

# ABSTRACT

**PRESENTER:** Fred Ortiz

**COMPANY:** Kobo Products, Inc.

**JOB TITLE:** Senior Chemist

**Podium Title:** *Clean & Simple Liquid Foundation Formulations*

## **Background information (Short introduction)**

Success in the highly competitive foundation market requires innovative formulations promoting health-inspired beauty, environmentally-friendly ingredients, personalized color cosmetics and multi-functional properties. 'Beauty Minimalism' or 'Less is More' is a strong current trend in makeup development and using this approach for foundation technology is key to consumer acceptance.

## **Objective**

In this presentation, we will provide guidelines on how to develop simple oil-in-water foundations following these principles. We will show how the use of naturally surface-treated iron oxides, titanium dioxide and zinc oxide dispersed in naturally-derived emollient carriers, along with natural microspheres and pearlescent materials, allows formulators to limit the number of ingredients in the formula.

## **Methodology**

The process for this formulation requires only low energy during emulsification without the need for in-process homogenization (Caframo Mixer equipped with a propeller). Formulas are evaluated with in vivo methods: panel tests with statistical visual assessment and image analysis and in vitro studies with evaluation of formulation dispersibility under microscope and draw downs on Leneta Cards, in addition to Chroma tests (done on DataColor 500).

## **Results**

This study is based on specific modifications of a control base by addition of functional microspheres and pearlescent material. The control formula is composed of natural emulsifiers, Shea Butter, an emollient ester blend of Linolenic Acid and Linolenyl Alcohol Oligomers, Jojoba derived emollient, humectant, water and dispersions of Jojoba Ester treated pigments in Octyldodecanol. Data were collected and compared with control: change of viscosity over time, finishes on skin, foundation setting time, evaluation on oily and dry skin, formula water resistance and gloss measurements.

## **Conclusion**

This study allowed us to obtain clean and stable base formulations using a simplified process. We showed that, by replacing a microsphere with another one of the same particle size but different oil absorption and bulk density, we were able to modify the texture of the finished

product, changing it from an elegant lotion, to a light mousse for normal skin or a mattifying powdery finish for oily skin. The addition of luminous, small particle size mica-based interference pigments created a natural luminosity without a dry feel or caking. Finally, we were able to achieve a water-in-silicone emulsion end feel, with a natural oil-in-water emulsion.

### **Why is this important to the industry?**

Silicone is commonly used, however, it gives customers a false feeling of skin improvement and smoothness by providing instant gratification, with no long-term benefits. Natural ingredient foundations have been previously targeted to educated consumers. However, excellent skin benefits combined with natural coverage are now in high demand by many consumers. This new type of formulation represents a new wave of skin care that is nutrient-rich, organic, natural, and effective for all skin types.

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Fred Ortiz has a combined 20+ years experience in the Cosmetic and Pharmaceutical industries, with hundreds of formulas and applications under Kobo Products.

He received his Bachelor of Science degree in Biochemistry from Montclair University in Montclair, New Jersey with a minor in Pre-Med.

Following his experience in the pharmaceutical industry, he took up a position in the cosmetic industry learning about pigments, treatments, microspheres, fibers and film formers.

Fred's formulation ability enables him to develop products across the categories in the Application Lab at Kobo.