



3A MOLSIIV™ ADSORBENT

DESCRIPTION

3A MOLSIIV Adsorbent is a clay-bound potassium form of Type A molecular sieve. 3A molecular sieve will adsorb molecules with critical diameters up to 3 angstroms. It adsorbs water and ammonia, but not larger molecules like ethane.

APPLICATION

3A molecular sieve is recommended for the dehydration of all gas or liquid streams where minimizing coadsorption of the carrier steam or other impurities is critical for optimal performance. The selective adsorption for water makes 3A the preferred product for drying polar liquids such as ethanol.

CHEMICAL FORMULA

$M_x [(AlO_2)_x (SiO_2)_y] \cdot z H_2O$ [M=K, Na]

TYPICAL PHYSICAL PROPERTIES

3A molecular sieve is available in spherical or extrudate form. The diameters for the spheres or “beads” are shown below. The diameters for the extrudates or “pellets” are also shown; the length is approximately twice the diameter.

	<u>16x40 beads</u>	<u>10x20 beads</u>	<u>1/16” pellets</u>	<u>1/8” pellets</u>
Nominal Pore Diameter (angstroms)	3	3	3	3
Particle diameter (mm)	0.7	1.4	1.6	3.2
Bulk Density (lbs/ft ³)	48	40	40	40
Heat of Adsorption (Btu/lb H ₂ O)	1800	1800	1800	1800
Crush Strength (lbs)	N/A	N/A	10	20
Equilibrium H ₂ O Capacity* (wt-%)	21	21	21	21
Moisture content (wt-%)	1	1	1	1

*Measured at 17.5 mm Hg and 25°C.

FOR MORE INFORMATION

UOP also offers specialty 3A products: 3A-EPG and EPG-2 for unsaturated hydrocarbon dehydration; 3A-PCG for solvent purification. For more information on any of these products, contact your UOP representative, or UOP’s Adsorbents business at:

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