



AMBERLYST 19

A highly active esterification catalyst for the reaction of acrylic acid with methanol and ethanol, respectively, to form the according acrylates.

Product	Type	Matrix	Functional group
AMBERLYST 19	Strong acid cation	Styrene-DVB gel	Sulfonic acid

Guaranteed Sales Specifications		H ⁺ form				
Total exchange capacity, min.	eq/L	1.8				
	kg/ft ³ as CaCO ₃	39.3				
Water content	%	48 - 54				
Bead size distribution†	> 1,200 μm, max. (16 mesh)	2				
	< 420 μm, max. (40 mesh)	1				
Whole uncracked beads, min.	%	95				
Crush strength	Average, min.	g/bead				350
	> 200 g/bead, min.	%				95
Trace metals, ppm dry resin, max. (H ⁺ form)						
Na	Fe	Cu	Al	Mg	Ca	Heavy metals (as Pb)
50	50	10	50	50	50	10

Typical Physical and Chemical Properties		H ⁺ form	
Total swelling (Na ⁺ → H ⁺)	%	8	
Particle density	g/mL	1.22	
Shipping weight	g/L	785	
	lbs/ft ³	49	

Recommended Operating Conditions

- Maximum operating temperature: 120°C (250°F)
- pH range: 0-14
- Bed depth, min.: 450 mm (1.5 ft)
- Flow rates:
 - Service/fast rinse: 5-50 m/h (2 - 20 gpm/ft²)
 - Service/condensate polishing: 40-150 m/h (16 - 60 gpm/ft²)
 - Backwash: See figure 1
 - Co-current regeneration/displacement rinse: 1-10 m/h (0.4 - 4 gpm /ft²)
- Total rinse requirement: 3-6 Bed volumes
- Regenerant: 1-10% H₂SO₄ or 4-8% HCl

† For additional particle size information, please refer to Particle Size Distribution Cross Reference Chart (Form No. 177-01775).

Typical properties and applications

AMBERLYST 19 strong acid cation exchange resin is a premium grade resin with high exchange capacity, excellent resistance to attrition and good resistance to thermal and oxidative degradation.

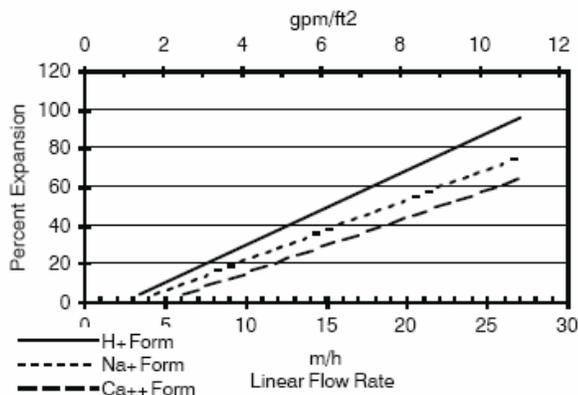
The resin is specially sized for use in working or polishing mixed beds. AMBERLYST 19 resin is recommended for use alone as a single lead cation or with DOWEX SBR-C (OH) or DOWEX SBR-P C (OH) anion exchange resins in mixed beds for deep-bed condensate polishing.

Packaging

25 liter bags or 5 cubic feet fiber drums

Figure 1. Backwash Expansion Data

Temperature = 25° C (77° F)



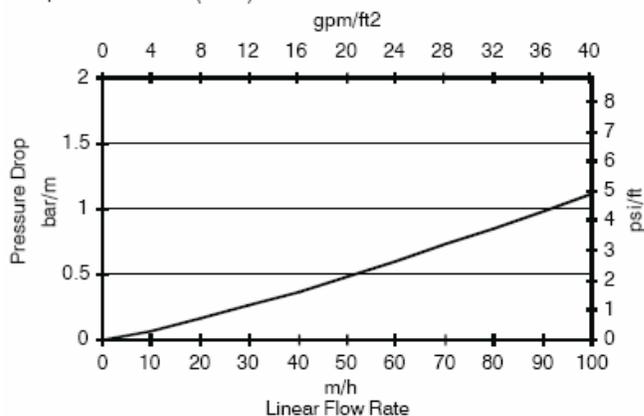
For other temperatures use:

$$F_T = F_{77°F} [1 + 0.008 (T_F - 77)], \text{ where } F \equiv \text{gpm/ft}^2$$

$$F_T = F_{25°C} [1 + 0.008 (1.8T_C - 45)], \text{ where } F \equiv \text{m/h}$$

Figure 2. Pressure Drop Data

Temperature = 20° C (68° F)



For other temperatures use:

$$P_T = P_{20°C} / (0.026 T_C + 0.48), \text{ where } P \equiv \text{bar/m}$$

$$P_T = P_{68°F} / (0.014 T_F + 0.05), \text{ where } P \equiv \text{psi/ft}$$

For more information 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>

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.

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 governmental 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.

