MOF (Zn) Zinc Based 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**

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Synonyms</td>
<td>MOF-177 Zn</td>
</tr>
<tr>
<td>Stock No.</td>
<td>NS6130-12-000893</td>
</tr>
<tr>
<td>CAS</td>
<td>7440-66-6</td>
</tr>
<tr>
<td>Purity</td>
<td>99%</td>
</tr>
<tr>
<td>APS</td>
<td>30-40µm</td>
</tr>
<tr>
<td>Molecular Formula</td>
<td>C27H18Zn3O6</td>
</tr>
<tr>
<td>Molecular Weight</td>
<td>229.60 g/mol</td>
</tr>
<tr>
<td>Form</td>
<td>Powder</td>
</tr>
</tbody>
</table>

**Properties**

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