

Molecular sieves

MTE Catalyst Support



MTE molecular sieves type 13X is an alkali aluminosilicate. It is the sodium (Na) form of the molecular sieve type X and has an effective pore opening of about 10 angstroms (1nm).

It is used commercially for air plant feed purification (simultaneous removal of H₂O and CO₂), general gas drying and PSA oxygen generation process. It is also used commercially for desulfurization of liquefied petroleum gas and dehydration of gases and liquids.

Benefits

- ✓ Non-toxic
- ✓ Storage of thermo-chemical energy (cold or heat)
- ✓ Very suitable for removal of mercaptan

Applications

- » Air plant feed purification (simultaneous H₂O and CO₂ removal) and liquid hydrocarbon/natural gas sweetening (H₂S and mercaptan removal) ethylene cracking and drying
- » Adsorb the adsorbances which can be adsorbed by A sized zeolite
- » Adsorbs triethylbenzene, naphthalene, benzene, toluene, dimethylbenzene, cycloethane, furan, trimethylamine, isobutyl alcohol, di-n-butylamine (not tri-n-butylamine), isopropanol and dioxygen
- » Possess high catalytic activity, which can be used as carrier of catalyst
- » Removal of n-chained compositions from aromatics

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Specific Physical Properties

Properties	Spheres		Cylindrical	
	8X12 Mesh	2X8 Mesh	1/16"	1/8"
Diameter /Lenght (mm)	1.6 - 2.5	4.0 - 8.0	1.5 - 1.7	3.0 - 3.3
Bulk Density (kg/L)	≥0.63	≥0.63	≥0.60	≥0.60
Crushing Strength (N)	≥30	≥120	≥30	≥70
CO2 Capacity (wt, %)	≥18.0	≥18.0	≥17.5	≥17.5
Static H2O Adsorption (wt, %)	≥26.5	≥26.5	≥26	≥26
Moisture Content (wt, %)	≤1.5	≤1.5	≤1.5	≤1.5
Abrasion (wt, %)	< 0.1	< 0.1	< 0.4	< 0.4

Specific Materials and Chemical Properties

Physical and Chemical Properties	
Color	Grey - White
Shape	Spherical or Cylindrical particles
Pore size	10 Å
SiO ₂ / Al ₂ O ₃	2.6 – 3.0
Chemical Formula	Na ₂ O Al ₂ O ₃ (2.8 ± 0.2) SiO ₂ (6 – 7) H ₂ O

Handling and Storage

Product must be stored in a dry location (relative humidity < 90%) to prevent re-adsorption of water. Opened packages should be resealed to prevent contamination of the product. Whenever possible, rotate stock to use oldest material first.

For additional technical data, support or special requests, please contact our sales department.