

Versatile Excipients for Drug Delivery, Food and Nutraceutical Supplements

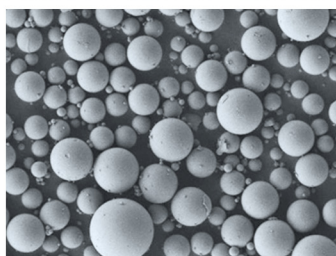
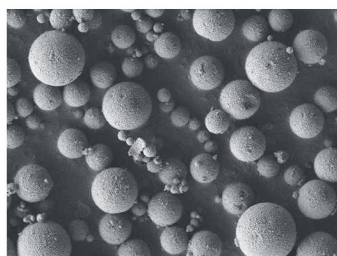
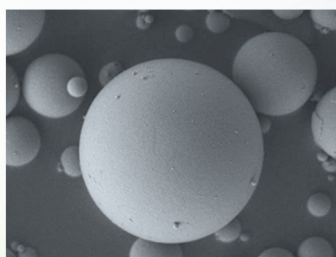
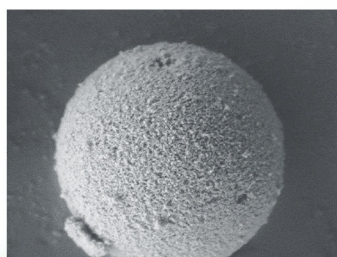
What Can SOLESPHERE Do as an Excipient?

AGC's high purity Silica, SOLESPHERE, can add multiple values as excipients:

- **Long-Term Stabilization:** SOLESPHERE help maintain the stability of drug overtime, protecting active ingredients from moisture issues. This feature also helps anti-caking in its processing stage.
- **Powdering Liquids:** SOLESPHERE has remarkable high absorption capacity, enabling encapsulating liquid into powder with ease. Oil absorption rate reaches up to 400mL/100g.
- **Enhance Properties of Active Ingredients:** SOLESPHERE can enhance the therapeutic properties of the active ingredients. With its wide range of particle size and porosity, SOLESPHERE can function as time-release agent.
- **Manufacturing Process Aid:** Having great flowability, SOLESPHERE improves the processability of powder formulation. While enhancing the viscosity, SOLESPHERE also contributes to uniform dosage forms of a final product, especially driven by its narrow particle size distribution.

Why SOLESPHERE Silica?

- Wide selection of pore volume and particle size, providing best choice for each user:
Particle size: 3~20 μ m; Oil absorption rate: 150~400mL/100g
- High pore volume, high surface area, enabling SOLESPHERE to carry large amount of active ingredients in small volume.
- Great angle of repose, achieving superior flowability in manufacturing process
- High moisture absorption capacity, protecting active ingredients from moisture issues
- Uniform spherical shape with narrow particle size distribution



RESIFA H-33

RESIFA H-121



General Properties

SOLESPHERE offers a wide range of particle size, surface area, and porosity. This is the reason SOLESPHERE can fit into various applications.

	Grade	Mean Particle Size (μm)	Specific Surface Area (m ² /g)	Pore Volume (mL/g)	Pore Diameter (nm)	Oil Absorption (mL/100g)
H-Series Normal Type	H-31	3	800	1	5	150
	H-51	5	800	1	5	150
	H-121	12	800	1	5	150
	H-201	20	800	1	5	150
H-Series High Absorption Type	H-32	3	700	2	10	300
	H-52	5	700	2	10	300
	H-122	12	700	2	10	300
	H-33	3	700	2	11	400
	H-53	5	700	2	11	400
L-Series	L-31	3	300	1	13	150
	L-51	5	300	1	13	150
	L-123	12	300	2	50	400

Flowability Data

Superior flowability enables efficient processability of powder formulation. SOLESPHERE provides wide selection of grades to best control the viscosity.

	H-121	H-122	L-123
Bulk Density (g/cm ³)	0.24	0.18	0.15
Tapped Density (g/cm ³)	0.50	0.29	0.24
Angle of Repose (°)	26.9	31.5	31.6
Angle of Rupture (°)	14.6	15.4	17.8
Dispersion Ratio (%)	68.2	58.8	52.9

AGC manufacturing site for SOLESPHERE is recognized by the following certifications:

• ISO9001 • HALAL and Kosher • FSSCC • FDA registered facility • ECOVADIS

The data are presented without any guarantee or warranty, express or implied.

For more information and formulation guides, please visit our website at

www.agcchem.com/products/fine-silica-gels/fine-silica-exciptient-for-drug-delivery-food-and-nutraceuticals/



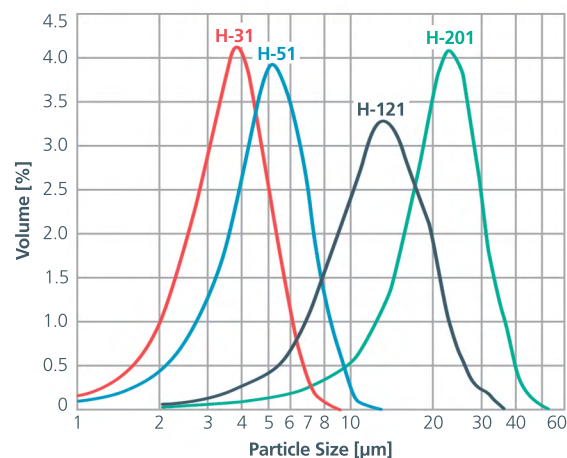
AGC Chemicals Americas, Inc.

55 E. Uwchlan Avenue, Suite 201
Exton, PA 19341
United States of America

Telephone: +1 610-423-4300
Toll Free (US only): 800-424-7833
Fax: +1 610-423-4305

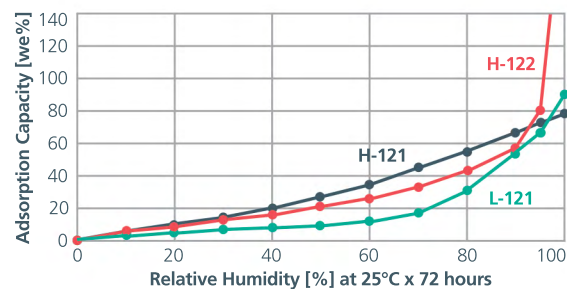
Particle Size Distribution

Narrow particle size distribution leads to consistent performance. AGC's controlled manufacturing process produces products with a narrow PSD as shown below.



Adsorptive Capacity

Ranging from low to high adsorptive capacity, SOLESPHERE enables easy controls of moisture, dosage size, and loads of ingredients.



www.agcchem.com

Visit our website for compliance information and industry certifications.

RESIFA™ and SOLESPHERE™ are trademarks of AGC, Inc.