



AMBERLYST™ CH28 Resin

Industrial Grade Palladium Doped Strongly Acidic Catalyst

Description

AMBERLYST™ CH28 Resin is a bead form, macroreticular, sulphonic acid, palladium doped ion exchange resin developed particularly for heterogeneous catalysis.

This catalyst is specially suitable for the production of Methyl-Iso-Butyl-Ketone (MIBK) from acetone. An other application is the production of Tert-Amyl-Methyl-Ether (TAME) from FCC cracked Naphta (Etherol process). In both cases, the hydrogenation reaction, catalyzed by the palladium loaded on the resin, prevents the formation of higher condensation products.

Typical Physical and Chemical Properties

Physical form	Opaque spherical beads
Matrix	Macroreticular styrene DVB copolymer
Ionic form as shipped	H ⁺
Palladium load	0.7% min (dry basis)
Total volume capacity	1.6 eq/L (H ⁺ form) 4.8 eq/kg (H ⁺ form)
Moisture retention capacity	52–58% (H ⁺ form)
Shipping weight	790 g/L (49.3 lbs/ft ³)
Particle size	
Harmonic mean size	0.850–1.050 mm
Uniformity coefficient, max.	1.4
Fines content	2.0%
Coarse beads > 1.180 mm, max.	15.0% max < 0.710 mm, max.
Nitrogen BET	
Surface area	36 m ² /g
Average pore diameter	260Å
Total pore volume	0.20 ml/g
Shrinkage	Water to acetone : 14% Water to MIBK : 19%

Suggested Operating Conditions

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

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

Hydraulic Characteristics

Figure 1 shows the bed expansion of AMBERLYST™ CH28 Resin as a function of backwash flow rate and water temperature.

Figure 1. Bed Expansion

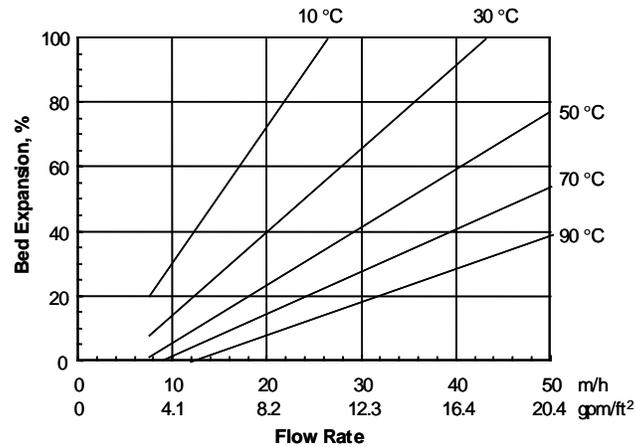
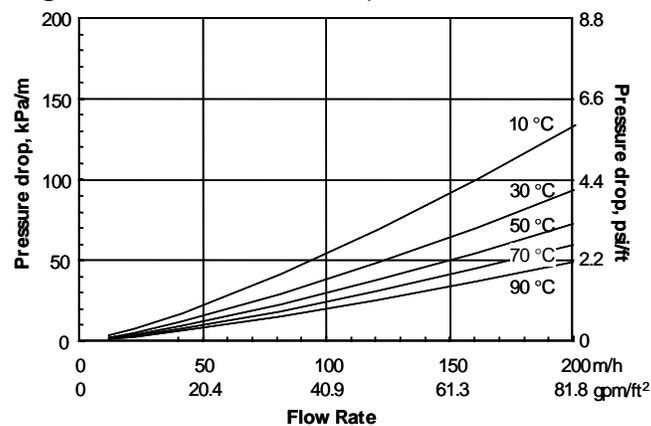


Figure 2 shows the pressure drop data for AMBERLYST CH28 Resin as a function of service flow rate and water temperature.

Figure 2. Pressure Drop



Product Stewardship

Dow has a fundamental concern for all who make, distribute, and use its products, and for the environment in which we live. This concern is the basis for our product stewardship philosophy by which we assess the safety, health, and environmental information on our products and then take appropriate steps to protect employee and public health and our environment. The success of our product stewardship program rests with each and every individual involved with Dow products - from the initial concept and research, to manufacture, use, sale, disposal, and recycle of each product.

Customer Notice

Dow strongly encourages its customers to review both their manufacturing processes and their applications of Dow products from the standpoint of human health and environmental quality to ensure that Dow products are not used in ways for which they are not intended or tested. Dow personnel are available to answer your questions and to provide reasonable technical support. Dow product literature, including safety data sheets, should be consulted prior to use of Dow products. Current safety data sheets are available from Dow.

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.

DOW™ Ion Exchange Resins
For more information about DOW™
resins, call the Dow Water & Process
Solutions business:

North America: 1-800-447-4369
Latin America: (+55) 11-5188-9222
Europe: +800-3-694-6367
Italy: +800-783-825
South Africa: +0800 99 5078
Pacific: +800 7776 7776
China: +400 889-0789
<http://www.dowwaterandprocess.com>

NOTICE: No freedom from infringement of any patent owned by Dow or others is to be inferred. Because use conditions and applicable laws may differ from one location to another and may change with time, Customer is responsible for determining whether products and the information in this document are appropriate for Customer's use and for ensuring that Customer's workplace and disposal practices are in compliance with applicable laws and other government enactments. The product shown in this literature may not be available for sale and/or available in all geographies where Dow is represented. The claims made may not have been approved for use in all countries. Dow assumes no obligation or liability for the information in this document. References to "Dow" or the "Company" mean the Dow legal entity selling the products to Customer unless otherwise expressly noted. NO WARRANTIES ARE GIVEN; ALL IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE ARE EXPRESSLY EXCLUDED.

