



PERSONAL CARE

EcoSmooth™ Universal Fluid 2000

Smart Choice - Versatile Emollient, Sustainable Performance

EcoSmooth™ Universal Fluid 2000 is a highly versatile, readily biodegradable emollient that elevates both hair-care and skin-care leave-on formulations with a smooth, slippery and non-tacky sensory experience. It conditions hair for enhanced shine, reduced friction, and exceptional frizz control, while improving pigment and UV filter wettability to boost performance in skin and sun-care applications. With broad compatibility—including with low-viscosity silicone oils and organic sunscreens—it offers exceptional formulation flexibility. Cost-effective, easy to use and China-compliant it offers multifunctionality that helps enable globally scalable beauty products.



Applications

- Facial skin care
- Body care
- Sun care
- Color cosmetics
- Make-up remover
- Hair care Leave-on
- AP/DEO (non aerosol)

Typical Properties*

INCI name	PPG-5 Butyl Ether
Appearance	Crystal clear liquid
Viscosity	18 cSt at 25°C
Refractive index at 25 °C	1.438
Surface tension	29.4 mN/m
Shelf life	2 years
China compliance	Listed in the IECIC and IECSC**
Biodegradability	Readily biodegradable (OECD 301B)***

*These are typical properties, not to be construed as specifications
 ** Further information is provided in the RDS and QRIS.
 *** See SDS for further information

Benefits for Formulators

- Ease of processing/can be processed cold or hot
- Ease of formulation; compatible with a broad range of cosmetic ingredients and oils including low viscosity silicone oils, sunscreens and fragrances
- Versatile: can be used in different cosmetic applications
- Readily biodegradable
- Cost effective
- China compliant
- Pigments wettability
- Inorganic UV filters wettability
- Skin and hair conditioning agent

Compatibility with sun filters

EcoSmooth™ Universal Fluid 2000: Ingredient	5:5	9:1
Solid sun filters		
Bis-Ethylhexyloxyphenol Methoxyphenyl Triazine	C at 75°C	C
Butyl Methoxydibenzoylmethane	C at 75°C	C
Ethylhexyl Triazone	NC	C
Liquid sun filters		
Ethylhexyl Methoxycinnamate	C	C
Ethylhexyl Salicylate	C	C
Octocrylene	C	C
Homosalate	C	C

C = Compatible and clear at RT
 C at 75°C = Compatible when heated at 75°C (compatible after at RT)
 NC = Not compatible

Benefits for Consumers

For Skin

- Smooth and non-tacky feel
- Slipperiness and lubricity
- Enhanced moisturizing effect

For Hair

- Enhanced shine
- Improved frizz control
- Friction reduction
- Smooth and slippery feel
- Ease of combing

Face Cream – O/W Emulsion

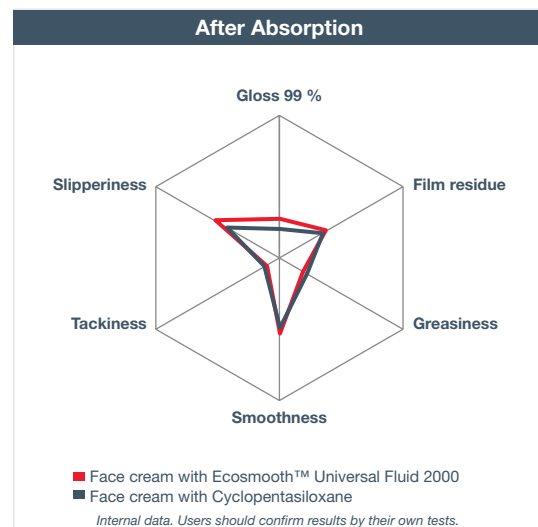
Performance data - Sensory test (18 panelists)

Face Cream containing **EcoSmooth™ Universal Fluid 2000** demonstrates a similar sensory profile as with Cyclopentasiloxane in formulation.

FORMULATION DETAILS

Phase	Trade name	INCI name	Wt. %
A	Water	Water	79.65
	Niacinamide PC / DSM	Niacinamide	1.00
	CELLOSIZETM PCG-10 Hydroxyethyl Cellulose / Dow	Hydroxyethyl Cellulose	0.60
B	EcoSmooth™ Universal Fluid 2000 / Dow	PPG-5 Butyl Ether	4.00
	OLIVEM 1000 / Hallstar	Cetearyl Oliviate (and) Sorbitan Oliviate	4.00
	Lanette O / BASF	Cetearyl Alcohol	0.70
C	Sesame Oil CRD FFL Organic SMP / EarthOil	Sesamum Indicum (Sesame) Seed Oil	2.00
	Sweet Almond Oil CRD Organic / EarthOil	Prunus Amygdalus Dulcis (Sweet Almond) Oil	2.00
	Shea Butter FFL REF Organic SMP / EarthOil	Butyrospermum Parkii (Shea) Butter	3.00
	Stearic Acid 90 % / AE&Connock	Stearic Acid	0.35
D	TRIS AMINO ULTRA PC (sol 30 %) / Angus	Tromethamine	q.s.
E	D-Panthenol / DSM	D-panthenol	1.00
	DL-alpha Tocopheryl Acetate / DSM	Tocopheryl Acetate	0.50
	Bright Touch E19E4513 / V. Mane Fils	Perfume	0.30
	Neolone PH 100 / LanXess	Phenoxyethanol	0.90

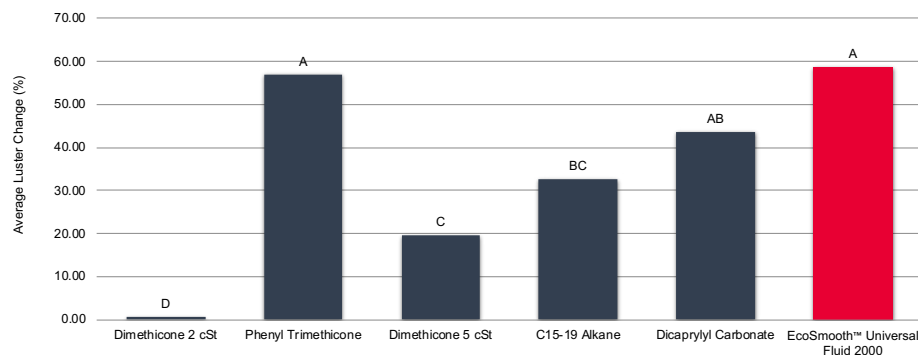
SENSORY RESULTS



Hair Shine

Neat materials: 20% dilution in Dimethicone 2 cSt – Screening test

EcoSmooth™ Universal Fluid 2000 is providing comparable shine as Phenyl Trimethicone and better luster than Dimethicone 5 cSt and organic fluids.



Treatment:

20% dilution in Dimethicone 2 cSt.
0.1g/g of Hair on slightly bleached Caucasian hair-Flat-2g hair (Diastron tresses).

Statistics: Different letters show a statistical difference at 95% confidence.

Internal data. Users should confirm results by their own tests.

Learn More

For more information about **EcoSmooth™ Universal Fluid 2000**, such as sample formulations, please contact your customer service representative or visit dow.com/personalcare.



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