MOLSIEVE 13X®

MOLSIEVE 13X sieves is a crystalline aluminosilicate with SiO2 to Al_2O_3 more than 2. It is formed by an extensive cross-linking of AlO_4 and SiO_4 tetrahedra, resulting in a uniform pore opening of 0.9-1.0 nm. Keeping in mind the customers' requirements, GMGB manufactures 13X molecular sieve in the 3 forms: 1.5mm dia & 3mm dia extruded pellets, and 1.5 3.5 mm dia spheres by the State of the Art technology in its plant at Mehsana. The products have at least equal to and, in some cases, better properties than what have been Specified in the Bureau of Indian Standards : BIS 14211: 1994. Specifically it has very high adsorption capacity, and mechanical strength, and at the same time very low attrition loss. Its main application is in the purification of air in cryogenic plants; however, it may be used favourably also in applications requiring stringent moisture and CO_2 removal as well as for removal of larger molecules like mercaptans from LPG. 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 13X (N)

Nominal Dia : 10A°					(1A° = 10^{-8} cm)
Form : Cylindrical Pallets and Spheres					
Sr. NO	PHYSICO-CHEMICAL PROPERTIES	Unit	1.5 mm dia cylindrical pallets	3.0 mm dia cylindrical pallets	2-4 mm dia spheres
1	Equilibrium Water Adsorption Capacity at 30 and 15% RH	% w/w	20 - 23	20 - 23	20 - 23
2	75% RH	% w/w	23 - 27	23 - 27	23 - 27
3	Thermal Stability after 600oC Equilibrium Water Adsorption capacity at 30oC & 15% RH	% w/w	20 - 23	20 - 23	20 - 23
4	CO_2 Ads. Capacity 760 mmHg. At 30 deg.	% w/w	19 – 20.5	19 – 20.5	19 – 20.5
5	Crushing Strength (Active)	Kg.	3 - 6	8 - 12	3 - 10
6	Attrition Loss on Tumbling	% w/w	0.02 – 0.2	0.02 - 0.4	0.02 - 0.25
7	Free Moisture (Max)	% w/w	1.5	1.5	1.5
8	Bulk Density (Active)	g/L	530 - 630	530 -630	600 - 700
9	Bed Crushing Strength	%	80 - 90	80 - 90	80 - 90

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ISO 9001 BUREAU VERITAS Certification Excluding Design

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Science in the service of Industry & Environment

▲ MOLSIEVE 13X In pellets form

▲ MOLSIEVE 13X In Beads form

Packing:

MOLSIEVE 13X is packed for industrial use in airtight MS drums under hot condition with proper sealing arrangement so that there is no ingress of moisture during storage and transportation. Standard packing : 210 Lit. drum size 565 × 850 (H) mm

Life:

MOLSIEVE 13X has infinite shelf life, when stored 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:

MOLSIEVE 13X 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. The drums should not be kept in open condition, as the adsorbent would adsorb moisture. 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. Over all, 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:

MOLSIEVE 13X should be regenerated thermally or by evacuation with simultaneous purge. For thermal regeneration, the adsorbent may be heated to 180^0 to 200^0 C for removal of CO_2. For simultaneous removal of H2O and CO_2, the adsorbent should be heated to 180^0-280^0C. However, the exact regeneration condition (temperature, purge gas flow, etc) depends on the application, feed quality and other operating conditions.

Applications :

1. Simultaneous removal of Moisture & CO_2 from feed air of Air Separation / Cryogenic Plant.
2. Mercaptans removal from gaseous streams.
3. Process air drying of dew point less than (minus) 60^0 C for sulphonation plant.
4. Sweetening of Natural Gas
5. Removal of H_2S from gaseous streams.