Claims

1. A molecular sieve, characterized by having an empirical chemical composition as illustrated by the formula "a first oxide · a second oxide", wherein the ratio by molar of the first oxide to the second oxide is 20-2000, preferably 25-200, the first oxide is one or more selected from the group consisting of silica and germanic oxide, preferably silica, the second oxide is one or more selected from the group consisting of alumina, boron oxide, iron oxide, gallium oxide, titanium oxide, rare earth oxides, indium oxide and vanadium oxide, preferably alumina, and the molecular sieve has an X ray diffraction pattern as substantially illustrated in the following table, wherein the molecular sieve has a MWW topological framework structure, wherein at least 80% of all crystals thereof are flake crystals having a thickness of about 5nm (by the TEM method),

2θ (°)	d-spacing (Å)	relative intensity ($I / I_0 \times 100$)
4.22±0.30	21.04±1.48	w-s
7.17±0.18	12.32±0.31	vs
7.99±0.20	11.07±0.28	m-s
9.71±0.13	9.10±0.12	m-s
14.37±0.14	6.16±0.06	m-s
22.67±0.29	3.92±0.05	w-m
26.03±0.23	3.42±0.03	s

2. The molecular sieve according to Claim 1, wherein the X ray diffraction pattern further includes X-ray diffraction peaks as substantially illustrated in the following table,

2θ (°)	d-spacing (Å)	relative intensity ($I / I_0 \times 100$)
12.86±0.19	6.88±0.10	w
15.90±0.14	5.57±0.05	w
20.26±0.23	4.38±0.05	w
21.93±0.38	4.05±0.07	m
23.65±0.32	3.76±0.05	w
25.07±0.29	3.55±0.04	w
26.92±0.25	3.31±0.03	w

3. A molecular sieve, characterized by having an empirical chemical composition as illustrated by the formula "a first oxide · a second oxide" or the formula "a first oxide · a second oxide · an organic template · water", wherein the ratio by molar of the first oxide to the second oxide is 20-2000, preferably 25-200, the ratio by weight of the organic template to the first oxide is 0.03-0.38, preferably 0.07-0.27, the ratio by weight of water to the first oxide is 0-0.15, preferably 0.02-0.11, the first oxide is one or more selected from the group consisting of silica and germanic oxide, preferably silica, the second oxide is one or more selected from the group consisting of alumina, boron oxide, iron oxide, gallium oxide, titanium oxide, rare earth oxides, indium oxide and vanadium oxide, preferably alumina, and the

molecular sieve has an X ray diffraction pattern as substantially illustrated in the following table, wherein the molecular sieve has a MWW topological framework structure, wherein at least 80% of all crystals thereof are flake crystals having a thickness of about 5nm (by the TEM method),

2θ (°)	d-spacing (Å)	relative intensity ($I / I_0 \times 100$)
6.38±0.14	13.84±0.30	w
7.15±0.13	12.36±0.22	vs
7.94±0.12	11.13±0.17	m
9.54±0.13	9.27±0.13	w-m
21.98±0.17	4.04±0.03	m
25.96±0.15	3.43±0.02	m-s
26.43±0.16	3.37±0.02	m

4. The molecular sieve according to Claim 3, wherein the X ray diffraction pattern further includes X-ray diffraction peaks as substantially illustrated in the following table,

2θ (°)	d-spacing (Å)	relative intensity ($I / I_0 \times 100$)
3.87±0.20	22.90±1.21	w
12.79±0.20	6.92±0.11	w
19.76±0.31	4.49±0.07	w-m
22.55±0.23	3.94±0.04	w-m
24.92±0.14	3.57±0.02	w

5. The molecular sieve according to Claim 1 or 3, wherein the total pore volume (by the BET method) is not less than 0.5cm^3 / g, preferably 0.55-0.90cm^3 / g, the total specific surface area (by the BET method) is not less than 450m^2 / g, preferably 480-680m^2 / g, the external specific surface area (by the BET method) is not less than 185m^2 / g, preferably 200-400m^2 / g, and the external specific surface area accounts for not less than 40%, preferably 45-65% of the total specific surface area.

6. The molecular sieve according to Claim 1 or 3, having a MWW topological framework structure, wherein ~~at least 80%, preferably~~ at least 85%, more preferably at least 90%, more preferably at least 95%, more preferably at least 99% of all crystals thereof are flake crystals having a thickness of about 5nm (by the TEM method).

7. A process for producing a molecular sieve, including a step of under crystallization conditions, contacting a first oxide source, a second oxide source, an alkali source, an organic template, an optional halogen source and water, to obtain a molecular sieve, and optionally, a step of calcinating the obtained molecular sieve,

wherein the organic template is the combination of a first organic template and a second organic template,

the ratio by molar of the first organic template to the second organic template is

Claims

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2. The molecular sieve according to Claim 1, wherein the X ray diffraction pattern further includes X-ray diffraction peaks as substantially illustrated in the following table,

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23.65±0.32	3.76±0.05	w
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26.92±0.25	3.31±0.03	w

3. A molecular sieve, characterized by having an empirical chemical composition as illustrated by the formula "a first oxide · a second oxide" or the formula "a first oxide · a second oxide · an organic template · water", wherein the ratio by molar of the first oxide to the second oxide is 20-2000, preferably 25-200, the ratio by weight of the organic template to the first oxide is 0.03-0.38, preferably 0.07-0.27, the ratio by weight of water to the first oxide is 0-0.15, preferably 0.02-0.11, the first oxide is one or more selected from the group consisting of silica and germanic oxide, preferably silica, the second oxide is one or more selected from the group consisting of alumina, boron oxide, iron oxide, gallium oxide, titanium oxide, rare earth oxides, indium oxide and vanadium oxide, preferably alumina, and the

molecular sieve has an X ray diffraction pattern as substantially illustrated in the following table, wherein the molecular sieve has a MWW topological framework structure, wherein at least 80% of all crystals thereof are flake crystals having a thickness of about 5nm (by the TEM method),

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25.96±0.15	3.43±0.02	m-s
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4. The molecular sieve according to Claim 3, wherein the X ray diffraction pattern further includes X-ray diffraction peaks as substantially illustrated in the following table,

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24.92±0.14	3.57±0.02	w

5. The molecular sieve according to Claim 1 or 3, wherein the total pore volume (by the BET method) is not less than 0.5cm^3 / g, preferably 0.55-0.90cm^3 / g, the total specific surface area (by the BET method) is not less than 450m^2 / g, preferably 480-680m^2 / g, the external specific surface area (by the BET method) is not less than 185m^2 / g, preferably 200-400m^2 / g, and the external specific surface area accounts for not less than 40%, preferably 45-65% of the total specific surface area.

6. The molecular sieve according to Claim 1 or 3, having a MWW topological framework structure, wherein at least 85%, more preferably at least 90%, more preferably at least 95%, more preferably at least 99% of all crystals thereof are flake crystals having a thickness of about 5nm (by the TEM method).

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wherein the organic template is the combination of a first organic template and a second organic template,

the ratio by molar of the first organic template to the second organic template is