



Product Data Sheet

AMBERLYST™ 125 Polymeric Catalyst

Industrial-grade Strongly Acidic Catalyst

Description

AMBERLYST™ 125 Polymeric Catalyst is a clean, gel type, sulfonic acid, polymeric catalyst with a uniform particle size and a low crosslinked structure. It is highly active for condensation reactions such as the condensation of phenol with acetone to produce Bisphenol-A [U.S. Patent 5,233,096 (1993)].

AMBERLYST 125 is designed to produce high quality BPA. Its particle size and pore structure allow for reduced pressure drop and notably longer lifetime than conventional catalysts.

Typical Physical and Chemical Properties**

Physical Form	Light brown spherical beads
Ionic Form as Shipped	H ⁺ Form
Concentration of Acid Sites ^d	≥ 4.8 eq/kg ≥ 0.7 eq/L
Water Retention Capacity	77 – 83%
Particle Size	
Particle Diameter ^b	1050 ± 50 μm
Uniformity Coefficient	≤ 1.1
Shrinkage	Water → Phenol : 68%
Bulk Density, as Shipped ^c	730 g/L

^b For additional particle size information, please refer to the [Particle Size Distribution Cross Reference Chart](#) (Form No. 177-01775).

^c As per the backwashed and settled density of the resin, determined by ASTM D-2187.

^d Total Exchange Capacity (on a water-wet basis) ≥ 0.7 eq/L; Dry Weight Capacity ≥ 4.8 eq/kg.

Suggested Operating Conditions**

Maximum Operating Temperature	130°C (265°F)
Bed Depth, min.	60 cm (24 inches)
Operating Flowrate	1 – 5 BV*/h (LHSV)
Pressure Drop, max.	1 bar (15 psig) across the bed

* 1 BV (Bed Volume) = 1 m³ solution per m³ resin or 7.5 gal per ft³ resin

Hydraulic Characteristics

Bed expansion of AMBERLYST™ 125 Polymeric Catalyst as a function of backwash flowrate at a water temperature of 25°C (77°F) is shown in Figure 1.

Pressure drop data for AMBERLYST 125 as a function of service flowrate at a water temperature of 25°C (77°F) is shown in Figure 2.

Figure 1: Backwash Expansion

Temperature = 25°C (77°F)

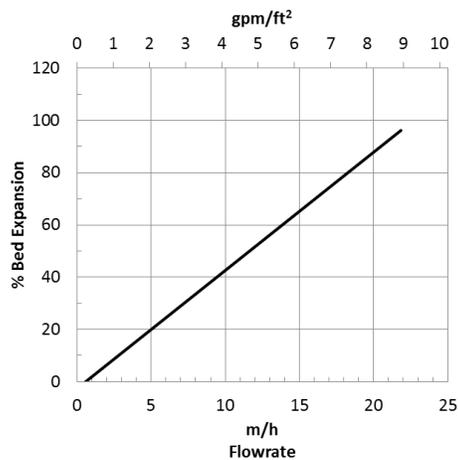
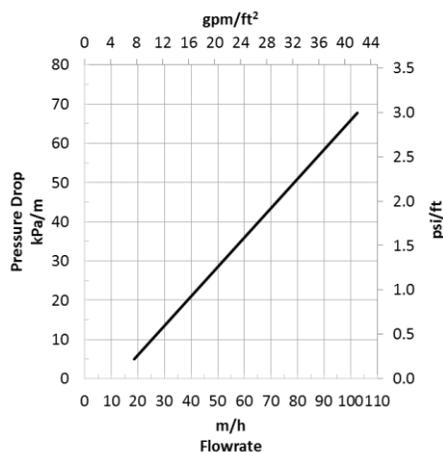


Figure 2: Pressure Drop

Temperature = 25°C (77°F)



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WARNING: Oxidizing agents such as nitric acid attack organic ion exchange resins under certain conditions. This could lead to anything from slight resin degradation to a violent exothermic reaction (explosion). Before using strong oxidizing agents, consult sources knowledgeable in handling such materials.

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