



MOLSIV® ADSORBENT Type 5A

Description

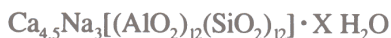
MOLSIV® ADSORBENT Type 5A, the calcium form of the Type A crystal structure, is an alkali metal alumino-silicate. Type 5A will adsorb molecules with critical diameters up to 5 angstroms.

Applications

Type 5A is the Molecular Sieve adsorbent which made possible the separation of normal paraffins from branched-chain and cyclic hydrocarbons through a selective adsorption process. It is now used commercially in large-scale n-paraffin separation processes.

All molecules which can be adsorbed on Molecular Sieve Type 3A and 4A can be adsorbed on Type 5A.

Chemical Formula



Regeneration

MOLSIV® ADSORBENT Type 5A can be regenerated for re-use by purging or evacuating at elevated temperatures. The degree of regeneration (water removal) is dependent on the temperature and humidity of the purge gas.

Shipping Information

MOLSIV® ADSORBENT Type 5A is available as powder, 1/16-in. and 1/8-in. pellets. It is shipped in non-returnable steel containers.

Container Size	Net Weight in lbs.	
	Pellets	Powder
1 gal.	5	2
10 gals.	50	—
22 gals.	—	50
55 gals.	300	200

Typical Properties	1/16" Pellets	1/8" Pellets	Powder
Nominal Pore Diameter	5 Angstroms	5 Angstroms	5 Angstroms
Poured Density (average)	40 lb/cu ft	40 lb/cu ft	—
Settled Bulk Density	44 lb/cu ft	44 lb/cu ft	—
Hydrated Particle Density	—	—	2.03 g/cc
Activated Particle Density	—	—	1.57 g/cc
Particle Diameter	0.0575 in. to 0.0775 in.	0.115 in. to 0.135 in.	< 10 microns*
Crush Strength	7 lbs	12 lbs	—
Crystal Form	—	—	Cubic
Heat of Adsorption (max.)	1800 btu/lb H ₂ O	1800 btu/lb H ₂ O	1800 btu/lb H ₂ O
Equilibrium H ₂ O Capacity**	21.5% wt	21.5% wt	26% wt
Water Content (as shipped)	< 1.5% wt	< 1.5% wt	< 2.5% wt
Molecules Adsorbed	Molecules with an effective diameter < 5 angstroms, including C ₃ H ₈ , n-C ₄ H ₁₀ to C ₂₂ H ₄₆ , n-C ₄ H ₉ OH and larger family members, R-12 and R-22 Molecules with an effective diameter > 5 angstroms, e.g., iso compounds and all 4 carbon rings		
Molecules Excluded			

*Agglomerate particle size. Average crystal size is 1.0 to 4.0 microns.

**Lbs H₂O/100 lbs activated adsorbent at 17.5 mm Hg, 25°C.

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