The Importance of Slip and Spread

A successful finished product offers the consumer a pleasant texture both during and after product application. Emollients’ physical characteristics are critical to ensuring the desired texture. These characteristics include viscosity, color, pour point, refractive index, slip and spread.

An emollient’s slip (lubricity) modulates the texture of finished products by reducing friction during application. Slip influences skin-feel primarily during product application and is important to achieve the proper skin-feel of many product categories such as lip care, face serums, and skin care products.

An emollient’s spread helps disperse the product over the skin’s surface. Ingredients such as pigments and sunscreen actives must be well dispersed over the skin’s surface to ensure even coverage. This allows the product to function properly without sacrificing product texture. For example, an emollient with high spread contributes to more even coverage in makeup and sun care products. Conversely, lower spread is better suited for eye-area applications.

The slip and spread of 25 emollients were measured using in vitro test methods developed by Floratech. The physical behaviors of each emollient were evaluated in comparison to one another and are presented in the chart on the reverse side.

Definitions

**Slip** = The angle in degrees from vertical at which a standard weight, lubricated by the test emollient, will begin to slide on an inclined plane. Higher values represent higher slip.

**Spread** = The portion, as a percentage of standard P5 filter paper, over which 20 drops of the test emollient will spread in 10 minutes. Larger values represent higher spread.
Relative Slip and Spread of Selected Emollients

LOW SPREAD  HIGH SLIP

Increasing Slip

LOW SPREAD  LOW SLIP

Increasing Spread

LEGEND
1  Castor Oil
2  Rice Bran Oil
3  Almond Oil
4  Olive Oil
5  Soybean Oil
6  Oleyl Erucate
7  Decyl Oleate
8  Octyl Stearate
9  Jojoba Oil
10  Dimethicone 200cs
11  Mineral Oil (Viscosity 70)
12  Caprylic/Capric Triglyceride
13  Octyl Dodecanol
14  Isopropyl Myristate
15  Ethyl Oleate
16  Squalane
17  Isopropyl Palmitate
18  Oleyl Alcohol
19  Propylene Glycol

Floralipids Moringa Oil Refined
Floramac Macadamia Oil Refined
Floraesters 15
Floraesters IPJ