

CAGESPHERE® 4A / 1.6 – 2.5mm

Molecular sieve 4A

Section 1: Information about the supplier/distributor

GIEBEL Desiccants GmbH
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Section 2: Name of substance

Chemical Product Name:	Alkali metal alumina silicate; Sodium form of type A crystal structure
Composition:	$\text{Na}_2\text{O} / \text{Al}_2\text{O}_3 / 2\text{SiO}_2 / 4.5 \text{H}_2\text{O} /$ ($\text{SiO}_2 : \text{Al}_2\text{O}_3 \approx 2$)
CAS No.:	1318-02-1
EC No.:	215-283-8
Binder:	Clay
Tannin:	Myrica

Section 3: Typical Application

- a) Drying and CO_2 removal from natural gas, liquefied petroleum gas, air, inert gases, etc.
- b) Removal of hydrocarbons, ammonia and methanol from gas streams (ammonia syngas treatment).
- c) Special designs are used in air brake systems for buses, trucks and locomotives.
- d) Packaged in small bags, it is ideal as a desiccant for packaging.

Section 4: Specifications

Structure:	Sodium form of the type A crystal structure
Cations:	Alkali Metal Alumina Silicate
Appearance and shape:	Beige, solid balls
Particle size:	1.6 – 2.5mm
Qualified particles:	99,1 %
Bulk density:	0.78 g/ml
Crushing strength:	40 N/Piece
Water content:	1,1 %
Abrasion rate:	0,12 %
Static H ₂ O adsorption:	22,4 %
Regeneration temperature:	300 °C

Section 5: Regeneration:

Type 4A molecular sieves can be regenerated either by heating in the case of thermal swing processes or by lowering the pressure in the case of pressure swing processes. To remove moisture from a 4A molecular sieve, a temperature of 300°C is required. A properly regenerated molecular sieve can reach moisture dew points below -100°C. The initial concentrations in a pressure swing method depend on the gas present and the process conditions.