

Product: Molecular Sieve 5A



Molecular Sieve type 5A is an alkali alumina silicate; it is the calcium form of the Type A crystal structure. The pore size of 5A molecular sieve is about 5 Å . It can absorb all kind of molecular smaller than this size, it is mainly used in separation of the normal and isomeric alkane; pressure swing absorption (PSA) for gases; co-absorption of moisture and carbon dioxide.

Application

Will absorb, in sequence of absorption rate, C₃-C₁₄, C₂H₅CL, C₂H₅Br, CH₃L, C₂H₅NH₂, CH₂CL₂CH₂Br₂, CHF₂CL, CHF₃, CF₄, (CH₃)NH₂, B₂H₆CF₂CL₂, CHFCL₂, and CF₃CL.

Main absorbing target are carbon dioxide and moisture and it

can absorb all the material whose molecular diameter is less than 5A.

- 1) Normal paraffin separating process.
- 2) Oxygen/hydrogen PSA (Pressure Swing Absorption) process.
- 3) Ethanol refinement (moisture, CO₂, etc).
- 4)Refining SF₆ refrigerant for power (removing moisture and hydrocarbon).
- 5)The strong ionic forces of the divalent calcium ion makes it an excellent adsorbent to remove water, CO₂, H₂S from sour natural gas streams, while mini missing COS formation. Light mercaptans are also adsorbed.
- 6)Separation of normal- and iso paraffin's.
- 7)Production of high purity N₂, O₂, H₂ and inert gases from mixed gas streams
- 8) Static, (non-regenerative) dehydration of insulating glass units, whether air filled or gas-filled.

Regeneration

1. Removing the moisture

You May use the dry gas like nitrogen, the air, the hydrogen, the saturated hydrocarbon and heat the gas up to 150-320 °C. Firstly you need let the hot gas purge through the molecular sieve bed with the pressure of 0.3-05 kg/m² for 3 to 4 hours. Then change to dry cold gas for 2-3 hour, at last you need isolate the molecular sieve from air and cool it to room temperature.

2. Removing the organics

You can use the water vapor to take the place of organics, then use the method 1.

You can also use the hot water vapor or inner gas pass through the molecular sieve under the temperature of 200-350°C (couldn't use the gas which will explore when to mix with the adsorbed organics).

3. Removing the gas

You can reduce the pressure to regenerate the molecular sieve.

Technical Specification

Item	Unit	Target			
		pallet		Sphere	
Shape					
Diameter	mm	1.6	3.2	1.7-2.5	3.0-5.0
Size ratio up to grade	% min	98	98	98	98
Bulk density	g/ml min	0.68~0.75			
Wear ratio	% max	0.2	0.2	0.2	0.2
Crushing strength	N min	30/cm	45/cm	30/p	60/p
Static water absorption	% min	22	22	22	22
N-hexane absorption	% min	14	14	14	14
Crushing strength	Unit area resistant to compression garrulous strength N/100pcs	40	75	45	100
	Coefficient of variation	0.3	0.3	0.3	0.3
Packing water	% max	1.0	1.0	1.0	1.0