



**AEROSIL®
& SIPERNAT®**

Silica as Thickeners for Personal Care

AEROSIL® and SIPERNAT® enhancing skin care products

- AEROSIL® and SIPERNAT® silica fulfills a wide range of functions in personal care products and help keep the formulation nice and simple
- Hydrophilic silica such as AEROSIL® 200 and AEROSIL® 300 and hydrophobic silica such as AEROSIL® R 974 and AEROSIL® R 805, can achieve high viscosities, adjust thixotropic properties, improve suspension and stability
- Hydrophobic silica such as AEROSIL® R 812 S, AEROSIL® R 202 are best for adding water resistance to emulsions, e. g. sunscreens and make-up formulations
- Hydrophilic types such as SIPERNAT® precipitated silica grades SIPERNAT® 22S and SIPERNAT® 22LS can be used as natural thickeners for liquid systems

TABLE 1. Viscosity and Clarity effect of AEROSIL® Fumed Silica on various synthetic oils

Product	AEROSIL® 200	AEROSIL® 300	AEROSIL® R 816	AEROSIL® R 972	AEROSIL® R 974	AEROSIL® R 805	AEROSIL® R 812	AEROSIL® R 812 S	AEROSIL® R 202
Silicone 350	High		High	Medium	Medium	Medium	Low	Low	Low
Paraffin Oil	High		High	Medium	Medium	Medium			
PEG 400	Low					High		Medium	High
C12-C15 Alkyl Benzoate									High
Caprylic/ Capric Triglyceride	Low	Low	Medium			Medium			Medium
Isocetyl Palmitate			High						
Butylene Glycol	Low	Medium	Low	Medium	Medium	Very High	Low	High	Very High
Cyclopentasiloxane	Very High	High	Medium		Low				
Propylene Glycol	Low	Low	Low	Low	Low	High	Low	Low	Very High
Polydimethylsiloxane	Very High	Very High	High	High	High	Medium	Low	Low	Low
Decamethylcyclopentasiloxane	High		Medium						
Hexadecanoic Acid, 2-ethylhexyl ester	Medium								
Silicone Fluid 50	Very High	Very High	High	Low	High	Medium	Low	Low	Low
Ethylhexyl Palmitate/ TEGOSOFT® OP	Low	Low							
PPG-15 Stearyl/Ether	High		Low	Low	Low				
Glycerin	High	High							



Viscosity

300 - 500 cps :	Low
500 - 1000 cps:	Medium
1000 - 2500 cps:	High
2500 + cps:	Very High

Clarity

NA	Clear	Clear / Hazy	Hazy	Hazy / Opaque	Opaque
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Evonik supports you in developing the ideal way of applying our specialty silica to your products through our applied technology group

AEROSIL® fumed silica and SIPERNAT® precipitated silica benefits

- AEROSIL® products are recognized in the personal care industry for their versatility and effectiveness
- AEROSIL® products can be incorporated at room temperature and without activation
- Formulations thickened with AEROSIL® fumed silica display low sensitivity to temperature, electrolytes and pH
- SIPERNAT® silica has versatile properties that make production processes and final products more efficient and may be used in many types of personal care applications



Table 2. Viscosity and Clarity effect of AEROSIL® Fumed Silica and SIPERNAT® Precipitated Silica on various vegetable oils and water

Product	AEROSIL® 200	AEROSIL® 300	AEROSIL® R 816	AEROSIL® R 972	AEROSIL® R 974	AEROSIL® R 805	AEROSIL® R 812	AEROSIL® R 812 S	AEROSIL® R 202	SIPERNAT® 22S	SIPERNAT® 22 LS
Castor						High		Medium	High		
Olive	Medium		Medium			Low			High		
Sunflower	Low	Low	Low	Low	Low	Medium	Low	Low	High	Medium	Medium
Soybean	Low	Low			Low	Low			Medium	Medium	Medium
Rapeseed	Low		Low			Medium			High		
Macadamia	Medium		Low			Medium			High		
Jojoba						Medium			High		
Grapeseed	Low	Low	Low	Low	Medium	Medium	Low	Low	High		Medium
Argon Oil	Low	Medium	Low	Low	Low				Medium		
Soybean Oil	Low					Low			High	Medium	Medium
Mineral Oil	Very High	Very High	High	Low	High	Low	Low		Low		
Water			Low								

Viscosity

300 - 500 cps : Low
 500 - 1000 cps: Medium
 1000 - 2500 cps: High
 2500 + cps: Very High

Clarity

NA	Clear	Clear / Hazy	Hazy	Hazy / Opaque	Opaque
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Evonik Industries is a leading supplier of precipitated and fumed silica, which is used as a rheology modifier, carrier and free flow aid in a diverse range of applications.

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