

Manganese





Metal Organic Framework



MOF



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Metal Organic Framework

Metal-Organic Frameworks are coordinated compounds consisting of metal ions correlated to often rigid organic molecules to form one-, two-, or three-dimensional structures that can be porous. These metals are known to offer flexible, co-ordination environment with different geometries, e.g., tetrahedral, trigonal bipyramidal square and pyramidal octahedral. In addition, due to the usual liability of metal complexes, the formation of coordination bonds between the metal ions and the organic linkers can be reversible. Porous metal organic frameworks (MOFs) are of significant interest both in academics and industry due to their coordination structure, diverse topologies and potential applications in gas storage, separation, catalysis and drug delivery.

Quick Facts

Stock No.	:	NS6130-12-000878
CAS	:	7439-96-5
Purity	:	99 %
APS	:	30-40µm
Molecular Formula	:	C ₉ H ₆ O ₆
Molecular Weight	:	604.87 g/mol
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)



20ZICE4589C



19ZAZGO1274G



20ZICE4588M

ISO 9001:2015
CERTIFIED COMPANY

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