

BENTONE GEL®

HECTORITE TECHNOLOGY FOR TODAY'S SUN CARE FORMULATIONS

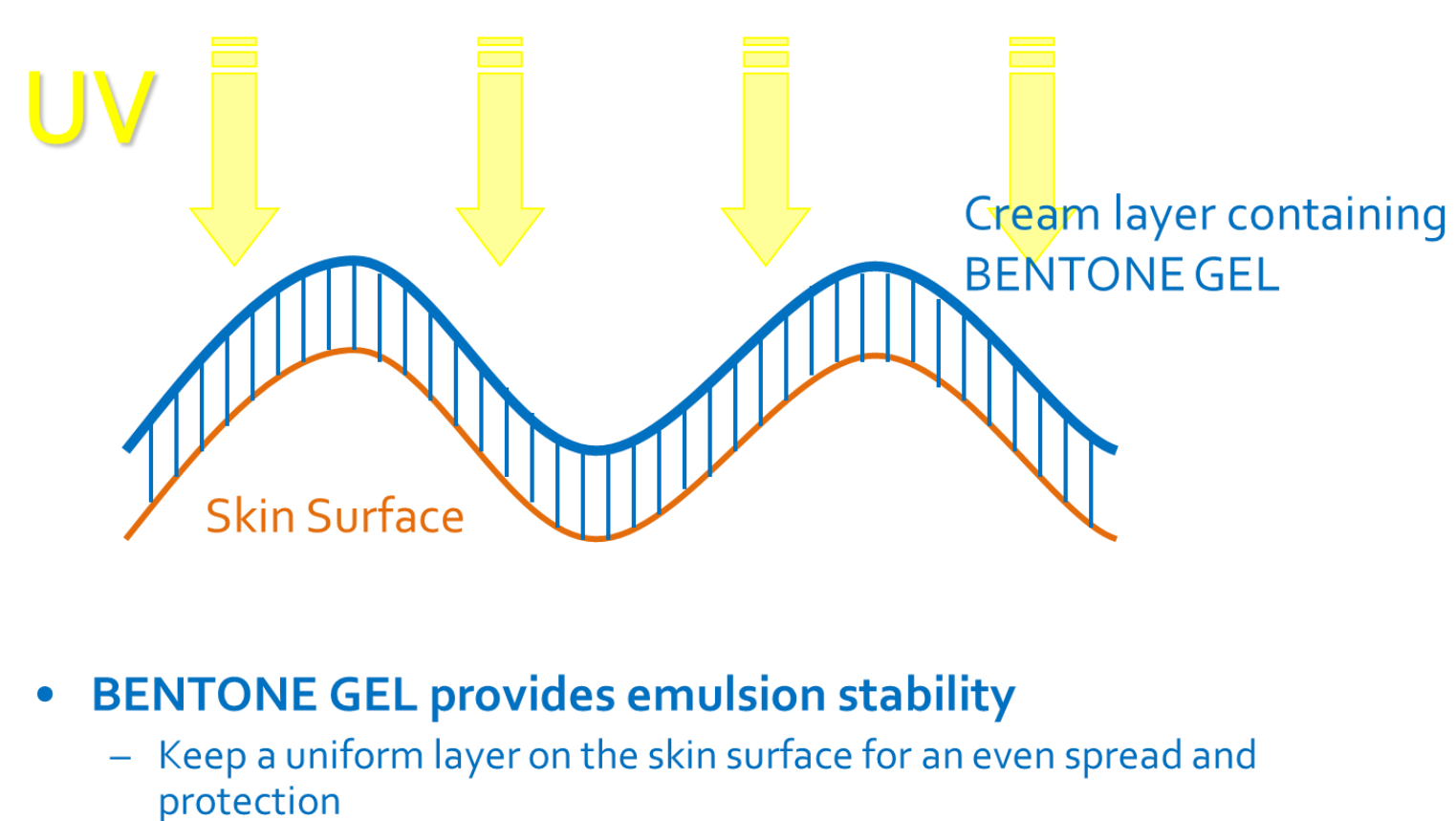
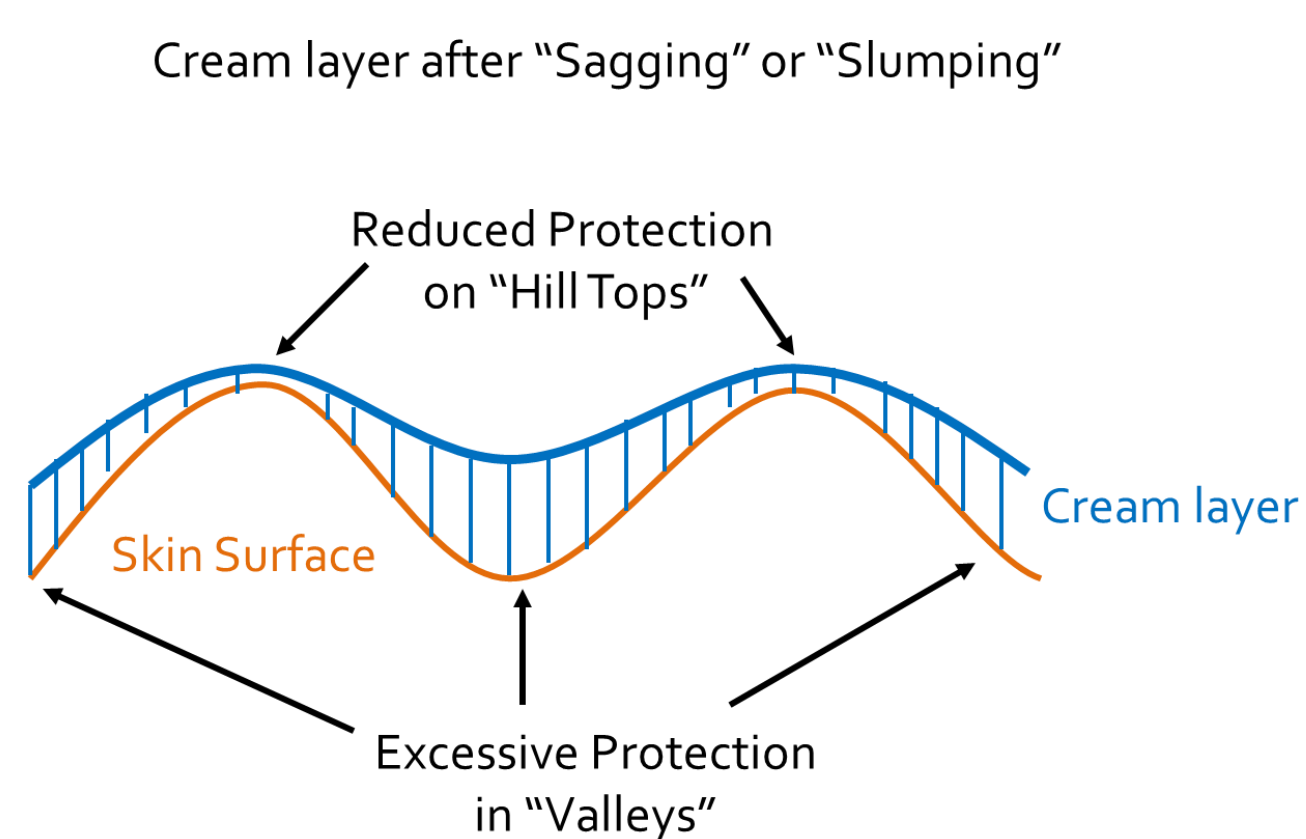


INTRODUCTION

It is generally believed that formulation rheology has a major effect on the SPF in sunscreen systems. The rheology of a formula can improve product application properties and alter stability of a system. BENTONE GEL® Technology is proven to be able to enhance sun care formulations by providing the rheology needed to provide a uniform delivery of actives in a continuous film.

EFFICACY DATA

In a traditional formula, the emulsion breaks on the skin, leaving areas of low and high protection. With the incorporation of BENTONE GEL®, the thixotropic system creates a uniform application.



To identify the impact of BENTONE GEL® to the UV protection performance of sunscreens, we measured the in-vitro SPF for the seven formulations (Table 1). This data showed a definite trend of higher SPF values with the use of BENTONE GEL.

	Example 1 Organic Suncream BENTONE GEL® EUG V	Example 2 W/O Inorganic Suncream BENTONE GEL® TN V	Example 3 O/W Inorganic Suncream BENTONE GEL® IHD V	Example 4 W/O Suncream BENTONE GEL® IPM V	Example 5 Inorganic Suncream BENTONE GEL® TN V	Example 6 Organic Suncream BENTONE GEL® TN V	Example 7 Organic Suncream BENTONE GEL® HSO V
In-Vitro SPF Formula with organoclay (BENTONE)	38.9	23.3	15.5	44.7	13.2	30.4	14.2
In-Vitro SPF Formula without	32.5	17.9	9.4	41.9	12.2	26.6	12.8

The SPF water resistance test results of an organic and an inorganic sunscreen are shown in Table 2. Organoclays are not designed to be a substitute for film formers in sun care products but can improve the SPF water resistance.

Formulations	In-Vitro SPF Before	In-Vitro SPF After 80 minutes
Example 1 Inorganic Sunscreen	No organoclay 12.2	1.6
	With organoclay 13.2	11.9
Example 2 Organic Suncream	No organoclay 26.6	6.0
	With organoclay 30.4	19.4