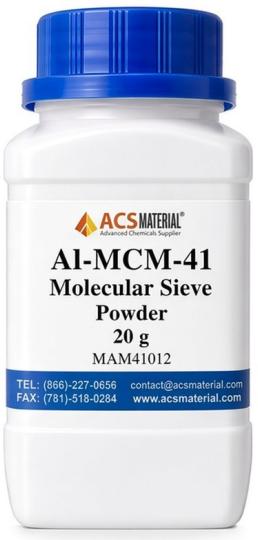
TECHNICAL DATA SHEET

Al-MCM-41 Molecular Sieve

Aluminum-containing mesoporous molecular sieve · hydrothermal method · SiO_2/Al_2O_3 = 25 · BET >633 m^2/g · pore diameter 2.7 nm · calcined, ready to use



ACS Material Al-MCM-41 Molecular Sieve — Representative Packaging

ACS Material Al-MCM-41, 20 g (MAM41012). Image shown for reference; label and packaging may vary.

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SECTION I

Product Overview

Al-MCM-41 is an aluminum-containing member of the M41S family of mesoporous silicates. Mesoporous silicates such as Al-MCM-41 have a large surface area and a large pore size within an ordered array of cylindrical mesopores, so reactant molecules in solution can diffuse into the pores and reach the catalyst surface. They are used as a catalyst or catalyst support, as an adsorbent, or as a component of guest-host chemistry.

ACS Material Al-MCM-41 is prepared by the hydrothermal synthesis method and is supplied calcined and ready to use directly. It is a white mesoporous powder with a SiO_2/Al_2O_3 molar ratio of 25, an average pore diameter of 2.7 nm, a BET surface area >633 m^2/g, a pore volume ≥0.57 cm^3/g and a bulk density of about 0.14 g/cm^3.

SECTION II

Core Advantages

— **Ordered cylindrical mesopores** — large surface area within an ordered array of cylindrical mesopores.

— **Small mesopores, high surface area** — average pore diameter 2.7 nm; BET surface area >633 m^2/g.

— **Calcined and ready to use** — supplied calcined; the powder can be used directly.

— **Aluminosilicate composition** — SiO_2/Al_2O_3 molar ratio of 25.

— **Pore volume** — pore volume ≥0.57 cm^3/g.

— **Light, low-density powder** — white powder with a bulk density of about 0.14 g/cm^3.

SECTION III

Specifications

Technical data

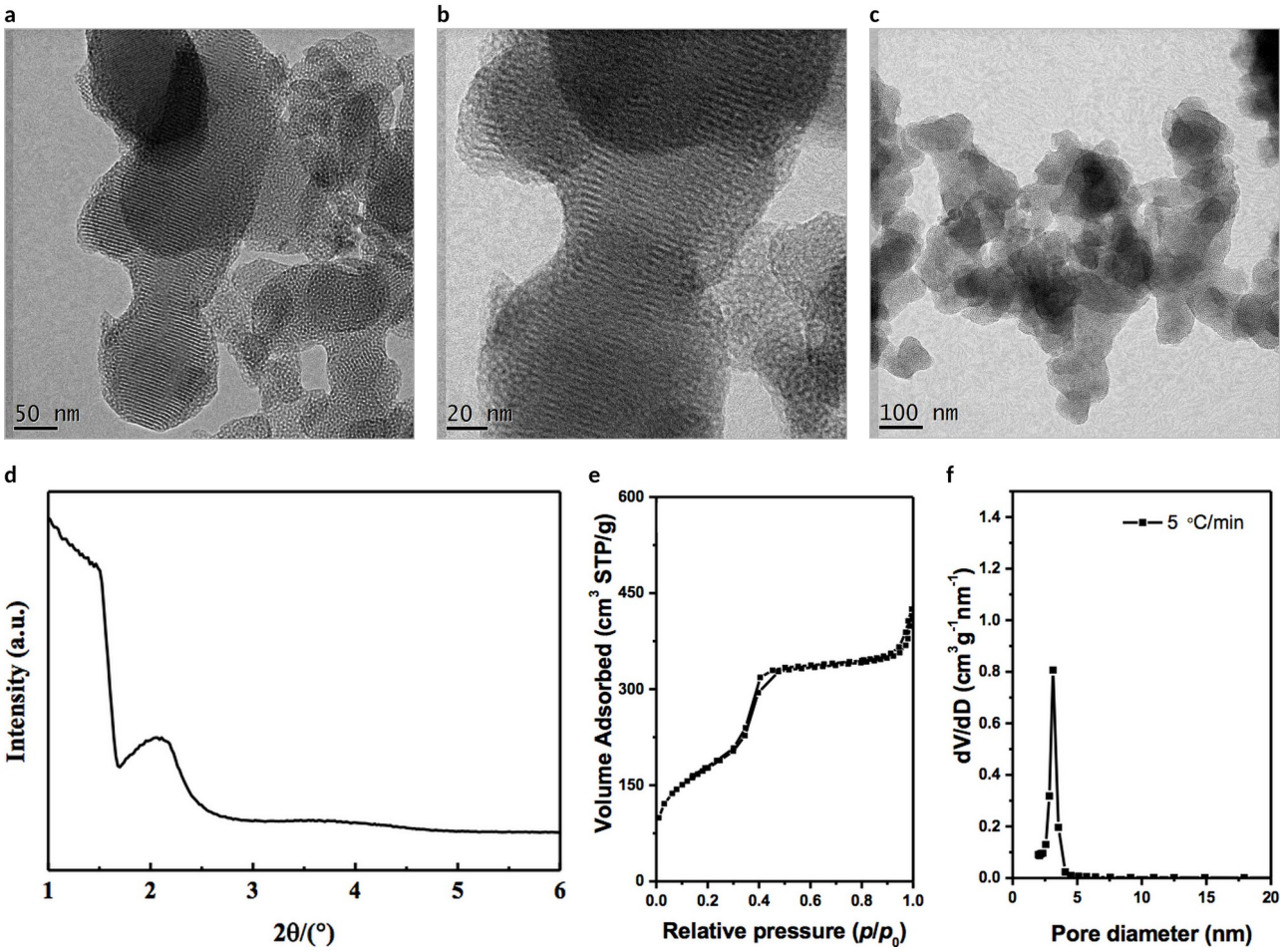
Specifications	
Product name	Al-MCM-41 Molecular Sieve
Brand	ACS Material
Preparation method	Hydrothermal synthesis method
Supplied	Calcined, ready to use directly
Form	Mesoporous
Appearance	White powder
SiO_2/Al_2O_3 molar ratio	25
Average pore diameter	2.7 nm
BET surface area	>633 m^2/g
Pore volume	≥0.57 cm^3/g
Bulk density	About 0.14 g/cm^3

Ordering information

Package	Product No.
20 g	MAM41012

This product is calcined and ready to use directly.

Typical data



a–c TEM images of ACS Material Al-MCM-41; scale bars 50 nm (a), 20 nm (b) and 100 nm (c). **d** XRD pattern (2θ = 1–6°). **e** Adsorption isotherm (volume adsorbed vs. relative pressure). **f** Pore size distribution.

SECTION IV

Applications

Al-MCM-41 is used as a catalyst or catalyst support, as an adsorbent, or as a component of guest-host chemistry.

Application fields: catalyst; catalyst support; dye removal; adsorbent.

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