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PuroSorb™ PAD700

Polystyrenic Adsorbent - Standard Particle Size

PuroSorb™ PAD700 is one of a range of polymeric adsorbents supplied under the **PuroSorb** trade name. The range includes over 10 products which offer variations in their chemical nature, physical structure (pore volume, pore size, surface area), and particle size range etc. **PuroSorb PAD700** is a macroporous, non ionic, polymeric adsorbent designed to remove hydrophobic organic compounds from aqueous solutions and polar solvents. This product offers greater porosity with less small pores and hence has a slightly lower surface area compared with similar products in our range. This is achieved by its special crosslinked polystyrenic structure. The spherical beads offer low pressure drop at normal operating flow rates.

Typical applications include the uptake / separation of larger molecular weight organic compounds from process streams or waste applications in aqueous and some non aqueous applications. **PuroSorb PAD700** is therefore of interest within different purification and separation stages within the chemical, food, pharmaceutical and biochemical industries. Where regeneration is possible this can be by single or combination of regenerants, selected according to the nature of the molecules adsorbed. There are many possible regenerants including dilute acid or alkali solutions, aqueous/alcoholic mixtures and pure solvents, depending on the application. Strong alkalies and periodic treatment with dilute oxidants may help in controlling organic fouling.

Application: Due to its high porosity it is ideally suited to the removal of the medium to large non polar compounds from polar solvents and can also work in less polar solvents where the species is considered less polar.

Typical Swelling Data from water form to these solvents:

Solvent Name	Methanol	Toluene	Ethanol
Swelling %	24%	25%	25%

TYPICAL PHYSICAL AND CHEMICAL CHARACTERISTICS

BASIC FEATURES:

Application	Sorption / Separation of Hydrophobic Organic Species - non-ionic matrix
Polymer Structure	Polystyrenic
Appearance	Spherical beads
Functional Group	Non ionic
Ionic Form as Shipped	None

PRODUCT INFORMATION:

Moisture Retention	56 - 62%
Particle Size Range	350 - 1200 µm
<350 µm (max.)	2 %
Uniformity Coefficient (max.)	1.6
Pore Volume	1.2 ml/g
Surface Area	550 m ² /g
d50, Meso and Macropores Å	700
Specific Gravity	1.02
Shipping Weight (approx.)	650 - 700 g/l (40.6 - 43.8 lb/ft ³)
pH limits, Stability	0 - 14

The operating temperature may be limited by the boiling point of the solvent at the operating pressure in the system. Otherwise, applications at temperatures in excess of 100°C (212°F) are possible. Swelling data is also available for other solvents, together with pressure drop and backwash data and other information related to the use of this product in both laboratory testing and full scale plants, including pretreatment recommendations for food / pharma applications.