Promethean Particles®

TECHNICAL DATA SHEET

ProMOF® 9100

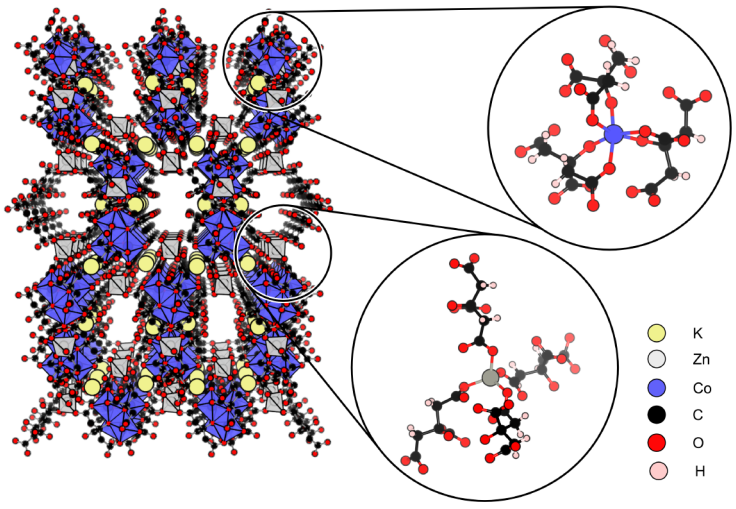
A high-quality UTSA-16 (Co/Zn) based metal-organic framework (MOF) designed for use in a wide range of carbon capture, inluding post-combustion,applications. ProMOF 9100 has high carbon dioxide (CO_2) uptake capacity and selectivity.

Specifications

Synonym	UTSA-16 (Co/Zn)
Metal Ion(s)	Cobalt (Co) and Zinc (Zn)
Empirical Formula	Co Zn K C_6 O_8 H_4
Molecular Weight	367.4

Structure

ProMOF 9100 is a structure containing metal nodes of cobalt and zinc, preferentially occupying specific sites in the framework of octahedral and tetrahedral geometry respectively. Potassium ions are also a structural feature of this framework, and the active site for carbon capture.



Appearance

ProMOF 9100 is a purple solid which can be supplied in the form of a powder or granules.

Typical Properties

Surface Area (powder)	>750 m^2/g	N_2 adsorption by BET
Bulk density (powder)	0.64 g/cm^3	

Version: 001 Issued: 20th February 2026

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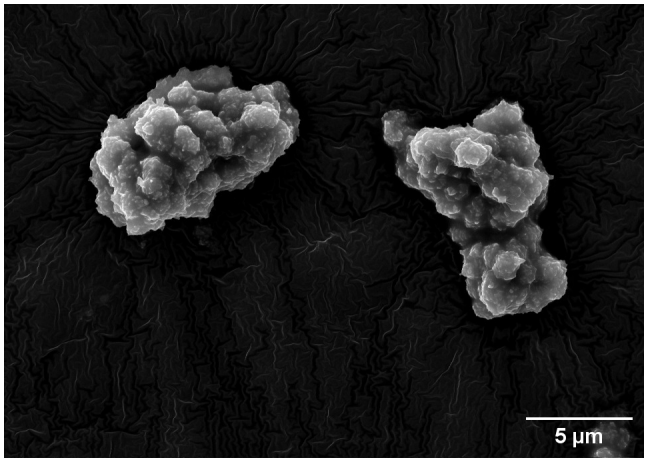
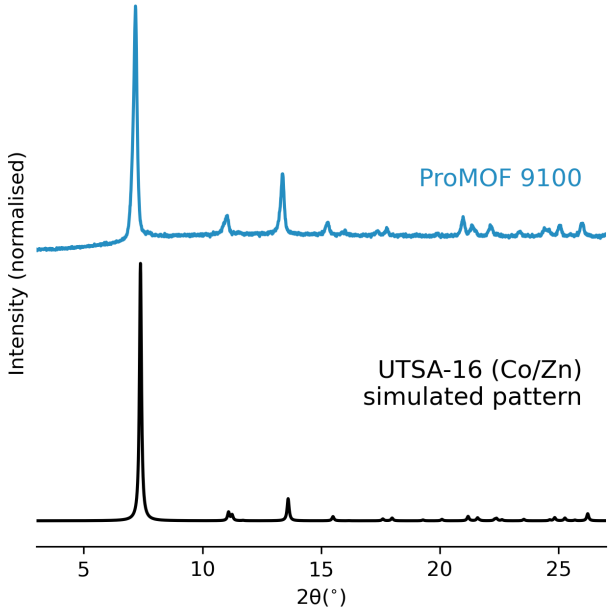
Scanning Electron Microscopy (SEM) Imaging



ProMOF 9100 particles are stable agglomerates of smaller crystallites, forming agglomerates where the length is approximately 10 µm and the width is approximately 5 µm.

Powder X-Ray Diffraction (PXRD)



PXRD analysis of ProMOF 9100 was measured on a dry powder immediately upon removal from an oven. Our experimental results match those generated in literature using single-crystal X-ray diffraction.

Further Information

ProMOF 9100 may have naturally adsorbed gas species during storage. Please activate ProMOF 9100 before use by heating in an oven at 120°C for ≥12 hours. For best results, use a vacuum or forced-air oven.

Information about specific shaped forms, production volumes, lead times and safety data sheets are availabile on request.

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