TECHNICAL DATA SHEET

MIL-101(Fe)

MOF · light brown powder · average diameter 300–600 nm · 400–600 m²/g · 1 g



ACS Material MIL-101(Fe) — Representative Packaging

ACS Material MIL-101(Fe), 1 g (MMFE0101). Image shown for reference; label and packaging may vary.

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SECTION I

Product Overview

ACS Material MIL-101(Fe) is an iron-based metal–organic framework (MOF). It is not a zeolite.

It is supplied as a light brown powder with an average diameter of 300–600 nm, a specific surface area of 400–600 m^2/g and a pore diameter of 0.47–2.9 nm. Typical TEM and XRD data are included.

SECTION II

Core Advantages

- **Material class** — iron-based MOF.
- **Surface area** — 400–600 m^2/g.
- **Pore diameter** — 0.47–2.9 nm.
- **Average diameter** — 300–600 nm.

SECTION III

Specifications

Technical data

Specifications	
Product name	MIL-101(Fe)
Brand	ACS Material
Material class	Metal–organic framework (MOF)
Composition	$Fe_3O(Cl)(H_2O)_2(BDC)_3$, chloride (Cl^-) form, prepared from $FeCl_3$; BDC = 1,4-benzenedicarboxylate
Preparation method	Solvothermal method
Storage	Takes up water quickly; keep sealed, dry at room temperature and protected from light. Vacuum drying at 100 °C could optimize product performance.
Shelf life	One year if stored in an airtight container

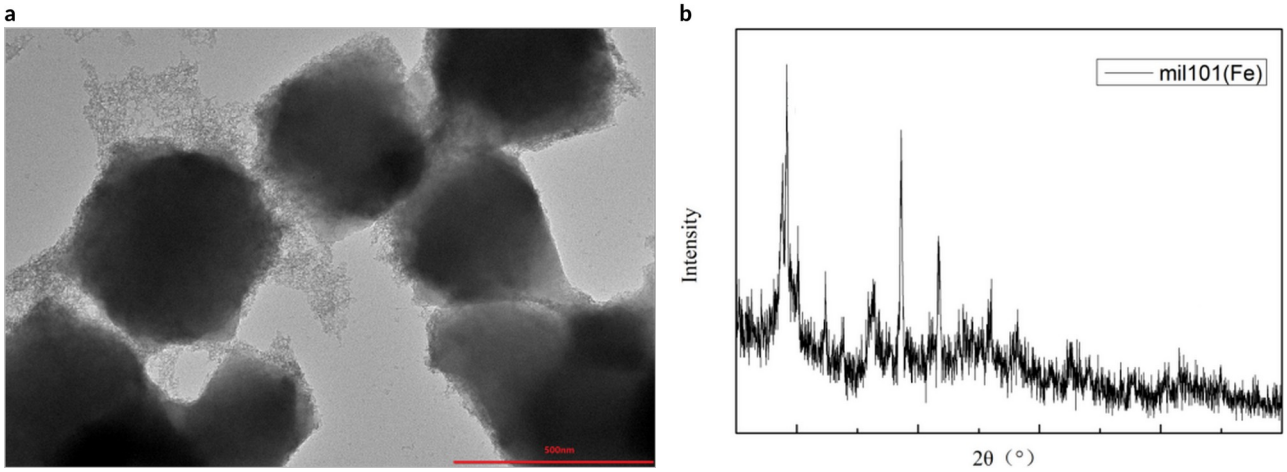
Characterizations

Characterizations	MIL-101(Fe)
Appearance	Light brown powder
Average diameter	300–600 nm
Specific surface area	400–600 m^2/g
Pore diameter	0.47–2.9 nm

Ordering information

Product	Package	Product No.
MIL-101(Fe), powder	1 g	MMFE0101

Typical data



a TEM image of ACS Material MIL-101(Fe) (scale bar 500 nm). **b** XRD pattern.

SECTION IV

Applications

1) Gas storage.
2) Adsorption separation.
3) Ion exchange.
4) Membrane separation.
5) Catalysis.
6) Magnetic and optical materials.
7) Sensors.
8) Drug delivery and biomedical imaging.
9) Molecular recognition.
10) Electrochemistry (supercapacitors, batteries, fuel cells).

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