Brushless Shave Creams: A Step Back in Time

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"Essentially, a brushless shaving cream contains from 15% - 20% of stearic acid, of which 20% - 30% is neutralized together with small amounts of glycerin and unsaponified fats." Glyceryl monostearate aids in making a full-bodied product more able of withstanding temperature changes and can completely replace stearic acid in a formula if sufficient soap is added to the formula."*De Navarre, Maison G. The Chemistry and Manufacture of Cosmetics: D. Van Nostrand Company, Inc., 1941.*

The Recipe for This Demonstration

By Percentage:

15% Stearic Acid (Forms the body of the soap)
1% Glyceryl Stearate (Stabilizes the emulsion from heat and cold)
1% Shea Butter (Lends emoliency)
2% Soft Oil of Choice (Lubricates the beard)
8% Glycerin (Humectant)
0.5% Borax (Electrolyte (helps water be drawn into the skin) and emulsifier)
0.58% KOH* (Emulsifier in combination with stearic acid)
0.17% NaOH* (Emulsifier in combination with stearic acid)
71.75% Water

By Weight

Phase A
150g Stearic Acid
10g Glyceryl Stearate
10g Shea Butter
80g Glycerin

Phase B
400g Water
5g Borax

Phase C
5.79g Potassium Hydroxide
1.67g Sodium Hydroxide
317.5g Water

Phase D
20g Oil
10g Fragrance
3g Neolone PE

Directions:

Step 1. Weigh and melt the oils and glycerin in Phase A to 160°F.

Step 2. Dissolve the borax in the water in Phase B, heat to boiling and set aside.

Step 3. Mix the potassium hydroxide and the sodium hydroxide in the water in Phase C until dissolved.

Step 4. Measure the soft oils, fragrance and preservative in Phase D and set aside.

Step 5. Add the potassium and sodium hydroxide solution (Phase C) to the fats and glycerin mixture (Phase A) and bring temperature up to 160°F. Stir with a spatula or spoon until the solution begins to thicken.

Step 6. Check for neutrality by placing a few drops of the solution onto the back of a glass. Place a couple of drops of phenolphthalein. It should remain clear.

Step 7. Add the Borax water solution (Phase B) to the oil and lye solution Phase A and C).

Step 8. Check the temperature of the mix to make sure it is at or above 160 degrees.

Step 9. Stir until the mass begins to thicken and switch to dough hooks, stirring continuously. Once the mass has cooled to below 113°F or whatever temperature is required for your specific preservative, add the soft oil, fragrance and preservative (Phase D) and continue stirring to fully incorporate.

Step 10. Once cooled to room temperature, place in a container with a tight-fitting lid.

Step 11. Mix again in 24 hours. Allow the cream to rot for 4 – 6 weeks. This will allow the cream to relax and take on a pearlized sheen.

- In calculating the amount of potassium and sodium hydroxides required, I calculated 25% of the stearic acid to be saponified (37.5g stearic acid) using a ratio of 70% potassium hydroxide at 90% purity to 30% sodium hydroxide.