TECHNICAL DATA SHEET

SBA-16 Mesoporous Silica

Mesoporous silica · 3D cage-type cubic Im3m pores · hydrothermal method · BET 700–900 m²/g · pore diameter 3.0–5.0 nm · calcined, ready to use



ACS Material SBA-16 Mesoporous Silica — Representative Packaging

ACS Material SBA-16 Mesoporous Silica, 20 g (MSB16012). Image shown for reference; label and packaging may vary.

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SECTION I

Product Overview

SBA-16 is a mesoporous silica (SiO_2, CAS No. 7631-86-9) synthesized using tetraethoxysilane (TEOS) as the silicon source and a ternary combination of surfactant (F127, EO106PO70EO106), water and butanol. Its pore structure is a three-dimensional cage of the cubic Im3m type, with better mass transfer kinetics than SBA-15.

ACS Material SBA-16 is prepared by the hydrothermal method and is supplied calcined and ready to use directly. It is a white powder with a particle size of 50–120 µm, a pore diameter of 3.0–5.0 nm, a BET surface area of 700–900 m^2/g, a BJH desorption cumulative pore volume of about 1.2 cm^3/g and Na_2O <0.1%. Typical SEM images and BET analysis are included in this data sheet.

SECTION II

Core Advantages

- **3D cage-type pores** — cubic Im3m mesostructure.
- **High surface area** — BET 700–900 m^2/g.
- **Pore volume** — BJH desorption ~1.2 cm^3/g.
- **Mass transfer** — better kinetics than SBA-15.
- **Pore diameter** — 3.0–5.0 nm.
- **Ready to use** — calcined; Na_2O <0.1%.

SECTION III

Specifications

Technical data

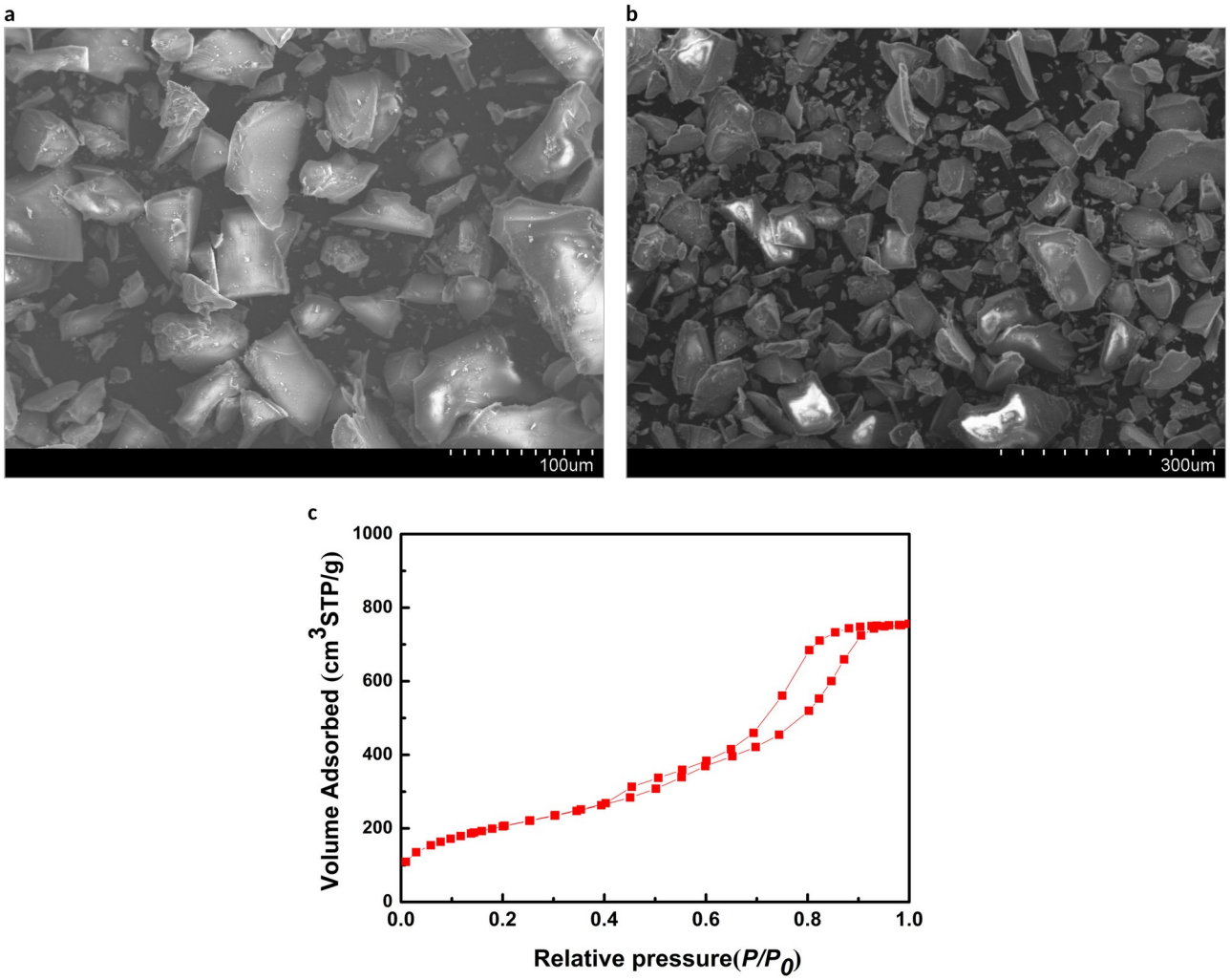
Specifications	
Product name	SBA-16 Mesoporous Silica
Brand	ACS Material
Synonyms	SBA-16, mesoporous silica, silicon dioxide
CAS No.	7631-86-9
Linear formula	SiO_2
Silicon source / template	TEOS / F127 (EO106PO70EO106), water, butanol
Preparation method	Hydrothermal method
Supplied	Calcined, ready to use directly
Form	White powder
Phase	Im3m (cubic)
Particle size	50–120 µm
Pore diameter	3.0–5.0 nm
BET surface area	700–900 m^2/g
BJH desorption cumulative volume of pores	~1.2 cm^3/g
Na_2O	<0.1%

Ordering information

Package	Product No.
10 g	MSB16011
20 g	MSB16012

This product is calcined and ready to use directly.

Typical data



a SEM image of ACS Material SBA-16, ×300 (scale bar 100 µm). **b** SEM image, ×150 (scale bar 300 µm). **c** Adsorption–desorption isotherm (volume adsorbed vs. relative pressure).

SECTION IV

Applications

Mesoporous silica SBA-16 is used as a catalyst carrier, as a templating agent and as an adsorbent.

SBA-16 is suitable for a variety of applications, including chromatography, drug delivery, catalysis and imaging.

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