

## Silspher D Series

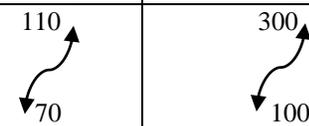
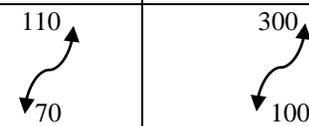
**Product Name:** Spherical Porous Silica

Silspher D, spherical porous silica, is a silica with large and small particle sizes and uneven ball diameter. It is a micro powder product with high spheroidization rate, good sphericity and no adhesion, which is produced by high purity silicon source with KingPowder unique technology. As a functional filling and adding powder material, it can improve the hardness and scratch resistance of the material. With low thermal expansion and low stress, it is an excellent filler for high temperature resistant plastics and adhesives. For the porous structure, it is an excellent filling material of dielectric and insulation, anti-bleeding material of ink printing, anti-electronic transition material of electronic adhesive, and dispersive anti-caking material for powdered food. It is an inorganic filling material with stable chemical properties, impact resistance, boiling resistance, high weather resistance, low particle density and light weight, which is widely used in copper clad laminate, electronic packaging, LED, ink, adhesive, paint, carrier of adsorption and slow-release, carrier of catalyst and so on.

### Product Parameters:

Appearance: (visual inspection)	White powder
Particle size D50: (Laser particle size analyzer, $\mu\text{m}$ )	3, 5, 25, 40, and others
pH value: (2% water dispersion, direct method of measurement)	5.0-9.0
Loss on drying: (%, 105°C, 3hrs)	$\leq 2$
Bulk density: ( $\text{g}/\text{cm}^3$ )	0.30-0.60
Pore volume: ( $\text{cm}^3/\text{g}$ )	0.40-0.80
Pore diameter: (nm)	7.0-15.0

### Product Specifications:

Product Name	D 50 Mean Particle Size ( $\mu\text{m}$ )	Oil Absorption (ml/100g)	Specific Surface Area ( $\text{m}^2/\text{g}$ )	Dispersion Property
Silspher D310	3			Common use
Silspher D510	5			Common use
Silspher D2510	25			Common use
Silspher D4060	40			Common use

## Product Features and Applications:

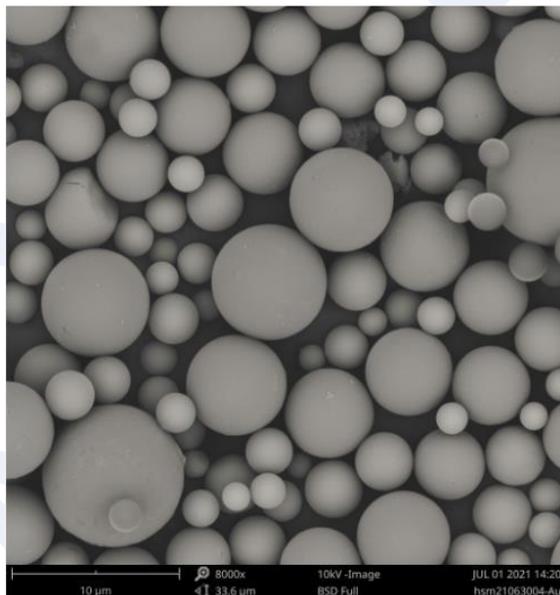
### Features:

- 1) Spherical white powder, high rate of spheroidization, odour free.
- 2) Strong liquidity, excellent smoothness, low coefficient of thermal expansion, low stress.
- 3) 99.9% high purity silica, metal impurity and magnetic ion content is lower than 100ppm.
- 4) The porous structure, high porosity and volume, low specific surface area, excellent absorption, significant effect of release.
- 5) Chemical stability amorphous structure, uncrystalline state non-radioactive element, poisonless and tasteless, high temperature resistance, chemical resistance, resistance to acid and alkali, weather resistance is stable.
- 6) A variety of particle size from 3 to 40  $\mu\text{m}$ , uneven particle size.
- 7) Low permittivity 3.88/k, low loss 0.0002 (1MHZ), low expansion  $0.5 \times 10^{-6}$ .
- 8) Refractive index is about 1.5, close to most resin refractive index (1.4 - 1.5), used for rubber, coating, adhesive, LED lamps and other products, high light transmittance.
- 9) Mohs hardness is 6, impact resistance, scratch resistance and friction resistance.
- 10) Variety of choice of modified surface, excellent dispersion performance.
- 11) Spherical structure, spherical porous, easy to scatter, absorb light extinction effect is obvious.

### Applications:

- 1) Electronics industry: copper clad laminate, electronic packaging, LED
- 2) Plastics, toys
- 3) Adhesives, inks, paints and coatings
- 4) Food, toothpaste

## Scanning Electron Microscopy:



# Technical Data Sheet

Version: EN 1.0

## Storage Information:

Manufacture area:	China
Packing:	25 kg/barrel
Storage:	Sealed and stored in a cool and dry place away from light
Shelf life:	36 months

Date:2021/7/30