

# MOLSIEVE 3A®



Molecular Sieves GMGB 3A are crystalline aluminosilicate with SiO<sub>2</sub>, Al<sub>2</sub>O<sub>3</sub> as 2:1. It is formed by an extensive cross-linking of AlO<sub>4</sub> and SiO<sub>4</sub> tetrahedra, resulting in a uniform pore opening of 0.3 nm. GMGB manufactures 3A 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 uses clays from its own mines in the manufacture of this product, ensuring better control and uniformity in the quality of the final product.

## Specifications

### GMGB Molsieve 3A

Nominal Dia : 3A°		(1 A° = 10 <sup>-8</sup> cm)					
Form : Fine Powder, Cylindrical Pallets and Spheres							
Sr. NO	PHYSICO-CHEMICAL PROPERTIES	Unit	White fine powder	1.5 mm dia cylindrical pallets	3.0 mm dia cylindrical pallets	2-4 mm dia spheres	3A(IG) 1-1.5 mm granules
1	Equilibrium Water Adsorption Capacity at 30 and 15% RH	% w/w	18 - 22	19 - 23	19 - 23	19 - 23	18 - 22
2	75% RH	% w/w	21 - 24	22 - 27	22 - 27	22 - 26	20 - 24
3	Thermal Stability after 600oC Equilibrium Water Adsorption capacity at 30oC & 15% RH	% w/w	--	19-23	19 - 23	19 - 23	18 - 22
4	Crushing Strength (Active)	Kg.	--	3 - 7	7 - 12	3 - 7	--
5	Attrition Loss on Tumbling	% w/w	--	0.02 - 0.15	0.02 - 0.3	0.02 - 0.3	0.02 - 0.3
6	Free Moisture (Max)	% w/w	2.0	1.5	1.5	1.5	1.5
7	Bulk Density	g/L	400 - 600	680 - 780	680 - 780	750 - 850	650 - 750
8	Bed Crushing Strength	%	--	80 - 90	80 - 90	80 - 90	--
9	Avg. particle Size d(50)	Micron	9.0	-	-	-	--



**GUJARAT MULTI GAS BASE CHEMICALS PVT. LTD.**

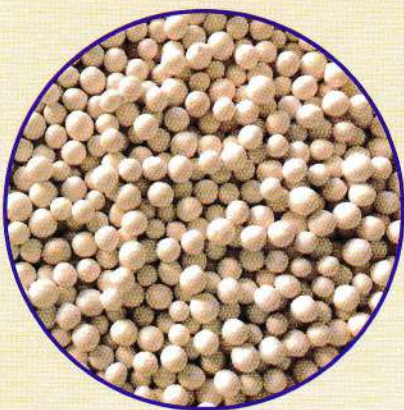
Opp. ONGC Colony, Palavasna, Mehsana-384003. INDIA



Science in the service of Industry & Environment



▲ MOLSIEVE 3A in pellets form



▲ MOLSIEVE 3A in Spheres form



▲ MOLSIEVE 3A Powder

### **Packing :**

**Molecular Sieves GMGB 3A** is packed for industrial use in airtight MS drums under hot 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 3A** 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 3A** 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 3A** should be regenerated thermally or by evacuation with simultaneous purge. For thermal regeneration, the adsorbent may be heated to 200 – 270 deg.C to remove adsorbed water. The exact regeneration condition (temperature, purge gas flow, etc) depends on the application, and other operating conditions. For better performance over prolonged period GMGB MOL SIEVES 3A should not be exposed to the temp. above 400 deg.C and hot gases containing high moisture should be avoided.

### **Applications :**

1. Cracked Gas and Olefins drying
2. Liquid or Gas Propylene drying
3. Drying of Organic Liquids like methanol, olefins, ethanol (with denaturant methanol)
4. Insulating Glass Manufacture
5. Drying of CO<sub>2</sub>, solvents, reactant mixtures, gases & liquids in the pharmaceuticals, paints, chemicals & allied industries.

