

## RUM AND COKE SOAP:

- Sodium Laurate Acid
- Sodium Oleate Acid
- Sodium Myristate Acid
- Sodium Palmitate Acid
- Sodium Linoleate Acid
- Sodium Caprate Acid
- Sodium Stearate Acid
- Sodium Alpha Linoleate Acid
- French Vanilla Fragrance
- Lime Fragrance
- Citrus Mist Fragrance
- Vanilla Fragrance
- Peppermint Fragrance
- Blue Colorant
- Lemon De-Carbonated Soda

## CITRUS VODKA COLOGNE:

- Ethanol
- Water
- Citrus Mist Fragrance
- Lemongrass Fragrance
- Lavender Fragrance
- Lime Fragrance
- Sandalwood Fragrance

## SWEET GIN & TONIC HAIR GEL:

- Gelatin
- Water
- Citrus Mist Fragrance
- Lemongrass Fragrance
- Peppermint Fragrance
- Lime Fragrance



## CHEMISTRY:

When placing a bar of soap on your skin and washing yourself, one would not think that fatty acids are cleansing their body. What is a fatty acid? Fatty acids are a type of acid called carboxylic acids which are either unsaturated or saturated fats. Fatty acids are a chain made up of hydrogen bonds linked with a carbon bond with at least one oxygen (Webb). How soap works is that three of these fatty acids make up a triglyceride which reacts with a strong base in an acid base. A triglyceride is just that chain of molecules linked with a glycerol. The base that we used to react with the triglycerides is something called lye. Lye has a pH of at least 11 or 12 which makes it the strong base that it is. The process in how soap is produced is called saponification. Saponification is just that reaction of the base (lye) reacting with the triglycerides (3 fatty acids) to produce the by-products known as carboxylate salt (soap) and glycerol (moisturizer). But how does this actually cleanse our body? Soap has a non-polar and a polar end. The polar end of soap reacts with the H<sub>2</sub>O molecules and the non-polar end reacts with the dirt and grease (Webb). Together, soap helps get that layer of dirt and gunk off of us so that we stay fresh, clean, and can always *charge*.

The smells and feeling of cologne will make the ladies come running. But surely one would think a lot would go into that. Actually, the chemistry in cologne is to have ethanol as a main base. Once you have ethanol as your main base, the fragrances are the key component to the smell of the product. When you spray cologne, it first looks as if it is a liquid. The water form disappears because of the heat in our body. For example, when you spray the cologne, our body heat makes the cologne evaporate; however, you can still smell the fragrance. Your skin cells will surely feel the vibe of this Citrus Vodka *charge*.

You wouldn't think that an intricate thing like hair gel, would be so easily made. Well, the fact is that hair gel isn't intricately produced. What makes the hair gel work is polymer. Polymer is a molecular structure that makes a unit bond with each other. This makes your hair stay up due to a bunch of hair sticking together. Sometimes hair gel is not for good use; for example when it rains the water hits your head and the gel gets messed up because it washes out the substance. Also some gels have alcohol which can ruin your hair by drying its color out. But our perfectly made Sweet Gin and Tonic will send sensation through your hair and in no time, your hair is spiked with a *charge*.

*Joshua Shtein, Thomas Dunnion, John Sebastian Enriquez*

# RUM AND COKE SOAP

## \$5.00

# CITRUS VODKA COLOGNE

## \$2.00

# SWEET GIN & TONIC HAIR GEL

## \$2.00



### HOW IT'S MADE:

To make our unique rum and coke soap, our ingredients to making a typical soap bar were adjusted. Instead of using the water to react with the lye, we used De-Carbonated Soda (Lemon-Lime). We did this to add to the flavor of our soap. We began our process of making soap by creating the lye. To create the lye, we needed to know the Oils we were going to use to produce our soap. We decided on 6 oz. of Palm Kernel Oil, 5 oz. of Coconut Oil, 3 oz. of Canola Oil, and 2 oz. of Olive Oil (needed to sum up to 16 oz.). We calculated our lye and the amount of water needed. While our lye was heating up with the De-Carbonated soda, we got the necessary amount of ounces (converted to grams) of our solid oils (Palm Kernel Oil, Coconut Oil) and started melting them down. Once they were melted down, we added our liquid oils. Once the temperature of the oils lowered to under 100 degrees Fahrenheit, we added our lye. We electronically stirred the lye and oils together which created a thick texture. We had to make sure that we did not go over trace which is a point where the soap gets too thick. After stirring it until we got to trace, we added our fragrances and blue colorant dye, mixed it a little more, and put the soap into molds. We then waited for a week, performed tests to make sure everything was healthy and in good terms of using, and packaged! The desired smell of some coke and rum cleansed all over; and you don't even have to be 21!

To create the cologne, we poured  $\frac{1}{4}$  cup of ethanol and water into a glass beaker. We then added our signature fragrances, let sit, and packaged!

To make our hair gel, we started by dissolving 1 and  $\frac{1}{2}$  tsp of unflavored gelatin into 1 cup of warm water. We kept adding more gelatin as needed, to reach the desired consistency. We then went to the smelling and experimental station where we fragrances with a few drops of our essential oils. We then added some aqua blue coloring dye, packaged, and let sit!



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Cassandra Cochrun, "How Hair Gel Works" [http://www.ehow.com/how-does\\_4922470\\_hair-gel-work.html](http://www.ehow.com/how-does_4922470_hair-gel-work.html) 2012, June 2

Chris Sherwood "How does Perfume Work" [http://www.ehow.com/how-does\\_4567999\\_perfume-work.html](http://www.ehow.com/how-does_4567999_perfume-work.html) 2012, June 2

