AMBERLYST™ 39WET

Industrial Grade Strongly Acidic Catalyst

Introduction

AMBERLYST 39WET is a macroreticular, sulfonic acid polymeric catalyst with relatively low crosslinked structure. Its continuous open pore structure makes it an excellent heterogeneous acid catalyst for a wide variety of organic reactions. The polymer structure of AMBERLYST 39WET is extremely resistant to breakdown by osmotic, mechanical and thermal shock.

AMBERLYST 39WET can be used directly in aqueous systems or in organic media after conditioning with a water miscible solvent.

AMBERLYST 39WET has the optimal balance of surface area, acid capacity and pore diameter to make it the catalyst of choice for most esterification reactions.

Properties

Physical form	Opaque, spherical
Ionic form as shipped	Hydrogen
Concentration of acid sites	≥ 1.15 eq/L ≥ 5.00 eq/kg
Moisture holding capacity	60 to 66% (H^+ form)
Shipping weight	735 g/L (45.9 lbs/ft^3)
Particle size	
Uniformity coefficient	≤ 1.50
Fines contents	< 0.425 mm: 0.5% max
Coarse beads	> 1.180 mm: 10.0% max
Nitrogen BET	
Surface area	32 m^2/g
Average pore diameter	230 Å
Total pore volume	0.20 ml/g
Shrinkage	Water to methanol: 14% Water to n-Butanol: 12%

Suggested Operating Conditions

Maximum operating temperature	130°C (265 °F)
Minimum bed depth	60 cm (24 inches)
Operating flow rate	1 to 5 BV*/h (LHSV)
Pressure drop limitation	1 bar (15 psig) across the bed

Hydraulic Characteristics

Figure 1 shows the bed expansion of AMBERLYST 39WET as a function of backwash flow rate and water temperature.

Figure 2 shows the pressure drop data for AMBERLYST 39WET as a function of service flow rate and water temperature.

Figure 1: Bed expansion

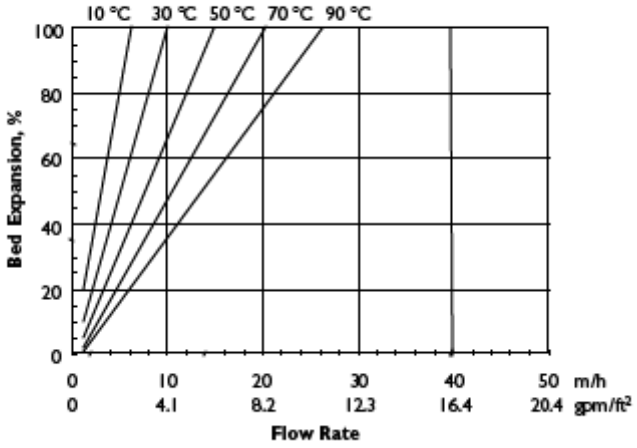
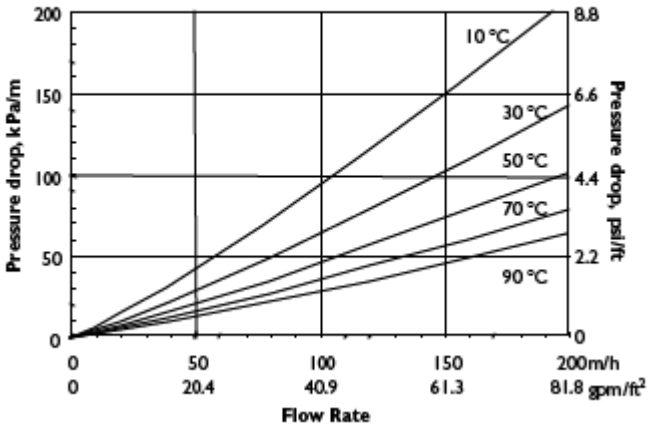


Figure 2: Pressure drop



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