

Saponification is an exothermic (gives off heat) chemical reaction that occurs when fats or oils (fatty acids) come into contact with lye (a base). In this reaction, the triglyceride units of fats react with sodium hydroxide or potassium hydroxide and are converted to soap and glycerol. For some types of soap, salt is then added to precipitate the solid soap.

The saponification generally takes about 24 to 48 hours to complete once the lye and oils have been mixed and the raw soap has been poured into the mold. This process can be sped up by adding more heat or slowed down by keeping the process very cool.

*After the chemical reaction of making soap, called **saponification**, is complete, the lye and oil molecules have combined and chemically changed into soap and glycerin.*

If the soap is made properly, the lye is used up in the saponification process to turn oil into soap.

There is no lye present in the finished bars of soap or shampoo. While every real soap must be made with it, no lye remains in the finished product after saponification.