

BioEstolide™

Delivering innovations for a sustainable future.

BioEstolide™ oils are natural, sustainable and come with a variety of superior benefits. Not only do they enhance the feel and performance of other cosmetic ingredients, they come with some powerful benefits of their own.



Ethylhexyl Acetoxystearate (Estolide)

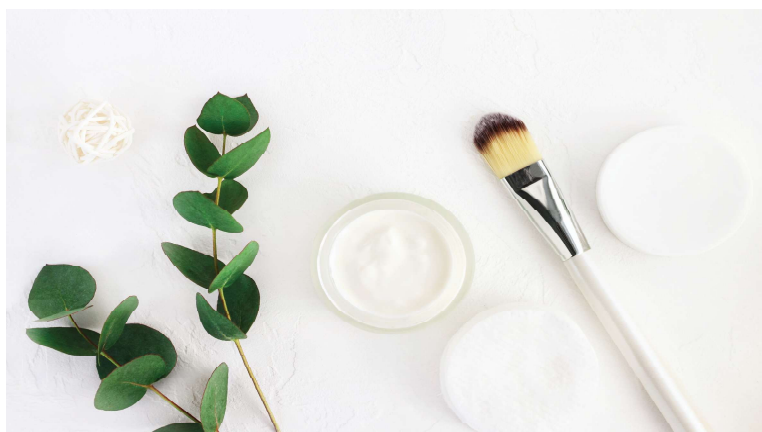
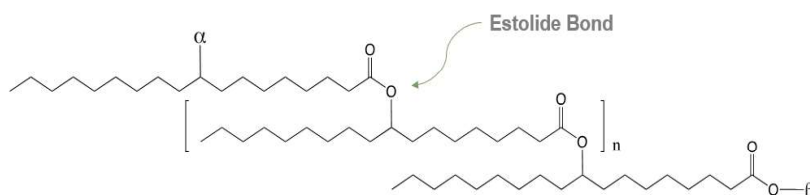
BioEstolide™ is an exciting new plant-based emollient with enhanced stability properties, exceptional moisturization characteristics and a light, satiny feel. This unique patented ester is made from natural seed oils and delivers enhanced performance properties for personal care formulations.

About BioEstolide™

- Multi-functional
- Eco-friendly, natural, sustainable
- Non-oily, non-tacky, elegant skin feel
- Moisturizing, softening and conditioning effects
- Low odor and color
- Superior oxidative stability
- Improved structural integrity in stick formulations
- Allows for higher pigment loading, enhancing color intensity
- Outstanding moisturization benefits
- Unique lubricious feel
- Improves skin barrier function
- Delivers superior hydrating properties
- Dry feel and fast absorption
- Non-GMO & animal cruelty free
- Reduces coefficient of friction on hair
- Imparts satiny, smooth sensory feel
- Provides sheen and moisture retention

FORMULATION BENEFITS

- **Emollient** – hydrate, soften and smooth the skin surface without leaving an oily residue on the skin
- **Solvent** - dissolve ingredients so that they can mix together and function properly and achieve the proper consistency of finished products.
- **Thickening Agent** – function as a thickening agent in personal care formulations to enhance the consistency, viscosity and volume of personal care products.
- **Sensory Enhancer** – have the advantage of not leaving a greasy residue on the skin and provides a luxurious sensory experience.
- **Stable** - provide excellent oxidative and hydrolytic stability properties provide considerably longer shelf life than other natural or naturally derived oils.
- **Non-toxic** - are considered non-toxic and non-comedogenic.



SEE REVERSE FOR PRODUCT SPECIFICATIONS

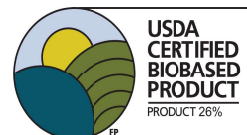
BioEstolide™

TYPICAL PROPERTIES



<i>BioEstolide™ Product Typicals</i>	BioEstolide™ 30	BioEstolide™ 250	BioEstolide™ 1300
<i>Kinematic Viscosity, 100°C, cSt</i>	4.7	22.0	75.9
<i>Kinematic Viscosity, 40°C, cSt</i>	20.7	153.0	668.4
<i>Viscosity Index</i>	153	170	195
<i>Dynamic Viscosity, 25°C, cP</i>	34	259	1300
<i>Specific Gravity, 15°C</i>	0.9065	0.9174	0.9190
<i>Flash Point (Open), °C</i>	242	268	288
<i>Flash Point (Closed), °C</i>	216	221	251
<i>Pour Point, °C</i>	-21	-23	-21
<i>Cloud Point, °C</i>	-16	-21	n/a
<i>ASTM Color</i>	1	1	1
<i>Iodine Value, g I2/100g</i>	1.0	2.0	2.0
<i>Acid Value, mg KOH/g</i>	0.1	0.3	0.3
<i>Refractive Index, 20°C</i>	1.45	1.46	1.47
<i>Water Content, wt%</i>	0.1 max	0.1 max	0.1 max
<i>Molecular Weight, g/mol</i>	455	1426	2680
<i>Odor</i>	Low	Low	Low
<i>Appearance</i>	Light Yellow	Light Yellow	Light Yellow
<i>Sensory After Feel</i>	Light, Satiny	Light, Satiny	Light, Satiny
<i>Renewable Carbon, %</i>	69%	86%	95%

*Typical results are provided. To the best of our knowledge, the information is accurate, but given without guarantee.



PRODUCT APPLICATIONS

- | | |
|-------------------|--------------------------|
| Baby Care | Hair Treatment & Styling |
| Bath & Shower | Household Cleaning |
| Body Care | Lubrication |
| Color Cosmetics | Make-up Remover |
| Depilatories | OTC |
| Ethnic Hair Care | Pharmaceutical |
| Food & Pharma | Skin Care |
| Hair Cleansing | Skin Cleansing |
| Hair Conditioning | Tanners |

