Reco	Comments
Coconut Oil	Hard	Abundant lather, large fluffy bubbles, high cleansing, hard bar, white	Lauric 39-54% Myristic 15-23% Palmitic 6-11% Capric 6% Oleic 4-11% Stearic 1-4% Linoleic 1-2%	15 - 50%	Contributes to: soap hardness, fluffy lather, quicker trace. Coconut oil makes soaps lather beautifully but can be drying when it makes up an overly large portion of your soap's fats. It will make a very hard, white bar of soap that lathers well even in very hard water - even in sea water. Coconut oil is light and not greasy and is resistant to spoiling. Used in skin care formulations, coconut oil is emollient, moisturizing, conditioning and protecting to the skin. This oil is solid at room temperatures under 76 degrees and liquid at higher temperatures.. High amounts of coconut oil can be drying, however you can always use a higher superfat to counteract the drying effect. The more un-saponified oils in your soap the more moisturizing it is.
Palm Oil	Hard	Mild stabilizing lather, hard, long lasting bar	Palmitic 43-45% Oleic 38-40% Linoleic 9-11% Stearic 4-5% Myristic 1%	25 - 50%	Contributes to: soap hardness, stable lather, conditioning, silky feel, quicker trace. Palm oil makes a hard bar that cleans well and is also mild. It is a good substitute for animal tallow in all-vegetable soaps. Palm oil is processed from the flesh of the fruit of tropical oil palm plants. This oil is solid at cool temperatures, becomes slushy at warm temperatures and a golden, clear liquid at higher temperatures Palm oil is great for those that don't want to use animal fats such as lard or tallow. Palm helps pull other stubborn oils into saponification faster. Whereas you have to limit amounts of other oils that produce a hard bar (coconut and palm kernel for example), palm can be used as a large portion of your base oils. *Do* use it in combination with other oils though or your soap will be dry and brittle. Palm is the vegan alternative to using animal fats such as lard and tallow in soap. **Note** Palm separates into layers as it cools and must be melted and stirred before using in soap recipes, otherwise you may get inconsistent results.
Lard	Hard	stabilizing creamy lather, hard, white bar	Oleic 44-46% Palmitic 26-28% Stearic 13-14% Linoleic 6-10% Myristic 1-2%	25 - 50%	Contributes to: soap hardness, stable lather, conditioning, quicker trace. Lard is made from pig fat. Its advantages are that it is cheap, easily obtainable, and makes a nice lathery, white bar of soap. This fat should be combined with vegetable oils such as coconut or palm. Without other oils it can tend to not work very well in cold water.100% lard soap with no superfat makes great laundry soap
Tallow	Hard	Mild stabilizing creamy lather, hard, white bar	Oleic 37-43% Palmitic 24-32% Stearic 19-25% Myristic 3-6% Linoleic 2-3%	25 - 50%	Contributes to: soap hardness, stable lather, conditioning, quicker trace. 100% tallow soap with no superfat makes great laundry soap.
Babassu Oil	Brittle	Similar to coconut oil, large fluffy bubbles, high cleansing but a bit milder than coconut oil, white color	Lauric 50% Myristic 20% Palmitic 11% Oleic 10% Stearic 3.5%	15 - 30%	Contributes to: soap hardness, fluffy lather, quicker trace. Beneficial for both dry and oily complexions, gently moisturizing the skin without contributing to an oily sheen. Especially suitable for eczema, itchy, dry and inflamed skin. Babassu oil is a great oil to use in place of coconut oil for those that have a coconut allergy.
Palm Kernel Oil	Brittle	Similar to coconut oil, large fluffy bubbles, high cleansing but a bit milder than coconut oil, white color	Lauric 47-48% Oleic 15-18% Myristic 14-16% Palmitic 8-9% Capric 4% Stearic 3% Linoleic 2%	15 - 30%	Contributes to: soap hardness, fluffy lather, quicker trace. Palm Kernel oil makes a soap that is very hard and lathers well. PKO is processed from the core nut of the fruit of the same tropical oil palm plants that palm oil is derived from, but its composition and **properties are not similar to palm oil**. It is instead very similar to coconut oil and can be substituted for some of the coconut oil in soap formulas to make a harder bar. This oil is solid at room temperatures. FLAKES: A more hydrogenated version of palm kernel oil. Makes a harder bar of soap.
Cocoa Butter	Brittle	Mild stabilizing lotion-like lather, hard, long lasting bar	Stearic 31-38% Oleic 32-36% Palmitic 25-30% Linoleic 3%	5 - 15%	Contributes to: soap hardness, stable lather, conditioning, moisturizing, quicker trace. When used as a superfatting oil it acts to lay down a protective layer which holds moisture to the skin. It has a natural chocolate scent but it is also available in an unscented version. Cocoa butter contains natural antioxidants that help to prevent rancidity. It is an excellent moisturizer that melts at body temperature, leaving the skin feeling soft and silky smooth.
Shea Butter	Hard	Mild stabilizing lotion-like lather, medium hard, long lasting bar	Oleic 40-55% Stearic 35-45% Linoleic 3-8% Palmitic 3-7%	5 - 20%	Contributes to: soap hardness, stable lather, conditioning, silky, slippery feel, quicker trace. Shea butter is a popular superfatting agent and contains a large percentage of ingredients that do not react with the lye, thus remaining in the soap to nourish your skin. Shea butter is said to be beneficial for treating dry skin, blemishes, skin discoloration, scars and wrinkles. High in unsaponifiables, therefore leaving lots of skin conditioning emollients in your soap. Too much can cause the soap to be "sticky" feeling.

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Mango Butter	Hard	helps with the hardness of the soap, and adds luxurious conditioning and moisturizing values as well.	Oleic 34-56% Stearic 26-57% Palmitic 3-18% Linoleic 1-13%	5 - 20%	Mango butter is yellowish and has almost no scent. It is a great moisturizer and should be used to superfat soap.
Castor Oil	Soft	Boosts lather by making a soap more easily dissolved in water	Ricinoleic 90% Linoleic 3-4% Oleic 3-4%	5 - 10%	Contributes to: fluffy lather, stable lather, conditioning, moisturizing, quicker trace, softer soap. Often used to superfat soaps. Castor oil is unique in being almost entirely composed of ricinoleic fatty acid, found in no other oils and possessing a high affinity for water molecules. This makes it an excellent humectant, attracting and holding moisture to the skin. Castor oil should be used at low percentages to avoid overly soft soaps. Also often used in balms, shampoos, hair oils, and other thick emulsions for the skin and hair. Up to 15-20% castor oil in some shampoo or shaving bars.
Olive Oil	Soft	Low slippery lather, almost no bubbles, low cleansing	Oleic 63-81% Palmitic 7-14% Linoleic 5-15% Stearic 3-5%	25 - 80%	Contributes to: soap hardness, stable lather, slippery feel, conditioning, moisturizing, Olive Oil attracts external moisture to your skin, helping to keep skin soft and supple. True "Castile" soap was made using only olive oil, but the term has loosened now to include soaps that have olive oil as a major proportion of the oils in them. The low cleansing properties of olive oil make it very mild and nourishing. Soap for sensitive skin, elder skin or baby skin should include high amounts of olive (60%). True Castile soap is initially very soft bar of soap initially upon unmolding but cures into a rock hard bar. Soaps high (50%+) in olive oil need longer to cure and unmold.
Apricot Kernel Oil	Soft	Boosts lather by making a soap more easily dissolved in water	Oleic 58-74% Linoleic 20-34% Palmitic 4-7%	5 - 12%	Contributes to: stable lather, conditioning, moisturizing. A smooth and lightweight oil, high in Vitamin A and minerals, Apricot kernel oil is often used for superfatting. Also popular as a massage oil, Known for its ability to penetrate the skin without leaving an oily feel, apricot kernel oil has a superb texture that is great for all skin types. good sub for some of the olive oil in a recipe.
Avocado Oil	Soft	Medium lather, mild cleansing	Oleic 36-80% Palmitic 7-32 % Linoleic 6-18% Stearic 1.5%	5 - 12%	Often used for superfatting soaps, avocado oil contains vitamins A, D, and E, which makes it healing as well as moisturizing. Also used in massage oils, creams, lotions and hair products. Good sub for some of the olive oil in a recipe. It is high in vitamin E and other vitamins and minerals making it a great addition to facial bars or bars for elder skin.
Jojoba Oil	Soft	Stabilizes and suspends lather	Oleic 10-13% (in a liquid wax)	5 - 8%	Contributes to: stable lather , conditioning, moisturizing, quicker trace. Actually mostly a liquid wax, jojoba does not lather much of itself, but rather acts to make existing lather from other oils more stable and long lasting. Jojoba is good at conditioning skin. Because of its expense, it's usually used to superfat soap batches or in shampoo bars. It is said to be an excellent emollient for skin conditions like psoriasis or acne and has a chemical composition very close to the skin's own sebum. Jojoba oil is easily absorbed by the skin and promotes silky smooth skin. Jojoba can kill lather when used in high amounts. Keep below 8%. Jojoba has some anti-inflammatory properties and is highly resistant to rancidity - can actually lend those properties to other oils thereby extending their shelf life as well. An extremely stable oil to have on hand for its moisturizing potential.
Sunflower Oil	Soft	Medium lather, mild cleansing	Linoleic 68-70% Oleic 32 - 38% Linoleic 68-70% Stearic 4-5%	5 - 12%	Contributes to: stable lather, conditioning, silky feel, softer soap, slower trace. Sunflower oil contains Vitamin E, so it naturally resists going rancid. Use high oleic sunflower for a longer shelf life. Can be used as an added emollient or as a larger portion of your recipe, however it can make the soap too soft if used in too high a percentage. Slow to saponify, so use with other oils to help speed things along. Average usage is up to 15% of your total oils.
Grapeseed Oil	Soft	Medium lather, mild cleansing	Linoleic 58-78% Oleic 12-28% Palmitic 5-11% Stearic 3-6%	5 - 12%	Used in soaps as a superfatting oil, grapeseed oil is a lightweight oil that absorbs into the skin quickly without leaving a heavy greasy feeling. It has mildly astringent qualities and is said to be useful for acne and other skin complaints.
Hazelnut Oil	Soft	Medium lather, mild cleansing	Oleic 65-85% Linoleic 7-11% Palmitic 4 - 6% Stearic 1-4%	5%	Contributes to: stable lather, conditioning, moisturizing, softer soap, slower trace. Hazelnut Oil has a soft, natural, nutty fragrance and contains vitamins, minerals, and protein. An excellent carrier for essential oils, hazelnut oil is very easily absorbed, leaving no oily residue.

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Hemp Seed Oil	Soft	Medium lather, mild cleansing	Linoleic 57% Linolenic 21% Oleic 12% Palmitic 6% Stearic 2%	5%	Contributes to: stable lather, conditioning, silky feel, softer soap, slower trace. Hemp seed oil is not as stable as some other oils and can spoil quickly. It creates a silky bar of soap even if it is only used to superfat your batch. Since it is prone to spoilage, keep it as a small percentage of your mix to avoid having a soft soap that may spoil in a few months. Store unused oil in the freezer or refrigerator. Fresh hemp seed oil has a green color which becomes lighter with age. Hemp seed oil will warn you with a "painty" smell long before it is actually rancid. It is rich with proteins, vitamins, minerals, and essential fatty acids and is excellent for all skin and hair needs. The hemp seed oil used in cosmetics and skin care products does not contain the psychoactive THC component and is therefore not subject to any legal restriction.
Safflower Oil	Soft	Medium lather, mild cleansing	Linoleic 70-80% Oleic 10-20% Palmitic 6-7% Stearic 2%	5 - 12%	Contributes to: stable lather, conditioning, moisturizing, silky feel, softer soap. Safflower oil is an unsaturated oil, valuable for its moisturizing properties. Limited shelf life. It has an exceptionally high linoleic acid content and is an excellent moisturizing choice for in skin creams and lotions.
Rice Bran Oil	Soft	Medium lather, mild cleansing, gives soap a sheen making it look less dull	Linoleic 32 - 47% Oleic 32 - 38% Palmitic 13-23% Stearic 2-3% Linolenic 1-3%	5 - 12%	Rice bran oil is moisturizing and is a good choice for inclusion in formulations intended for mature, delicate or sensitive skin.
Almond Oil, sweet	Soft	Medium lather, mild cleansing	Oleic 64-82% Linoleic 8-28% Palmitic 6-8% Stearic 2%	5 - 12%	Contributes to: stable lather, conditioning, moisturizing. Often used for superfatting soaps. Sweet almond oil is often used as an emollient in skin creams and balms. Can be used as a large percentage of oils or for superfatting.
Evening Primrose Oil	Soft		Linoleic 65-75% GLA 9-11% Oleic 7-10% Palmitic 5-8% Stearic 1-3%		Contributes to: stable lather, conditioning, emollience. Evening primrose oil is an exceptionally fine textured oil. Absorbed quickly into the skin, it is one of the most popular sources of an essential fatty acid called **Gamma Linolenic Acid (GLA).** Evening primrose oil is said to be effective in helping those with dry skin, eczema and psoriasis.
Macadamia Nut Oil	Soft		Oleic 54-63% Palmitic 7-10% Stearic 2-6% Linoleic 1-3%		Contributes to: stable lather, conditioning, moisturizing, silky feel. Macadamia has a long shelf life. It is easily absorbed into the skin and acts as an emollient. It is said to protect skin cells from deterioration and thus lead to better skin condition
Meadowfoam	Soft				Highly resistant to rancidity and lends those properties to other oils, extending their shelf life. An excellent moisturizer and can be used in soaps, creams, lotions, and cosmetics. Prevents moisture loss in the skin. **SMF pals say - wasted in soap!**

HOT PROCESS SOAP: Superfatting refers to using more oils than the amount of alkali in a soap recipe formula can saponify completely. Calculators such as SBM Crafters Soap Calculator express this as a percentage of superfatting. This will leave some "extra" oils in the finished soap and will allow the oils' properties to be expressed in the soap. This, along with careful selection of the oils used in the recipe, will affect the feel and qualities of the soap produced. Choosing a particular oil to be the superfatting oil and adding it to the new soap just before pouring it into the mold will emphasize the qualities of that just added oil above the general mix of oils used. Finding a preferred superfatting percentage along with the properties of the oils used is one of the attractions of soapmaking.

Emu oil - made from the rendered fat of the Emu bird. The oil is transdermal meaning anything you add to it will make it more readily absorbed through the layers of the skin. Emu is non-comedogenic (won't clog pores), has a natural SPF, is hypo-allergenic and non-irritating, anti-inflammatory, helps prevent and diminish scars and stretch marks, helps to heal burns like no other oil can, reduces wrinkles, and is a wonderful emollient and moisturizer. WHEW! Is there nothing this oil can't do? You can use up to 20% in a recipe and still get a hard, well lathering bar. UNFORTUNATELY - the emu is killed in the process and there is not a big market for emu meat!