

MIL-53(AI)





Aluminium
Metal Organic Framework



MOF



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Aluminium

Metal Organic Framework

Metal-organic frameworks (MOFs) are porous solids with high surface areas, permanent porosities, good thermal and chemical stabilities, and customizable chemistry and functionality. Because of these excellent properties, MOFs have been studied in a large variety of fields, such as catalysis, luminescence science, medical applications, membrane technology, and gas storage, separation, and purification.

Quick Facts

Synonyms	:	MIL-53 Al
Stock No.	:	NS6130-12-000873
CAS	:	7429-90-5
Purity	:	99 %
APS	:	30-40µm
Molecular Formula	:	C ₈ H ₅ AlO ₅
Molecular Weight	:	208.9 g/mol
Form	:	Powder



Properties

- Large Surface Area
- 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

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