

BOTTEGA ZERO WASTE

# VEGAN SOAP MAKING

OIL CHART



OILS FATTY ACID PROFILES AND THEIR  
QUALITIES IN SOAP MAKING

[WWW.BOTTEGAZEROWASTE.COM](http://WWW.BOTTEGAZEROWASTE.COM)

# Legend

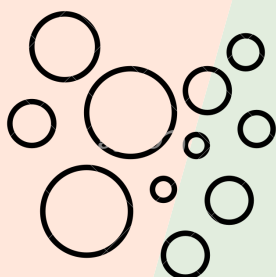
Soap is the result of the reaction (also called saponification) between fats (contained in oils/butters) and an alkaline solution of sodium hydroxide (also called lye or caustic soda - NaOH) dissolved in water (or any other liquid).

Every oil/butter has a fatty acid profile, so by selecting an oil/butter you can effectively decide what characteristics you want to give to your soap. There is no right or wrong in soap making although each oil has its own recommended usage rate, especially if you are trying to achieve a well balanced soap with equal conditioning, lathering, hardness and cleansing power.

Each oil has also a unique saponification value (SAP) which is the amount of lye required to turn the oil into soap. In order to determine how much lye you would need, simply run your recipe into a soap calculator such as SoapCalc.

## Typical Recipe Values

|              |       |
|--------------|-------|
| Hardness     | 29-54 |
| Conditioning | 12-22 |
| Cleansing    | 44-69 |
| Fluffy       | 14-46 |
| Creamy       | 16-48 |



## Fatty Acids

|            |   |
|------------|---|
| Lauric     | hardness, cleansing, fluffy lather                |
| Myristic   | hardness, cleansing, fluffy lather                |
| Linoleic   | light conditioning                                |
| Oleic      | high conditioning                                 |
| Palmitic   | hardness, creamy lather                           |
| Ricinoleic | soft soap, conditioning, creamy and fluffy lather |
| Stearic    | hardness and creamy lather                        |
| Linolenic  | conditioning, silky lather                        |

|                          | Hard<br>(29-54) | Cleansing<br>(12-22) | Conditioning<br>(44-69) | Bubbly<br>(14-46) | Creamy<br>(16-48) | Fatty Acids<br>Profile   | Recommended<br>Usage |
|--------------------------|-----------------|----------------------|-------------------------|-------------------|-------------------|--|----------------------|
| Apricot<br>Kernel Oil    | 6               | 0                    | 93                      | 0                 | 6                 | Palmitic 6% Oleic 66%<br>Linoleic 27% Linolenic 27%                    | 5-10%                |
| Avocado<br>Oil           | 22              | 0                    | 70                      | 0                 | 22                | Palmitic 20% Oleic 58%<br>Linoleic 12% Stearic 2%                      | 5-10%                |
| Babassu<br>Oil           | 85              | 70                   | 10                      | 70                | 15                | Lauric 50% Myristic 20%<br>Palmitic 11% Oleic 10%<br>Stearic 4%        | 5-10%                |
| Castor<br>Oil            | 0               | 0                    | 98                      | 90                | 90                | Ricinoleic 90%<br>Oleic 4% Linoleic 4%                                 | 3-20%                |
| Cocoa<br>Butter          | 61              | 0                    | 38                      | 0                 | 61                | Oleic 35% Stearic 33%<br>Palmitic 28% Linoleic 3%                      | 5-10%                |
| Coconut<br>Oil           | 79              | 67                   | 10                      | 67                | 12                | Lauric 48% Myristic 19% Palmitic<br>3% Stearic 3% Oleic 8% Linoleic 2% | 5-10%                |
| Grapeseed<br>Oil         | 12              | 0                    | 88                      | 0                 | 12                | Linoleic 68% Oleic 20%<br>Palmitic 8% Stearic 4%                       | 5%                   |
| Hemp<br>Seed Oil         | 8               | 0                    | 90                      | 0                 | 8                 | Linoleic 57% Linolenic 21%<br>Oleic 12% Palmitic 6% Stearic 2%         | 10-15%               |
| Jojoba                   | 0               | 0                    | 12                      | 0                 | 12                | Oleic 12%  | 5-10%                |
| Mango<br>Butter          | 49              | 0                    | 48                      | 0                 | 49                | Oleic 45% Stearic 42%<br>Palmitic 7% Linoleic 3%                       | 5-15%                |
| Neem<br>Oil              | 33              | 0                    | 63                      | 0                 | 33                | Oleic 50% Palmitic 18%<br>Stearic 15% Linoleic 13%                     | 1-5%                 |
| Olive<br>Oil             | 17              | 0                    | 82                      | 0                 | 17                | Oleic 69% Palmitic 14% Linoleic<br>12% Stearic 3% Linolenic 1%         | 10-100%              |
| Rice Bran<br>Oil         | 26              | 1                    | 69                      | 1                 | 25                | Oleic 43% Linoleic 26%<br>Palmitic 22% Stearic 3% Myristic 1%          | 10-30%               |
| Rapeseed/<br>Canola Oil  | 6               | 0                    | 91                      | 0                 | 6                 | Oleic 61% Linoleic 21% Linolenic<br>9% Palmitic 4% Stearic 2%          | 10-15%               |
| Shea Butter              | 45              | 0                    | 54                      | 0                 | 45                | Oleic 48% Stearic 40%<br>Palmitic 5% Linoleic 6%                       | 5-20%                |
| Sweet<br>Almond Oil      | 7               | 0                    | 89                      | 0                 | 7                 | Oleic 71% Palmitic 7%<br>Linoleic 18%                                  | 5-10%                |
| Sunflower<br>Oil         | 7               | 0                    | 88                      | 0                 | 7                 | Oleic 83% Palmitic 3% Stearic<br>4% Linoleic 4% Linolenic 1%           | 5-25%                |
| WWW.BOTTEGAZEROWASTE.COM |                 |                      |                         |                   |                   |  |                      |