CAGESPHERE® 3A / 3.0 – 5.0mm

Molecular sieve 3A

Section 1: Information about the supplier/distributor

GIEBEL Desiccants GmbH
Carl-Zeiss-Str. 5
74626 Bretzfeld-Schwabbach
Germany
Telephone: +49 7946 944401-11
Email: desiccants@gf-dry.com

Section 2: Name of substance

Chemical Product Name:	Alkali metal alumina silicate; Potassium form of type A crystal structure
Composition:	$0.4K_2O$ / $0.6Na_2O$ / Al_2O_3 / $2SiO_2$ / $4.5\ H_2O$ (SiO_2 : Al_2O_3 ≈2)
CAS No.:	1318-02-1
EC No.:	215-283-8
Binder:	Clay
Tannin:	Myrica

Section 3: Typical Application

a) Drying of unsaturated hydrocarbons (e.g. ethylene, propylene, butadiene)
b) Drying of fissure gas
c) Drying of natural gas when COS minimization is essential or minimal co-adsorption of hydrocarbons is required.
d) Drying of highly polar compounds such as methanol and ethanol
e) Drying of liquid alcohol
f) Static (non-regenerative) drying of air- or gas-filled insulating glass units.
g) Drying of CNG.

Section 4: Specifications

Structure:	Potassium form of the type A crystal structure
Cations:	Alkali Metal Alumina Silicate
Appearance and shape:	Beige, solid balls
Particle size:	3.0 – 5.0 mm
Qualified particles:	99,2 %
Bulk density:	0.76 g/ml
Crushing strength:	135.8 N/Piece
Water content:	0,93 %
Abrasion rate:	0,13 %
Static H_2O adsorption:	21,97 %
Dynamic H_2O Adsorption:	12,6 %
Static Ethylene Adsorption:	2.75 mg/g
Regeneration temperature:	300°C

Section 5: Regeneration:

Type 3A 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 3A 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.