



Personal Care



EPITEX™ 66 Polymer
Overview Literature

EPITEX™ 66 Polymer

EPITEX 66 Polymer provides formulators of sun care and skin care products such as color cosmetics with a new solution to improve the sensory appeal of their formulations. EPITEX 66 Polymer provides long-lasting water and rub-off resistance, improved skin feel and ease of processing as compared to competitive water and rub-off resistance technologies.

EPITEX™ 66 Polymer At a Glance

(These are typical properties, not to be construed as sales specifications)

INCI Name:	Acrylates Copolymer
Description:	Aqueous polyacrylate emulsion
Recommended use level:	0.5 – 2.0% polymer solids (1.12 to 4.5% product as supplied)
Appearance:	Milk-white fluid, free of coagulated gum and visible impurities
Solids content:	43 – 46%
Viscosity, as is (Brookfield LV, spindle #2, 60 rpm, 25°C) :	500 cPs, maximum
pH:	4.5 – 6.5

EPITEX™ 66 Polymer Water Resistance Performance

EPITEX 66 Polymer Provides Excellent Water Resistance in Sunscreen Formulations

With its ability to pass the 80 minute water resistance protocol developed by the United States Food and Drug Administration (US FDA), EPITEX 66 Polymer is an ideal choice for formulators looking for new water resistance solutions with an attractive cost profile as compared to conventional water resistance technologies.

To evaluate the *in vivo* water resistance performance in sunscreens typical to North America, formulations were prepared, using organic UV filters. The following chart shows the excellent water resistance properties of EPITEX 66 Polymer, as demonstrated by the percentage of SPF retained after 80 minutes of immersion in water as compared to conventional water resistance technologies.

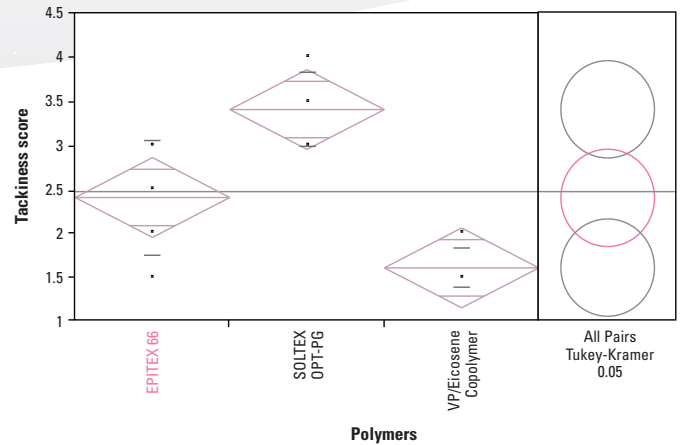
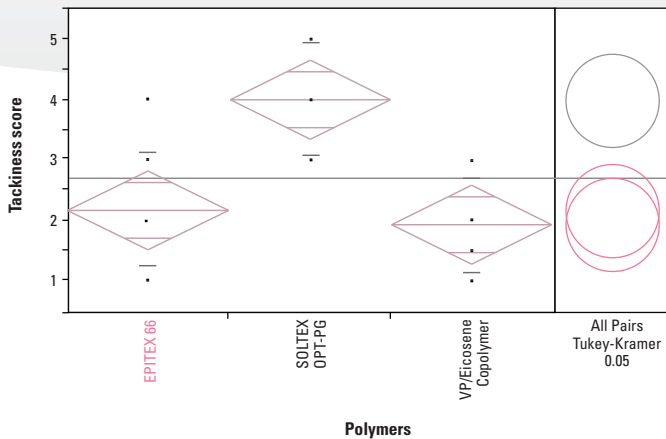
	Static SPF (before water immersion)	Dynamic SPF (after 40 minutes water immersion)	Dynamic SPF (after 80 minutes water immersion)	SPF Retention (%)
EPITEX™ 66 (1% polymer solids)	40	38	37	92
SOLTEX™ OPT-PG (1% polymer solids)	43	38	41	95
VP Eicosene Copolymer (2% polymer solids)	44	37	35	79

Aesthetic Performance of Formulations Using EPITEX™ 66 Polymer

EPITEX 66 Polymer Offers Improved Feel on Skin

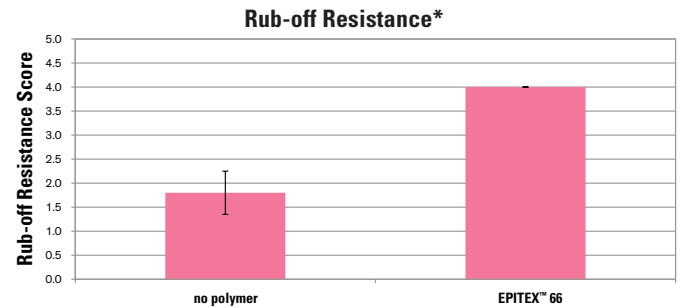
The aesthetics of a formulation can be just as important as its ability to provide water resistance. To evaluate the skin feel of formulations based on EPITEX 66 Polymer, a panel study was conducted to compare three sunscreen formulations containing organic UV filters with an SPF of 25+. As shown in the following graph, the formulation based on EPITEX 66 Polymer was shown to have improved feel on skin with less tackiness, as compared to conventional water resistance technologies.

A panel study was conducted to evaluate the aesthetics of EPITEX 66 Polymer in an SPF 50+ formulation containing organic UV filters. Three formulations were prepared for evaluation, each containing 1% active water resistant polymer solids. As shown in the following chart, the formulation based on EPITEX 66 Polymer was evaluated as having less tackiness than the formulation based on SOLTEX™ OPT-PG, and comparable tackiness to the formulation based on VP/Eicosene Copolymer.



EPITEX™ 66 Polymer Rub-off Resistance Performance

A panel study was conducted to evaluate the rub-off resistance performance of EPITEX 66 in color cosmetic applications with a liquid foundation. As shown in the following graph, the rub-off resistance of a foundation formulation containing 1% EPITEX 66 Polymer was significantly improved as compared to the control formulation, with a score of 1 being considered very easy to rub off and a score of 5 being considered difficult to rub off.



With using 1% EPITEX™ 66, rub-off resistance was significantly improved.
*With 1 being very easy to rub off and 5 as least rub off

Wash-off Water Resistance Performance

A test was conducted to evaluate the wash-off water resistance performance of EPITEX™ 66 Polymer. When EPITEX 66 was used at 1% in a formulation, wash-off water resistance was significantly improved in terms of polymer retention, following 30 seconds of continuous water flow on black Leneta paper.



* With using 1% EPITEX™ 66, wash-off water resistance was significantly improved in terms of polymer remaining after 30 seconds of continuous water flow on black Leneta paper

Interested in Learning More?

For more information on EPITEX™ 66 Polymer and how it can be used in your formulation, please contact us at the numbers listed on the back of this brochure, or visit us online at www.dowpersonalcare.com.

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