

A romantic couple is shown in a close embrace outdoors. The man, on the left, is wearing a yellow and blue plaid shirt and has a slight smile. The woman, on the right, is wearing a white lace-trimmed top and is smiling warmly at him. The background is a soft-focus green landscape.

Citropol[®] HA

Citropol[®] HA is an emollient with a non-volatile, silicone-like sensory profile. Its medium viscosity and lightweight feel make Citropol HA a viable alternative to dimethicone 100 cPs. Citropol HA imparts distinct lubricating properties with rich shine and feel in personal care and cosmetics formulations, even in concentrations as low as 1%. Citropol HA is compatible in skin care, hair care, deodorant, antiperspirant, and color cosmetic applications.

All P2 Science products are biorenewable, biodegradable, and biocompatible. They do not compromise human and environmental safety.

INCI: Polycitronellol Acetate

About Citropol HA

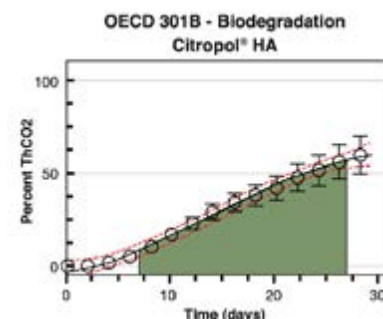


Renewability

Citropol® HA is sustainably manufactured from naturally-derived terpenes. Citropol HA is made to meet the highest standards of the cosmetics and personal care industries, and has a very low E-factor. The raw material terpenes are Forest Stewardship Council (FSC) certified.

Biodegradability

Citropol® HA is inherently biodegradable according to the OECD 301B biodegradability test.



Representative Properties

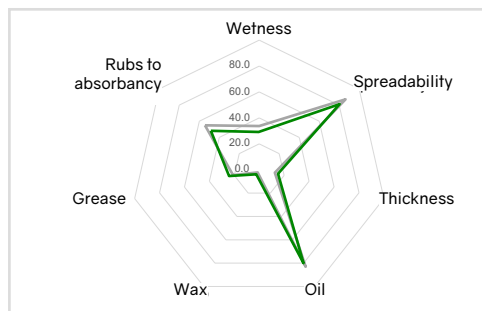
Appearance	Translucent liquid
Odor	Odorless
Color	Clear to slight yellow
Viscosity (mPa·s @ 25°C)	85 - 110
Refractive index @ 20°C	1.4 - 1.5
Surface tension (mN/m)	27 - 33
Density (g/mL)	0.850 - 0.950
Boiling point (°C)	> 200
Solubility	Soluble in alcohols and oils
pH	6.5 - 7.5
Bio-based (%)	> 90%

Comparison Data

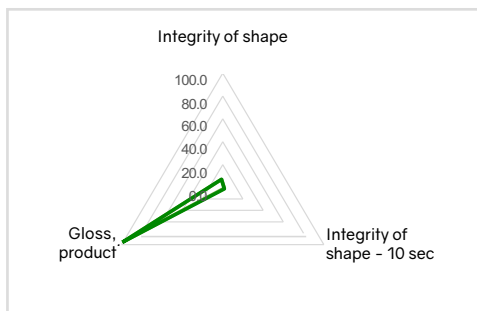
	Citropol HA	Silicones
Biodegradable	✓	✗
Low E-factor	✓	✗
Renewable	✓	✗
Clean label	✓	✗
Long lasting	✓	✓
Non-greasy	✓	✓
Slippery	✓	✓

Skin Performance of Citropol HA

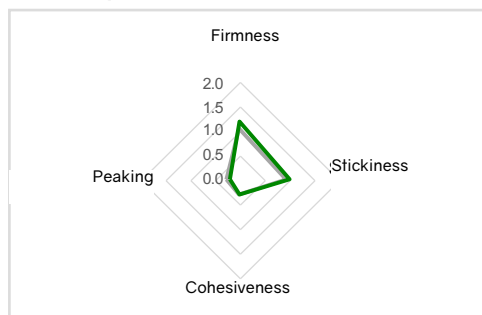
Rub Out



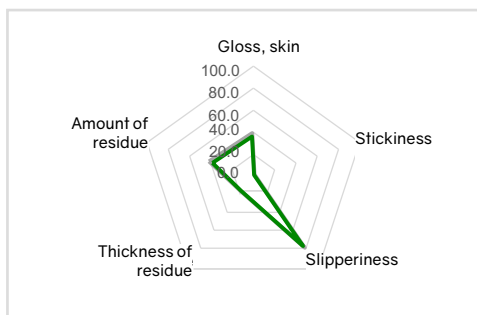
Product Appearance



Pick Up



Immediate Afterfeel



20 Minute Afterfeel



Physico-Chemical Properties Comparison

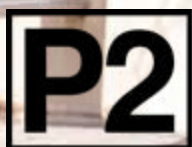
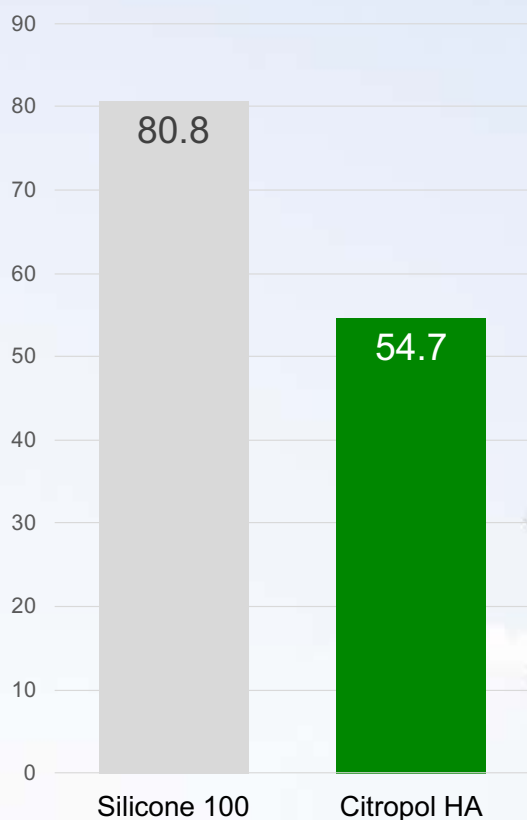
	Citropol® HA	Dimethicone 100 cPs
Flashpoint (°C)	>150	>150
Viscosity (cPs @ 25°C)	100	98
Surface tension (mN/m)	29	21
Refractive index	1.46	1.40



Hair Performance of Citropol HA

% Build-Up After 10 Applications

Silicone 100 vs. Citropol HA



Elegant
Processes.
Sustainable
Products.

Our Commitment to Sustainability

For every kilo of Citropol® HA sold, P2 Science will sponsor the planting of a tree.

Learn more about our Plant a Forest Initiative at <http://p2science.com/plant-a-forest/>.



1 Kilo of Product Sold



1 Tree Planted



1 Ton of CO₂ Absorbed

**For more information and samples,
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Elegant
Processes.
Sustainable
Products.

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