AGC

Your Dreams, Our Challenge

ENHANCING SUNSCREEN, SKINCARE AND COSMETIC FORMULATIONS

with SOLESPHERE™ Silica Gels

AMPLIFY THE PERFORMANCE PROPERTIES OF YOUR FORMULATIONS

The SOLESPHERE™ product line is a series of revolutionary spherical silicas that vastly improve any personal care product to which they are added. Made from silicon dioxide, a natural and sustainable material, SOLESPHERE gels are Ecocert- and COSMOS-certified for safety and sustainability. The line includes:

SOLESPHERE H-Series

- Porous, high surface area silicas with a particle size range of 3–12 µm.

SOLESPHERE NP-Series

- Non-porous silicas with a size range from 4–20 µm.

SOLESPHERE D-series

- Insoluble silica with a size of 20 µm.

Benefits of SOLESPHERE Silica Gels

SOLESPHERE silica gels have unique properties that can be used to improve any sunscreen, skincare or cosmetic formulation by providing SPF boost and improving both tactile and visual aesthetics. They are environmentally safe, non-nanoparticle, non-plastic, non-petroleum ingredients. They can be used in O/W, W/O and anhydrous formulations to provide UV boost and improve spreadability and performance properties including:

Increased absorption

Mattifying

Blurring

Reduced greasiness, sliminess, stickiness

SPF boosting

Leaves skin looking/feeling hydrated, smooth and glowing

Pore minimizing

Formulation Tips

- Performance benefits will show after adding 1% silica gel particles.
- Adding more silica gel particles can increase benefits, but we do not recommend adding more than 3–4% silica gel particles as this can cause the formulation to appear “chunky.”
- Multiple SOLESPHERE grades can be added to a formulation to achieve different desired goals, but it is important not to go over the 3–4% total.
- SOLESPHERE H-52 and H-53 grades will provide significant SPF boosting with just 1–2% added.
- SOLESPHERE particles can be added to any phase of the formulation. Testing has shown that the products have the same effects on the formulation regardless of whether they are added to the water phase, aqueous phase, oil phase, or at the end.

SOLESPHERE Grades

SOLESPHERE H-32

Especially suited for W/O emulsions

- Increases absorption
- Decreases greasiness
- Decreases sliminess
- Blurring effect

SOLESPHERE H-51

Suited for O/W and W/O emulsions

- Pore minimizing
- Blurring

SOLESPHERE H-53

Suited for O/W, W/O and humectant-based emulsions

- SPF boosting
- Decreases greasiness
- Decreases stickiness

SOLESPHERE H-121

Especially suited for O/W emulsions

- Reduces greasiness
- Reduces sliminess
- Reduces stickiness
- Mattifying
- Blurring
- Pore minimizing

SOLESPHERE NP-30

Especially suited for primer and polishes

- Polishing
- Smoothing

SOLESPHERE D-200L

Especially suited for skin scrubs

- Gentle exfoliation
- Effective exfoliation

Physical Properties of SOLESPHERE Grades

Grade		Mean Particle Size (nm)	Specific Surface Area (m^2/g)	Pore Volume (mL/g)	Pore Diameter (nm)	Oil Absorption (mL/100g)
H-Series Normal Type	H-51	5,000	800	1	5	150
	H-121	12,000	800	1	5	150
H-Series High Absorption Type	H-34	3,000	400	2	10	300
	H-53	5,000	400	2	11	400
	NP-100	10,000	50	0.1	–	35
NP-Series	NP-30	4,000	40	0.05	–	30
	NP-100	10,000	50	1	–	35

Selection Chart: Water in Oil Emulsions

Performance Attribute	SOLESPHERE H-32	SOLESPHERE H-51	SOLESPHERE H-53	SOLESPHERE H-121
Reduces Sliminess	✓			
Blurring		✓		✓
Pore Minimizing		✓		✓
Reduces Greasiness	✓			
Absorbs Sebum and Oil	✓			
Reduces Stickiness				
SPF Boosting			✓	
Mattifying				✓

Selection Chart: Oil in Water Emulsions

Performance Attributes	SOLESPHERE H-32	SOLESPHERE H-51	SOLESPHERE H-53	SOLESPHERE H-121
Reduces Sliminess	✓			✓
Blurring	✓	✓		✓
Pore Minimizing		✓		✓
Reduces Greasiness			✓	✓
Reduces Stickiness			✓	✓
SPF Boosting			✓	
Mattifying				✓

Selection Chart: Humectant Anhydrous Emulsions

Performance Attribute	SOLESPHERE H-32	SOLESPHERE H-51	SOLESPHERE H-53	SOLESPHERE H-121
Reduces Greasiness		✓	✓	
Leaves Skin Feeling Smooth	✓	✓	✓	✓
Leaves Skin Feeling Hydrated		✓	✓	✓
Leaves Skin Glowing			✓	
SPF Boosting			✓	
Mattifying				✓

To learn more visit *www.agcchem.com*
or contact an AGC product expert at 1-800-424-7833.

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