

CAGESPHERE® 13X / 1.6-2.5mm

Molecular Sieve 13X

Section 1: Information about the supplier/distributor

GIEBEL Desiccants GmbH
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Section 2: Name of substance

Chemical Product Name:	Sodium Alumina Silicate; Sodium form of the type X crystal structure
Composition:	$\text{Na}_2\text{O} / \text{Al}_2\text{O}_3 / (2.8 \pm 0.2) \text{SiO}_2 / (6 \sim 7) \text{H}_2\text{O}$ SiO_2 : $\text{Al}_2\text{O}_3 \approx 2.0$ and $3.0/3.5$
CAS No.:	1318-02-1
EC No.:	215-283-8
Binder:	Clay
Tannin:	Myrica

Section 3: Typical Application

- a) Removal of CO_2 and moisture from air (air pre-cleaning) and other gases.
- b) Separation of enriched oxygen from the air.
- c) Removal of n-chain compounds from aromatics.
- d) Removal of R-SH and H_2S from liquid hydrocarbon streams (LPG, butane, etc.)
- e) Catalyst protection, removal of oxygenates from hydrocarbons (olefin streams).

- f) Production of oxygen in mass production in PSA plants.

Section 4: Specifications

Structure:	Sodium form of the type A crystal structure
Cations:	Sodium Alumina Silicate
Appearance and shape:	Beige, solid balls
Particle size:	1.6 – 2.5 mm
Bulk density:	0.75 g/ml
Crushing strength:	115.5 N/Piece
Abrasion rate:	0,35 %
Static H ₂ O adsorption:	23,6 %
Static CO ₂ adsorption:	16-19 %
Water content:	0,88 %
Regeneration temperature:	300°C

Section 5: Regeneration:

Type 13X 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 13X 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.