

# The Global Market for Metal-organic frameworks (MOFs)

## Table of contents

<b>1</b>	<b>Executive summary.....</b>	<b>6</b>
1.1	Main players.....	6
1.2	Markets.....	7
<b>2</b>	<b>Research methodology.....</b>	<b>8</b>
<b>3</b>	<b>The Global Market for Metal-organic frameworks (MOFs).....</b>	<b>9</b>
3.1	Properties.....	11
3.2	Materials.....	12
3.3	Synthesis.....	13
3.4	Applications.....	14
<b>4</b>	<b>End user markets.....</b>	<b>16</b>
4.1	Adsorbents.....	16
4.2	Coatings.....	17
4.3	Gas Capture, Separation and Storage.....	18
4.4	Heat storage.....	19
4.5	Batteries and supercapacitors.....	20
4.6	Solar.....	22
4.7	Catalysts.....	22
4.8	Membranes.....	22
4.9	Sensors.....	22
4.10	Biomedical.....	24
4.10.1	Drug delivery carriers.....	24

4.10.2	Wound healing.....	24
4.10.3	Diagnostics.....	25
4.11	Packaging.....	26
4.12	Electronics.....	27
<b>5</b>	<b>Market and technology challenges.....</b>	<b>28</b>
<b>6</b>	<b>Roadmap.....</b>	<b>29</b>
<b>7</b>	<b>Production of Metal-organic frameworks (MOFs).....</b>	<b>31</b>
7.1	Current and projected volumes.....	31
7.2	Prices.....	31
<b>8</b>	<b>Producer profiles.....</b>	<b>33-44</b>
	<b>(12 company profiles)</b>	
<b>9</b>	<b>Distributors.....</b>	<b>45</b>
<b>10</b>	<b>References.....</b>	<b>45</b>

## Tables

Table 1.	Market snapshot for Metal-Organic Frameworks (MOFs).....	6
Table 2.	Addressable markets and applications for Metal-Organic Frameworks (MOFs).....	7
Table 3.	Synthesis routes for MOFs.....	13
Table 4.	Markets and applications of Metal-organic frameworks (MOFs),.....	15
Table 5.	Addressable market for MOFs in coatings.....	18
Table 6.	Addressable market for MOFs in carbon capture and storage.....	19
Table 7.	Addressable market for MOFs in heat storage.....	20
Table 8.	Addressable market for MOFs in batteries and supercapacitors.....	21
Table 9.	Addressable market for MOFs in membranes.....	22

Table 10. Addressable market for MOFs in sensors..... 23

Table 11. Addressable market for MOFs in biomedicine..... 25

Table 12. Addressable market for MOFs in packaging..... 26

## Figures

Figure 1. Schematic drawing of a metal–organic framework (MOF) structure..... 12

Figure 2. NuMat’s ION-X cylinders..... 19

Figure 3. MOF-coated heat exchanger..... 20

Figure 4. Roadmap for Metal-Organic Frameworks (MOFs)..... 29

Figure 5. Production of MOFs by company 2019..... 31