TECHNICAL DATA SHEET

Monodisperse Mesoporous Silica Nanosphere – Stellate MSN

Monodisperse stellate mesoporous silica nanospheres · average size 80 nm · conical pores 2.9 nm · V total ~1.4 mL/g · 5 g



ACS Material Monodisperse Mesoporous Silica Nanosphere – Stellate MSN — Representative Packaging

ACS Material Stellate MSN, 5 g. Image shown for reference.

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SECTION I

Product Overview

Stellate monodisperse mesoporous silica nanospheres (MSNs) are silica nanospheres prepared by surfactant-templated synthesis: tetraethyl orthosilicate is used with a template of micellar rods to form nanospheres filled with regularly arranged pores, and the organic template is then removed from the nanospheres via calcination. Mesoporous silica nanoparticles are studied for medical, thermal energy storage and imaging applications, and are especially promising as carriers for the cellular transport and delivery of macromolecules.

ACS Material Stellate MSN has an average particle size of 80 nm, conical pores of 2.9 nm, and a total pore volume of ~1.4 mL/g. Typical SEM and TEM images are included.

SECTION II

Core Advantages

- **Monodisperse** — average size 80 nm.
- **Pore volume** — V total ~1.4 mL/g.
- **Stellate pores** — conical pores 2.9 nm.
- **Packed voids** — inter-particle voids 50 nm.

SECTION III

Specifications

Technical data

Specifications	
Product name	Monodisperse Mesoporous Silica Nanosphere – Stellate MSN
Brand	ACS Material
CAS No.	7631-86-9
Preparation method	Soft chemistry method

Characterizations

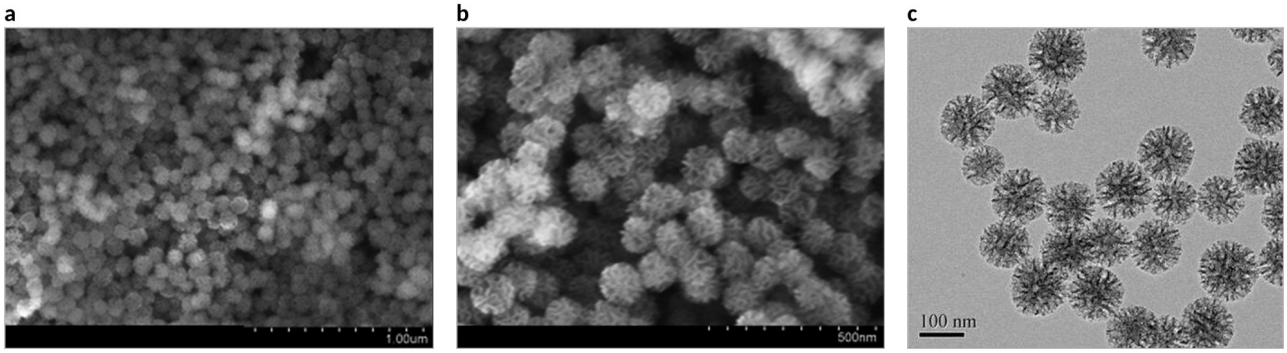
Characterizations	Stellate MSN
Appearance	White powder
Average size (nm)	80
V total (mL/g)	~1.4
Pore size, conical pores of the stellate MSNs (nm)	2.9
Pore size, inter-particle voids between packed MSNs (nm)	50

Ordering information

Product	Package	Product No.
Stellate MSN	5 g	SINP0105

For other quantities, please contact us at contact@acsmaterial.com.

Typical data



a SEM image of ACS Material Stellate MSN, ×50.0k (scale bar 1.00 µm). **b** SEM image, ×110k (scale bar 500 nm). **c** TEM image (scale bar 100 nm).

SECTION IV

Applications

1) Catalyst.

2) Chromatography.

3) Drug delivery.

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