



ProMOF® 3100

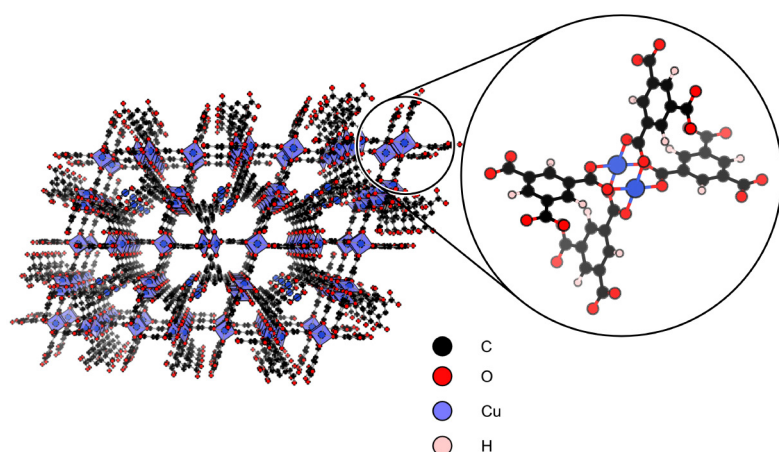
A high-quality HKUST-1 based metal-organic framework (MOF) designed for use in a wide range of gas separation and storage applications. ProMOF 3100 exhibits high adsorption capacities for a range of small molecules and hydrocarbons.

Specifications

Synonym	HKUST-1
Metal Ion(s)	Copper (Cu)
Empirical Formula	$\text{Cu}_3\text{O}_3\text{C}_3$
Molecular Weight	115.6
CAS Number	-

Structure

ProMOF 3100 is composed of copper paddlewheel nodes, where two square planar copper ions form a dimer secondary building unit. Trimesate linkers co-ordinate Cu ions to form an extended cubic structure.



Appearance

ProMOF 3100 is a blue solid which can be supplied in the form of powder or granules (shaped).



Typical Properties

Surface Area (powder)	>1,600 m ² /g	N ₂ adsorption by BET
Bulk density (powder)	0.4 g/cm ³	
Mean crystallite length	5.4 ± 1.48 μm	SEM Imaging

Version: 001 Issued: 20th February 2026

Due to a policy of continued development, we reserve the right to alter or amend any published specification without notice.

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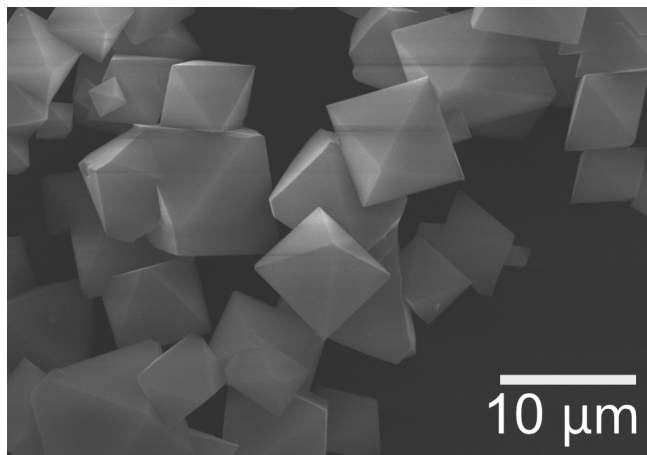


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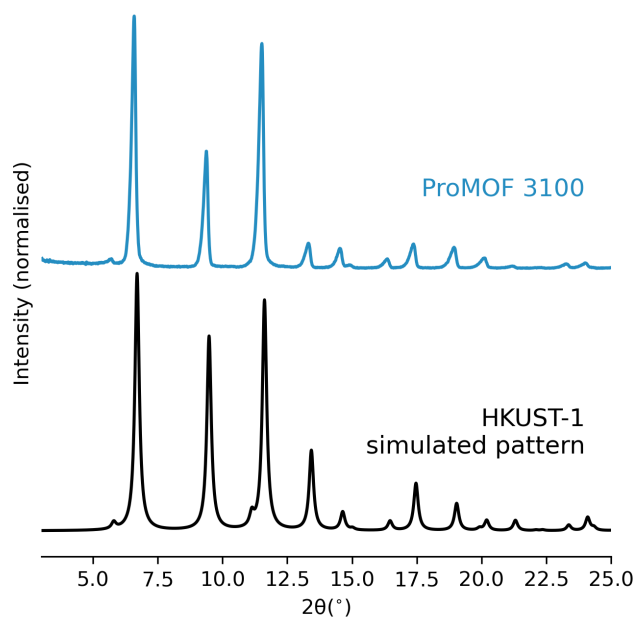
Scanning Electron Microscopy (SEM) Imaging



Micrographs show that the powder is comprised of mostly uniformly sized, well-defined tetrahedron shaped crystallites. Using these micrographs, the diameter of the agglomerates was measured in the program 'Fiji' using line profiles, and all measured particles were plotted into a histogram.

From this, the mean particle size and standard deviation were extracted. The mean particle size is 5.4 µm, and standard deviation 1.48 µm.

Powder X-Ray Diffraction (PXRD)



The PXRD pattern of ProMOF 3100 matches the pattern generated by SCXRD of HKUST-1 reported in the literature, meaning that the sample contains pure HKUST-1.

Further Information

ProMOF 3100 should not be exposed to moisture, in air or as liquid. If the material fades to a lighter blue colour, it should be activated. Recommended activation conditions are 100-150°C under vacuum for at least 4 hours.

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

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