

MOF(801-P)

Zirconium

Metal Organic Framework



MOF



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Metal Organic Framework

Among the large family of metal-organic frameworks (MOFs), Zr-based MOFs, which exhibit rich structure types, outstanding stability, intriguing properties and functions, are foreseen as one of the most promising MOF materials for practical applications. Zirconium based Metal-organic frameworks (MOFs) are well known for their water capture properties and they were found to be highly promising materials. MOF-801-P can capture water at well-defined, low relative pressure values and exhibit high uptake, recyclability, and water stability. Other Applications of Zr-MOFs are in catalysis, molecule adsorption and separation, drug delivery, and fluorescence sensing, and as porous carriers.

Quick Facts

Synonyms	:	MOF-801-P
Stock No.	:	NS6130-12-001385
CAS	:	7440-67-7
Purity	:	99 %
APS	:	30-40µm
Molecular Formula	:	(Zr ₆ O ₄ (OH) ₄ (fumarate) ₆
Form	:	Powder



Properties

- Large Surface Area
- High degree of crystallinity
- Low density
- Uniform channels
- Porosity
- High thermal stability
- Chemical tailor ability

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Applications

01 Food

- Quality control (e.g. moisture control)
- Food storage (e.g. suppression of ripening agents)
- Shelf life management (e.g. triggered release of ripening agents)
- Delivery of agrochemicals (e.g. triggered release of fertilizers etc.)

02 Gas storage

- Compressed gas storage (e.g. natural gas, hydrogen, etc.)
- Toxic and reactive gas systems (e.g. via sub-atmospheric storage systems)
- Carbon capture and sequestration (CCS)

03 Conductivity

- Electronics
- Batteries (e.g. electrodes, electrolytes, etc.)
- Optoelectronic devices (e.g. solar cells)
- Additives

04 Catalysis

- Catalytic support and immobilization
- Encapsulation of catalytic active species
- Unprecedented selectivity and activity

05 Sensoring and detection

- Gas/vapor and small molecule detection
- Luminescence (e.g. scintillation)
- Medical diagnostics
- Explosive detection

06 Gas Treatment

- Separation (e.g. hydrocarbons, CO₂, O₂, H₂, NH₃, H₂S, toxics, etc.)
- Purification
- Impurity and odor removal
- Filtering (e.g. molecular sieves)

07 Textile upgrading

- Additives
- Personal protection
- Chemical, biological, radiological and nuclear (CBRN) defense

08 Gas and liquid adsorption

- Drug Delivery (e.g. slow release of target molecules)
- Water harvesting
- Removal of toxic and hazardous substances (e.g. chemical warfare agents)
- Heat transformation (e.g. adsorption heat pumps)
- Respiratory systems (e.g. gas masks)
- Water treatment (e.g. heavy metal removal)



ISO 9001:2015
CERTIFIED COMPANY

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