

Type 4A Molecular Sieve

$\text{Na}_{12}[(\text{AlO}_2)_{12}(\text{SiO}_2)_{12}] \cdot \text{X H}_2\text{O}$ —Molecular Sieve Type 4A, the sodium form of the Type A crystal structure, is an alkali metal aluminosilicate. Available in powder, pellets, mesh and beads for static dehydration in a closed gas or liquid system. Used in packaging of drugs, electronic components, and perishable chemicals; and as a water scavenger in paint and plastic systems. Type 4A is also used commercially in drying saturated hydrocarbon streams.

Typical Physical Properties

	Powder	1/16" Pellets	1/8" Pellets	14 x 30 Mesh	8 x 12 Beads	4 x 8 Beads
Nominal Pore Diameter (angstroms)	4	4	4	4	4	4
Particle Diameter *(mm)	–	1.6	3.2	0.8	2.0	4.0
Particle Size (microns)	<10	–	–	–	–	–
Bulk Density (lb/ft ³)	32	44	44	44	44	44
Heat of Adsorption (Btu/lb H ₂ O)	–	1800	1800	1800	1800	1800
Crush Strength (lbs)	N/A	10	20	N/A	7	18
Equilibrium H ₂ O Capacity ** (wt-%)	27	22	22	22	22	22
Moisture Content (wt-%)	1.5	1	1	1	1	1

* The length of the pellets is approximately twice the diameter.

** Measured at 17.5 mm Hg and 25°C

Part No.	Quantity	Form
MS-1069	1/2 lb.	Powder
MS-1070	1/2 lb.–Case of 6	
MS-1071	2 lb.	
MS-1072	2 lb.–Case of 4	
MS-1073	12 lb.	
MS-1074	30 lb.	
MS-1082	1 lb.	1/16" Pellets
MS-1083	1 lb.–Case of 6	
MS-1084	5 lb.	
MS-1085	5 lb.–Case of 4	
MS-1086	25 lb.	
MS-1088	50 lb.	
MS-1096	1 lb.	1/8" Pellets
MS-1097	1 lb.–Case of 6	
MS-1098	5 lb.	
MS-1099	5 lb.–Case of 4	
MS-1100	25 lb.	
MS-1102	50 lb.	
MS-1110	1 lb.	14 x 30 Mesh
MS-1111	1 lb.–Case of 6	
MS-1112	5 lb.	
MS-1113	5 lb.–Case of 4	
MS-1114	25 lb.	
MS-1116	50 lb.	

Part No.	Quantity	Form
MS-1124	1 lb.	8 x 12 Beads
MS-1125	1 lb.–Case of 6	
MS-1126	5 lb.	
MS-1127	5 lb.–Case of 4	
MS-1128	25 lb.	
MS-1130	50 lb.	
MS-1138	1 lb.	4 x 8 Beads
MS-1139	1 lb.–Case of 6	
MS-1140	5 lb.	
MS-1141	5 lb.–Case of 4	
MS-1142	25 lb.	
MS-1144	50 lb.	
MS-1152	1 lb.	8 x 12 Beads
MS-1153	1 lb.–Case of 6	
MS-1154	5 lb.	with
MS-1155	5 lb.–Case of 4	Indicator†
MS-1156	25 lb.	

Type 4A Molecular Sieves are available packaged in 55-gallon drums - Contact Advanced Specialty Gas Equipment for price and availability.

Safety and Handling

See the UOP brochure entitled "Molecular Sieve Safety Bulletin for Manufacturers", or contact your Advanced representative.

For More Information

For additional information, see MATERIAL SAFETY DATA SHEET (MSDS) for this material listed on the Advanced website; www.asge-online.com or contact your Advanced representative.

† Molecular Sieves with indicator contain beads that have been chemically impregnated to display a blue color when fully activated by removing the water of hydration. When a gas stream is dried using this product, the color blue will turn to pink as water is adsorbed denoting saturation of the sieve.