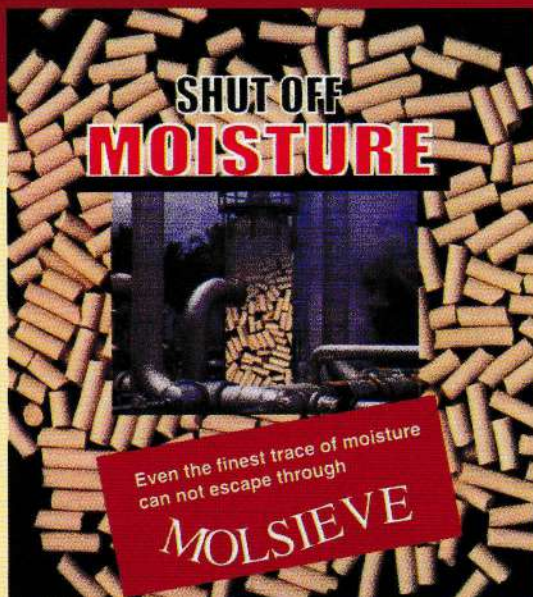


# MOLSIEVE 4A-SPL<sup>®</sup>



Molecular Sieves GMGB 4A-SP are crystalline aluminosilicate with  $\text{SiO}_2$ ,  $\text{Al}_2\text{O}_3$  as 2:1. It is formed by an extensive cross-linking of  $\text{AlO}_4$  and  $\text{SiO}_4$  tetrahedra, resulting in a uniform pore opening of 0.4 nm. GMGB manufactures 4A-SP 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 product.

## Specifications

### GMGB Molsieve 4A-SPL

Nominal Dia : 4A <sup>o</sup>		(1 A <sup>o</sup> = 10 <sup>-8</sup> Cm )				
Form : Cylindrical Pallets and Spheres						
Sr. NO	PHYSICO-CHEMICAL PROPERTIES	Unit	1.5 mm dia cylindrical pallets	3.0 mm dia cylindrical pallets	1.6-2.6 mm dia Spheres	2-4 mm dia spheres
1	Equilibrium Water Adsorption Capacity at 30 and 15% RH	% w/w	20 - 24	20 - 24	20 - 23	20 - 23
2	75% RH	% w/w	23 - 26	23 - 26	23 - 26	23 - 26
3	Thermal Stability after 600oC Equilibrium Water Adsorption capacity at 30oC & 15% RH	% w/w	20 - 24	20 - 24	20 - 23	20 - 23
4	Crushing Strength (Active)	Kg.	3 - 7	8 - 17	3 - 8	4 - 10
5	Attrition Loss on Tumbling	% w/w	0.02 - 0.15	0.02 - 0.25	0.02 - 0.15	0.02 - 0.15
6	Free Moisture (Max)	% w/w	1.5	1.5	1.5	1.5
7	Bulk Density	g/L	650 - 780	650 - 780	750 - 850	750 - 850
8	Bed Crushing Strength	%	80 - 99	80 - 99	80-99	80 - 99



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▲ MOLSIEVE 4A-SP in pellets form



▲ MOLSIEVE 4A-SP in Spheres form



▲ MOLSIEVE 4A-SP Powder

### **Packing :**

**Molecular Sieves 4A-SPL** 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 4A-SPL** 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 4A-SPL**

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 4A-SPL** should be regenerated thermally or by evacuation with simultaneous purge. For thermal regeneration, the adsorbent may be heated to 200 – 300 deg.C by a hot and dry gas. However, the exact regeneration condition (temperature, purge gas flow, etc) depends on the application, and other operating condition. For better performance over prolonged period GMGB MOL SIEVES 4A-SPL should not be exposed to the temp. above 450 deg.C and hot gases containing high moisture should be avoided

### **Applications :**

1. Drying of Natural Gas and variety of other hydrocarbon streams including polar liquid.
2. Drying of benzene, hexane, kerosene, chloroform, methylene chloride, naphtha, H<sub>2</sub> rich gas, reformer-recycle gas etc.
3. Removal of NH<sub>3</sub> and moisture from purge gas in fertilizer plant.
4. Removal of CO<sub>2</sub> and methanol in Nitrogen Wash Unit in fertilizer plant.
5. Drying of Solvents, reactant mixtures, gases & liquids pharmaceuticals, paints, chemicals & allied industries.

