

Technical Data Sheet:

Molecular Sieve

Material name: Molecular Sieve, Zeolite (Type3A, 4A, 13X)

Brand name: Minipac, Wisepac®, Wisesorb®, Wisemini®

Material Description: Molecular sieves are synthetically produced Zeolites characterized by pores and crystalline cavities of extremely uniform dimensions. Other adsorbents of commercial importance are typically described as having "pore size ranges." The pore sizes of these adsorbents can vary widely on the face of the same particle. Molecular Sieves are available in four different grades. These grades are unique from one another due to their chemical composition and pore size.

Type 3A (three angstroms) Molecular Sieve is the sodium form of the Zeolite. Type 3A will adsorb those molecules having a critical diameter of less than three angstroms.

Type 4A (four angstroms) Molecular Sieve is the sodium form of the Zeolite. Type 4A will adsorb those molecules having a critical diameter of less than four angstroms.

Type 13X is a modified form of the sodium zeolite with a pore diameter of ten angstroms. Molecules of Chloroform, Carbon Tetrachloride and Benzene can be adsorbed on Type 13X Molecular Sieves.

Formula

$0.4K_2O \cdot 0.6Na_2O \cdot Al_2O_3 \cdot 2.0SiO_2 \cdot 4.5H_2O$ (3A)
 $0.7CaO \cdot 0.3Na_2O \cdot Al_2O_3 \cdot 2.0SiO_2 \cdot 4.5H_2O$ (4A)
 $Na_2O \cdot Al_2O_3 \cdot 2.45SiO_2 \cdot 6H_2O$ (13X)

Physical Characteristics:	Typical water vapour adsorption capacity at 25°C	3A	4A	13X
at 20% relative humidity		≧ 16.0%	≧ 18.0%	≧ 20.0%
at 40% relative humidity		≧ 18.0%	≧ 20.0%	≧ 22.0%
Loss on ignition (550°C) (on dry basis)		max. 2%	max. 2%	max. 2%

Standard grain Size: 0.5-1mm, 0.8-1.3mm, 1.5-2.5mm, 3-5mm, other special grading on request.

Packaging: Packaged from 0.5 gram up to 500 grams by paper or nonwoven; airtight in PE barriers and carton.

Handling: Molecular desiccant must always be kept in airtight containers to avoid pre-adsorption with water vapour. Face masks should be used at continual exposure to extensive dusting.

Notes: Any details of application possibilities do not free the purchaser from the obligation of performing his own tests on the material supplied by the seller in order to determine their suitability for the intended processes and purposes. Application, use and processing of the material cannot be controlled by the seller and are thus the sole responsibility of the purchaser.