

The Global Market for Metal-organic Frameworks (MOFs) 2024-2034

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Abstracts

Metal-organic frameworks (MOFs) are self-assembled combinations of metals and inorganic ligands that result in a relatively young class of highly ordered, porous materials. MOFs with the ability to [selectively] adsorb molecules into their pores/ on their internal surfaces.

Due to their high surface area (>7000 m²/g), extremely high porosity and favourable thermal properties, MOFs are being investigated in gas storage and separation, purification, carbon capture, utilization and storage, electrochemical energy storage and sensing. Commercial activity has grown greatly in recent years.

MOFs are highly attractive for a range of industrial applications as they use non-hazardous feedstock, are cost-effective and environmentally friendly. They are potentially key materials in industrial adsorption, storage processes and catalysis and are a leading technology candidate for carbon capture. MOFs can be used to store, separate, release or protect in a range of applications including:

Air and water filtration.

Carbon capture, utilization and storage.

Gas storage and delivery, and natural gas storage and purification.

Improved chemical separations.

Batteries and supercapacitors.

Food packaging.

Anti-bacterials.

Drug delivery.

Fuel production.

Solvent or heavy metal recovery.

Adsorbents for organic pollutants.

Water harvesting.

Heat exchangers.

Pharmaceuticals.

Catalysts.

Sensors.

Optics & Imaging.

A number of start-ups are bringing MOF products to the market, and production volumes have increased in the past two years. Report contents include:

Technical analysis of Metal-organic frameworks (MOFs).

Comparative analysis with other porous materials.

Analysis of synthesis methods.

Applications of Metal-organic frameworks (MOFs).

Market supply chain.

Market map.

Market drivers and challenges.

MOF industry developments 2021-2023.

Addressable markets for Metal-organic frameworks (MOFs). Markets covered include Coatings, Carbon Capture, Gas Capture, Separation and Storage, Biomedicine (Drug delivery, anti-microbials, biosensors and bioimaging), Sensors, Air and Water Filtration, Water Harvesting, Batteries and Supercapacitors, Heat Exchangers, Air Conditioning, Catalysts, Sensors, Optics & Imaging.

Historical and current demand and estimated global market revenues to 2034, by market and region.

Profiles of 30 companies including products, production and targeted markets. Companies profiled include Nuada, NuMat Technologies, novoMOF AG, MOFWORX and Promethean Particles.

Contents

1 INTRODUCTION

- 1.1 Structure and properties
- 1.2 Comparison to other porous materials
 - 1.2.1 Zeolites
 - 1.2.2 Covalent Organic Frameworks (COFs)
 - 1.2.3 Porous Organic Polymers (POPs)
- 1.3 Synthesis methods
 - 1.3.1 Solvothermal synthesis
 - 1.3.2 Electrochemical synthesis
 - 1.3.3 Microwave synthesis
 - 1.3.4 Diffusion synthesis
 - 1.3.5 Mechanochemical synthesis
 - 1.3.6 Sonochemical synthesis
 - 1.3.7 Room Temperature synthesis
 - 1.3.8 Spray Pyrolysis
 - 1.3.9 Ionothermal synthesis
 - 1.3.10 Layer-by-layer growth technique
 - 1.3.11 High-throughput robotic methods
- 1.4 Markets and applications
- 1.5 Industry developments 2021-2023

2 MARKETS FOR METAL-ORGANIC FRAMEWORKS

- 2.1 Factors driving demand for MOFs
- 2.2 Market map
- 2.3 Value chain
- 2.4 SWOT analysis
- 2.5 Capture, Separation and Storage
 - 2.5.1 Gas separation
 - 2.5.2 Hydrogen capture and storage
 - 2.5.3 Carbon capture and storage
 - 2.5.3.1 DAC solid sorbents
- 2.6 Catalysis
 - 2.6.1 Properties
 - 2.6.2 Applications
- 2.7 Coatings

- 2.7.1 Properties
- 2.7.2 Applications
- 2.8 Biomedicine
 - 2.8.1 Properties
 - 2.8.2 Applications
 - 2.8.2.1 Drug delivery
 - 2.8.2.2 Antibacterials
 - 2.8.2.3 Biosensors and bioimaging
- 2.9 Sensors
 - 2.9.1 Properties
 - 2.9.2 Applications
- 2.10 Air and water filtration
 - 2.10.1 Properties
 - 2.10.2 Applications
- 2.11 Water harvesting
 - 2.11.1 Properties
 - 2.11.2 Applications
- 2.12 Batteries and supercapacitors
 - 2.12.1 Properties
 - 2.12.2 Applications
- 2.13 Heat exchangers
 - 2.13.1 Properties
 - 2.13.2 Applications
- 2.14 Optics and imaging
 - 2.14.1 Properties
 - 2.14.2 Applications
- 2.15 HVAC
 - 2.15.1 Properties
 - 2.15.2 Applications
- 2.16 Global market revenues, 2018-2034
 - 2.16.1 Current market size
 - 2.16.2 By end-use market
 - 2.16.3 By region
 - 2.16.3.1 North America
 - 2.16.3.2 Europe
 - 2.16.3.3 Asia Pacific
 - 2.16.3.4 Latin America
 - 2.16.3.5 Middle East & Africa

3 MOF PATENTS

3.1 Global MOF patent applications

3.2 Patenting by sector

3.3 Patenting by regional authority

4 COMPANY PROFILES 77 (30 COMPANY PROFILES)

5 EX-PRODUCERS

6 DISTRIBUTORS

7 REFERENCES

List Of Tables

LIST OF TABLES

Table 1. Example MOFs and their applications.

Table 2. Summary of MOFs.

Table 3. Properties of Metal-Organic Frameworks (MOFs).

Table 4. Comparative analysis of Metal-Organic Frameworks (MOFs) and other porous materials.

Table 5. Comparison of different synthesis methods for Metal-Organic Frameworks (MOFs).

Table 6. Markets and applications of Metal-organic frameworks (MOFs).

Table 7. MOF industry developments 2021-2023.

Table 8. Factors affecting demand for MOFs.

Table 9. Applications of MOFs in gas storage and separation.

Table 10. Comparison of carbon-capture materials.

Table 11. Assessment of carbon capture materials

Table 12. DAC technology developers and production.

Table 13. Catalytic applications of MOFs.

Table 14. Applications of Metal-Organic Frameworks (MOFs) in coatings.

Table 15. Biomedical applications of MOFs.

Table 16. MOF sensor applications.

Table 17. Applications of Metal-Organic Frameworks (MOFs) in air and water filtration.

Table 18. Applications of Metal-Organic Frameworks (MOFs) in water harvesting.

Table 19. Applications of Metal-Organic Frameworks (MOFs) in batteries and supercapacitors.

Table 20. Applications of Metal-Organic Frameworks (MOFs) in batteries and supercapacitors.

Table 21. Applications of Metal-Organic Frameworks (MOFs) in optics and imaging.

Table 22. Applications of Metal-Organic Frameworks (MOFs) in HVAC.

Table 23. Global market revenues for MOFs, 2018-2034, Millions USD.

Table 24. Global market revenues for MOFs by market, 2018-2034, Millions USD, medium revenues estimate.

Table 25. Global market revenues for MOFs by market, 2018-2034, Millions USD, high revenues estimate.

List Of Figures

LIST OF FIGURES

- Figure 1. Examples of typical metal-organic frameworks.
- Figure 2. Schematic drawing of a metal-organic framework (MOF) structure.
- Figure 3. Representative MOFs.
- Figure 4. Schematic of zeolite.
- Figure 5. Covalent organic frameworks (COFs) schematic representation.
- Figure 6. MOF synthesis methods.
- Figure 7. MOF synthesis methods historically.
- Figure 8. Solvothermal synthesis of MOFs.
- Figure 9. Electrochemical Synthesis method.
- Figure 10. Mechanochemical synthesis of MOFs.
- Figure 11. Market map: Metal-Organic Frameworks.
- Figure 12. Metal-organic frameworks (MOFs) value chain,
- Figure 13. SWOT analysis: MOFs market.
- Figure 14. Hydrogen storage.
- Figure 15. NuMat's ION-X cylinders.
- Figure 16. Schematic of Climeworks DAC system.
- Figure 17. Climeworks' first commercial direct air capture (DAC) plant, based in Hinwil, Switzerland.
- Figure 18. Flow diagram for solid sorbent DAC.
- Figure 19. Antibacterial mechanisms of metal-organic frameworks.
- Figure 20. Capture mechanism for MOFs toward air pollutants.
- Figure 21. Schematic of a MOF-based device for water harvesting.
- Figure 22. MOF-coated heat exchanger.
- Figure 23. MOFs applied in HVAC.
- Figure 24. Global market revenues for MOFs, 2018-2034, Millions USD.
- Figure 25. Global market revenues for MOFs by market, 2018-2034, Millions USD, medium revenues estimate.
- Figure 26. Global market revenues for MOFs by market, 2018-2034, Millions USD, high revenues estimate.
- Figure 27. Global market revenues for MOFs by region 2018-2034, Millions USD, conservative revenues estimate.
- Figure 28. Global market revenues for MOFs by region 2018-2034, Millions USD, high revenues estimate.
- Figure 29. Global MOF patent applications 2001-2022.
- Figure 30. Patent applications by sector.

Figure 31. Patent applications by authority.

Figure 32. Schematic of carbon capture solar project.

Figure 33. Mosaic Materials MOFs.

Figure 34. CALF-20 has been integrated into a rotating CO₂ capture machine (left), which operates inside a CO₂ plant module (right).

Figure 35. MOF-based cartridge (purple) added to an existing air conditioner.

Figure 36. Molecular sieving membrane.

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