

Natural triphasic essence with light and velvety touch without silicone and mineral oil.

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Introduction:

Triphases are a technology that has existed for several years. They are composed of 3 distinct phases (1 aqueous phase and 2 oily phases). Very often, oily phases of these galenic forms include a significant proportion of silicones, mineral oils or their derivatives, that are harmful to the environment and to humans. Finding alternatives to these controversial ingredients is therefore of importance to meet consumer's needs in terms of health and environment protection. **We thus developed a triphase on a natural basis containing neither silicone nor mineral oil.** First, we worked on the selection of the components and on the improvement of the interfaces with 3 great stages:

- Find a natural low density non polar oil for the upper phase
- Find a high density polar oil for the intermediate phase
- Improving the interfaces with Glycerin and Sodium Chloride in the lower phase

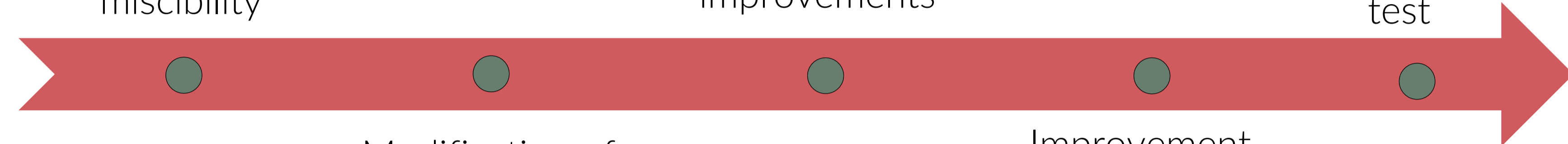
Then, we searched for the ideal phases proportions to obtain a velvety and light texture.

Methods:

Ester or Alkane
 / Castor Oil /
 Water
 miscibility

Interfaces
 improvements

Consumer
 test



Modification of the **sensoriality** of the **intermediate phase**

Improvement of the **sensoriality** of the **formula**

The first four test phases were carried out in the laboratory using a stirrer and the necessary raw materials. The consumer test was conducted in Thailand. The test took place over 4 weeks on a panel of 34 women aged 22 to 61.

Results:

Research of the two oily phases

Phase	Raw material	Percentage of use (%)							
Upper	Dicaprylyl Ether	20							
	C13-15 Alkane		25						
	C15-19 Alkane			25	25	25	25	25	25
Intermediate	Castor oil	30	25	25	20	16,25	15	16,25	16,25
	Argan oil				5	8,75	10		
	Sunflower oil							8,75	
	Sweet almond oil								8,75
Lower	Osmosis water	50	50	50	50	50	50	50	50
Results after stirring		Biphase	Triphase	Triphase	Triphase	Triphase	Triphase (but migration)	Triphase	Triphase

- Alkanes are good candidates for the upper phase.
- It's necessary to have at least 65% of castor oil in the intermediate phase.

Interfaces improvement

Phase	Raw material	Percentage of use (%)							
Upper	C15-19 Alkane	25	25	25	25	25	25	25	25
Intermediate	Castor oil	16,25	16,25	16,25	16,25	25	25	25	25
	Sunflower oil	8,75	8,75	8,75	8,75				
Lower	Osmosis water	50	49	47	45	50	49	45	40
	NaCl	0	1	3	5				
	Glycerin					0	1	5	10
Results after stirring		Curved interface	Flat interface	Very flat interface	Very flat interface	Curved interface	Flat interface	Very flat interface	Very flat interface

- Sodium Chloride and Glycerin allow to obtain flatter interfaces

Improvement of the sensoriality of the formula

Phase	Percentage of use (%)				
Upper	20	15	10	10	5
Intermediate	20	15	15	10	5
Lower	60	70	75	80	90
Sensory and visual results	Aesthetic appearance but texture too greasy	Aesthetic appearance but texture too greasy	Aesthetic appearance and light texture	Aesthetic appearance and light texture	Non-aesthetic appearance but light texture

Consumer test

	% of subjects (agree / rather agree) At the application
The triphase formula is easy to apply	97%
The triphase formula offers a surprising sensorial experience	94%
The triphase formula fastly penetrates into the skin	97%
The triphase formula offers yet nourishing feeling, yet still offering a fresh finish	97%
The triphase formula seems to be the perfect blend for preparing the skin to receive following daily cares	91%
Complexion looks like fresh	91%

Finally, the overall satisfaction rate and the purchase intention of the consumers are both 94%. And the overall product rating is 8.8/10.

Discussion & Conclusions:

All these researches have allowed us to develop a triphasic essence for improve the radiance, strength and balance of the face skin with an adequate sensoriality, with more than **99% of ingredients of natural origin**, without silicone or mineral oils, resulting to the technology being patented.

As a result of this research, we also imagined that we could develop a triphasic formula for a make-up remover application. Indeed, by increasing the ratio of the oil phases, and by adding a surfactant in quantity lower than its critical micellar concentration, it could be possible to preserve the visual of the three phases. Micelle nor emulsion will be form during the mixing and a make-up removing power will be added to the product.

