

METHYL GLUCOSE- BASED EMULSIFIERS

Mild, Elegant, Naturally Derived
Emulsifiers for All Types of
Sensitive Skin Formulations

Formulate With Confidence™

Lubrizol

METHYL GLUCOSE-BASED EMULSIFIERS

Mild, Elegant, Naturally Derived Emulsifiers for All Types of Sensitive Skin Formulations

Naturally derived nonionics that work well together or alone. For smooth, elegant emulsions, perfect for sensitive skin, these naturally derived emulsifiers offer distinguished mildness and multifunctional performance.



A PERFECT MATCH

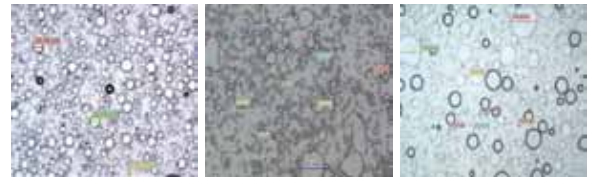
For smooth, elegant emulsions perfect for sensitive skin, discover the versatility and performance of Glucate™ and Glucamate™ emulsifiers. Derived from corn, a natural, renewable resource, these emulsifiers are distinguished by their mildness and multifunctional performance benefits.

Designed to work together, the lipophilic Glucate™ SS emulsifier and the hydrophilic Glucamate™ SSE-20 emulsifier form a complementary emulsifier pair that provides effective emulsification and enhanced stability at very low concentration levels. Glucate and Glucamate emulsifiers work together to stabilize emulsions, even at a low viscosity, making them ideal for stabilizing body milks, serums and sprayable emulsions. When used together at optimum and economical ratios, Glucate SS and Glucamate SSE-20 emulsifiers cost-effectively produce elegant oil-in-water emulsions with long shelf life and stable viscosity.

SUPERIOR EMULSIFICATION

An evaluation was carried out to demonstrate the emulsifying power of Glucate and Glucamate emulsifiers versus other common emulsifier pairs. Figure 1 below shows a microscopic look at 15 wt% TS Sunflower Oil emulsions stabilized with Glucate and Glucamate emulsifiers, as well as two other emulsifier pairs. In each case, the emulsifiers were used at 1.5 wt% TS.

FIGURE 1: Microscopic Look at 15 wt% TS Sunflower Oil Emulsions Stabilized with Glucate™ and Glucamate™ Emulsifiers



Glucate™ SS/Glucamate™ SSE-20 Emulsifiers

PEG-100 Stearate/
Glyceryl Stearate

Sucrose Stearate/
Sorbitan Stearate

FIGURE 2

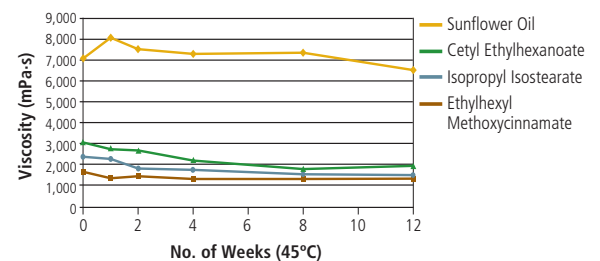


The first picture shows Glucate SS and Glucamate SSE-20 emulsifiers. The microscopic view shows small, uniform sized emulsified droplets. The resulting emulsion is a bright white, smooth, creamy emulsion (Figure 2). The other two emulsifier systems produced unstable emulsions that contained many air bubbles and were grainy in texture rather than smooth.

EXCELLENT VISCOSITY AND STABILITY

Whether stabilizing emulsions of low or high viscosity, Glucate SS and Glucamate SSE-20 emulsifiers work in tandem to produce emulsions that maintain their viscosity, even after mixing, pumping, or filling operations. In Figure 3 below, emulsions built with several different emollient oils were tested following a standard accelerated stability protocol. The graph shows the viscosity measurements of emulsions containing various emollients (15 wt% TS) stabilized with a blend of Glucate and Glucamate emulsifiers (1.5 wt% TS) over a twelve-week period at elevated temperatures (Brookfield RVT, 20 rpm, 2 min). After twelve weeks, the emulsions were stable and had maintained their viscosity.

FIGURE 3: Viscosity and Stability of Emulsions with 15 wt% TS Emollients Containing Glucate™ and Glucamate™ Emulsifiers



MILDNESS AND ENHANCED SKINFEEL

Most importantly, Glucate and Glucamate emulsifiers offer the same mildness and enhanced skinfeel as all of our Methyl Glucoside Derivatives, making them ideal for formulating emulsions designed to be used on the most tender skin, from grandparents to babies. And both products are non-irritating to the eyes, meaning you can feel safe formulating them into any application.

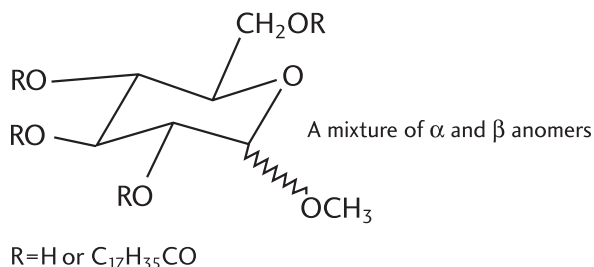
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GLUCATE SS EMULSIFIER

INCI Name: Methyl Glucose Sesquistearate

Typical Properties

Glucate SS emulsifier is a primary water-in-oil (w/o) emulsifier and also an effective auxiliary emulsifier. Its HLB is 6.4. It helps to build and stabilize viscosity and can contribute to barrier properties and moisture retention in skin care products. It is supplied as off-white flakes (melting point ~50°C) and has the structure depicted below.



Suggested Applications

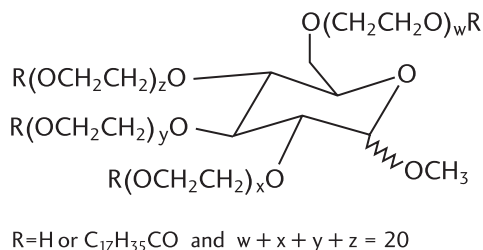
- **Molded Sticks:** Glucate SS emulsifier helps to strengthen sticks and adds rigidity to the product while reducing syneresis.
- **Liquid Makeup:** Glucate SS emulsifier helps to stabilize these multiple phase systems.
- **Topical Products:** Glucate SS emulsifier enhances barrier properties and helps protect the skin.

GLUCAMATE SSE-20 EMULSIFIER

INCI Name: PEG-20 Methyl Glucose Sesquistearate

Typical Properties:

Glucamate SSE-20 emulsifier is a primary oil-in-water (o/w) emulsifier, and an effective auxiliary emulsifier having the structure seen below.



Suggested Applications

- **Makeup:** Glucamate SSE-20 emulsifier helps to stabilize pigment suspensions and improves product conditioning properties.
- **Topical Products:** Glucamate SSE-20 emulsifier enhances barrier properties and helps to protect the skin.
- **Cleansing Products:** Glucamate SSE-20 emulsifier has mild surfactant activity and creates a smooth, non-tacky afterfeel when used in rinse-off products.
- **Soap Bars:** Glucamate SSE-20 emulsifier imparts crack resistance and improves product integrity.

GLUCATE AND GLUCAMATE EMULSIFIERS ARE IDEAL FOR STABILIZING EMULSIONS IN A VARIETY OF PERSONAL CARE APPLICATIONS

Mild Applications for Delicate Skin

Elegant Products for Mature Skin	<ul style="list-style-type: none">• Anti-Wrinkle Creams• AHA Creams and Serums
Mild Functional Baby Products	<ul style="list-style-type: none">• Baby Wipes• Baby Lotions• Baby Creams• Moisturizers
Color Cosmetics & Pigments	<ul style="list-style-type: none">• Foundations• Sunscreens• Concealers• Lipsticks
Make-up Removers	<ul style="list-style-type: none">• Cleansing Creams• Cleansing Lotions• Cleansing Wipes
Stable Low-Viscosity Formulations	<ul style="list-style-type: none">• Sprays• Skin Milks• Skin Toners
Formulations for Delicate Skin Areas	<ul style="list-style-type: none">• Eye Creams• Eye Make-up Removers

CREATING MORE CHOICES FOR YOU

Emulsifiers such as the Glucate SS and Glucamate SSE-20 are part of the growing line of personal care ingredients from Lubrizol Advanced Materials, Inc. Creating more choices for the personal care chemist, we bring you products with improved functional benefits, reliable performance and naturally derived safety and mildness. For formulation creativity without compromise, discover these and other naturally derived performance ingredients from Lubrizol.

Naturally derived, exceptionally versatile, and extremely efficient, Glucate and Glucamate emulsifiers are the choice for the discriminating formulator. The consistency you expect, the performance you desire. Formulate with confidence™.



For product details, more information, samples and starting formulations visit www.lubrizol.com/personalcare

Formulate With Confidence™

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