

CPO-27 (Ni)





Nickel Based
Metal Organic Framework



MOF



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Metal Organic Framework

Metal-organic frameworks (MOFs) are an emerging class of materials exhibiting high surface areas, controlled pore sizes, open metal sites and organic linkers. Utilizing MOFs as direct electrode materials for electrochemical sensing can offer inherent advantages such as containing a sensing element and a redox mediator in a single molecule; however, the direct use of MOFs as electrode materials is hindered because of their insulating nature and less stability in an aqueous medium.

Quick Facts

Synonyms	:	CPO-27 Ni
Stock No.	:	NS6130-12-000896
CAS	:	7440-02-0
Purity	:	99 %
APS	:	30-40µm
Molecular Formula	:	C ₁₈ H ₆ Ni ₃ O ₁₂
Molecular Weight	:	229.60 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 Sensing 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

INTELLIGENT MATERIALS PVT LTD

Derabassi
Punjab (140507)
INDIA

+91 9779 550077, 9779238252

NANOSHEL UK LIMITED

Chapel House,
Chapel St Cheshire,
CW12 4AB United Kingdom

+44 (0) 74 105 488, +44 203 137 5187

NANOSHEL LLC

3422 Old Capitol Suit
1305 Wilmington DE - 19808
United States

+1 646 470 4911

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