

**AMBERLYST™ CH10**

Industrial Grade Palladium Doped Strongly Acidic Catalyst

Introduction

AMBERLYST CH10 is a bead form, macroreticular, sulphonic acid, palladium doped ion exchange resin developed particularly for heterogeneous catalysis. This catalyst is especially suitable for the production of Tert- Amyl-Methyl- Ether (TAME) from FCC cracked Naphta (Etherol process).

Another application is the production of Methyl-Iso-Butyl-Ketone (MIBK) from acetone. In both cases, the hydrogenation reaction, catalyzed by the palladium loaded on the resin, prevents the formation of higher condensation products.

Properties

Matrix	Macroreticular styrene DVB copolymer
Physical form	Opaque spherical beads
Ionic form as shipped	H ⁺
Palladium load	0.3 % (dry basis)
Concentration of acid sites	≥ 1.6 eq/L[1] (H ⁺ form) ≥ 4.8 eq/kg (H ⁺ form)
Moisture holding capacity	52 to 58% (H ⁺ form)
Shipping weight	790 g/L (49.3 lbs/ft ³)
Particle size	
Harmonic mean size	0.850 to 1.050 mm
Uniformity coefficient	≤ 1.4
Fines contents	< 0.710 mm: 2.0% max
Coarse beads	> 1.180 mm: 15.0% max
Nitrogen BET	
Surface area	33 m ² /g
Average pore diameter	240 Å
Total pore volume	0.20 ml/g
Shrinkage	Water to methanol: 9.5% Water to MTBE: 22% Water to hexane: 36%

Suggested Operating Conditions

Maximum operating temperature	130°C (265°F)
Minimum bed depth	1000 mm (39 inches)
Operating flow rate	1 to 8 BV*/h (LHSV)
Pressure drop limitation	1 bar (15 psig) across the bed

Hydraulic Characteristics

Figure 1 shows the bed expansion of AMBERLYST CH10 as a function of backwash flow rate and water temperature.

Figure 2 shows the pressure drop data for AMBERLYST CH10 as a function of service flow rate and water temperature.

Figure 1: Bed expansion

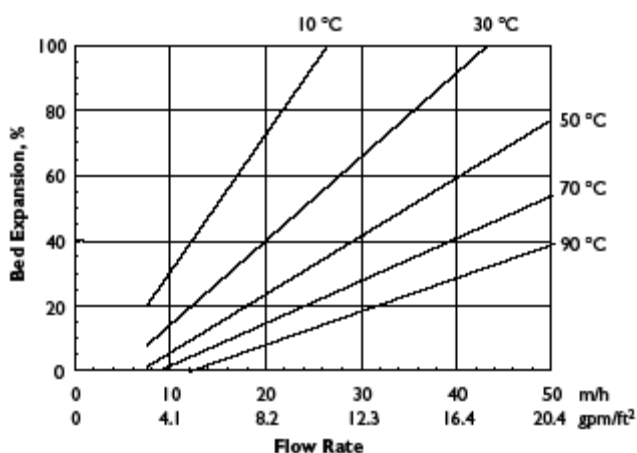
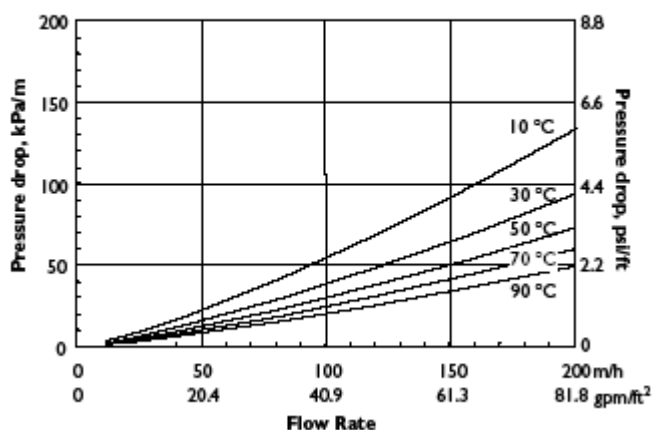


Figure 2: Pressure drop



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