



MOLSIEVE 5A[®]

Molecular Sieves GMGB 5A are crystalline aluminosilicate with SiO₂, Al₂O₃ as 2:1. It is formed by an extensive cross-linking of AlO₄ and SiO₄ tetrahedra, resulting in a uniform pore opening of 0.5 nm. GMGB manufactures 5A molecular sieves in the form of extruded pellets and spheres by the State of the Art technology in its plant at Mehsana (Gujarat-India). The products comfortably conform to the specifications Specified in the Bureau of Indian Standards : BIS 14211:1994. Specifically, it has very high water adsorption capacity, and mechanical strength, and at the same time very low attrition loss. GMGB used clays from its own mines in the manufacture of this product, ensuring better control and uniformity in the quality of the final products.

Specifications

GMGB Molsieve 5A

Nominal Dia : 5A ^o		(1 A ^o = 10 ⁻⁸ cm)				
Form : Fine White powder, Cylindrical Pallets and Spheres						
Sr. NO	PHYSICO-CHEMICAL PROPERTIES	Unit	Fine White powder	1.5 mm dia cylindrical pallets	3.0 mm dia cylindrical pallets	1.5-2.5mm/ 2-4 mm dia spheres
1	Equilibrium Water Adsorption Capacity at 30 and 15% RH	% w/w	20 - 22	18 - 22	18 - 22	18 - 22
2	75% RH	% w/w	22 - 26	21 - 25	21 - 25	21 - 25
3	Thermal Stability after 600oC Equilibrium Water Adsorption capacity at 30oC & 15% RH	% w/w	--	18 - 22	18 - 22	18 - 22
4	CO ₂ Ads. Capacity 760 mmHg. At 30 deg.	% w/w	18 - 22	17 - 22	17 - 22	17 - 22
5	Crushing Strength (Active)	Kg.	--	3 - 7	8 - 15	3 - 8
6	Attrition Loss on Tumbling	% w/w	--	0.02 - 0.2	0.02 - 0.3	0.02 - 0.3
7	Free Moisture (Max)	% w/w	2.0	1.5	1.5	1.5
8	Bulk Density	g/L	400 -600	700 - 800	700 - 800	750 - 850
9	Bed Crushing Strength (Min)	%	--	80	80	80
10	Avg. particle size	micron	9.0	--	--	--



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▲ MOL SIEVE 5A in pellets form



▲ MOL SIEVE 5A in Spheres form



▲ MOL SIEVE 5A Powder

Packing :

Packing : Molecular Sieves GMGB-5A are packed for industrial use in airtight MS drums under conditions with proper sealing arrangement so that there is no ingress of moisture during storage and transport. Standard packing : 200/210 Lit. drum size 570 × 860 (H) mm.

Life :

MoL.Sieves 5A has infinite shelf life, when stores in packed condition. The active service life would depend, however, on the operating conditions of the plant, actual application, and the usage by the customer.

Loading :

MOL.SIEVES 5A does not require any special precaution or procedure during loading. However, the health of the grid support is to be checked, and the vessel is to be cleaned of dust, foreign particles, etc. before the adsorbent is loaded. During actual loading, the material should be poured carefully through funnel and chute so as to avoid dusting and attrition due to impact of free fall. The drums should be kept in the covered shed. In case of prolonged exposure of the adsorbent to moisture during storage / loading, it may require prolonged regeneration at higher temperature to restore its full adsorptive capacity.

Material Safety Data :

The product as such is neither inflammable, nor toxic. Overall, it is not hazardous. Repeated exposure may irritate skin, eyes and respiratory system. The product gets hot as it is first exposed to atmosphere due to adsorption of moisture.

Regeneration :

MOL Sieves 5A should be regenerated thermally or by evacuation with simultaneous purge. For thermal regeneration, the adsorbent may be heated to 200 – 300 deg.C to remove water. The regeneration temp depends on the type, condition and content of the adsorbate.

Applications :

1. Removal of traces of methanol and CO₂ from N₂ stream in Nitrogen Wash Unit in Fertilizer Plant.
2. Removal of H₂O, CO₂, H₂S and mercaptans from liquefied natural gas.
3. Drying and purification of inert gas.
4. Oxygen air enrichment with concentration of O₂ upto 93%
5. Purification and enrichment of H₂ from 60% to 98% and above.

