Product Data Sheet

DuPont™ AmberLite™ PWA17 Ion Exchange Resin

High Capacity Strong Base Anion Exchange Resin for Regenerable and Non-Regenerable Applications

Description

DuPont™ AmberLite™ PWA17 resin is a high quality, strongly basic anion exchange resin with very good mechanical and chemical resistance. It is manufactured for use in potable and drinking water applications.

Uranium, perchlorate and hexavalent chromium bind very tightly to AmberLite™ PWA17, so regeneration results in significant volumes of waste. DuPont recommends disposal of the resin once it is loaded in these applications.

Applications

- Selective removal of uranium, perchlorate, hexavalent chrome and iodine in drinking water/potable water applications
- Non-selective removal of common anions such as nitrate, sulfate and chloride

Typical Properties

Physical Properties	
Copolymer	Styrene-divinylbenzene
Matrix	Gel
Type	Type I strong base anion
Functional Group	Quaternary amine
Physical Form	White to amber, translucent, spherical beads
Chemical Properties	
Ionic Form as Shipped	Cl^-
Total Exchange Capacity	≥ 1.4 eq/L
Water Retention Capacity	43 – 48%
Particle Size [§]	
> 1,200 µm (16 mesh)	< 2%
< 300 µm (50 mesh)	< 1%
Stability	
Whole Uncracked Beads	≥ 90%
Friability:	
Average	≥ 350 g/bead
Density	
Particle Density	1.10 g/mL
Shipping Weight	705 g/L 44 lbs/ft^3

[§] For additional particle size information, please refer to the Particle Size Distribution Cross Reference Chart (Form No. 45-D00954-en).

Form No. 45-D02354-en, Rev. 1
March 2021

Suggested Operating Conditions

Maximum Operating Temperature (H^+ form)	
OH^-	60°C (140°F)
Cl^-	100°C (212°F)
pH Range	0 – 14
Bed Depth, min.	450 mm (1.5 ft)
Flowrates	
Service	15 – 20 BV*/h
Backwash	See Figure 1
Contact Time	
Regeneration	30 – 45 minutes
Displacement Rinse	30 – 45 minutes
Total Rinse Requirement	2 – 5 BV
Regenerant	NaCl
Concentration	7 – 10%
Temperature, max.	Ambient or up to 50°C (122°F)

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

Packaging

5 cubic feet fiber drums and 1,000 liter super sack

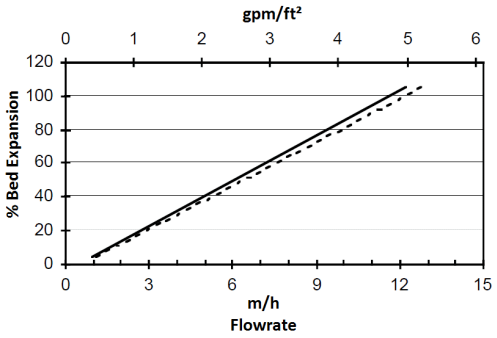
Hydraulic Characteristics

Bed expansion of DuPont™ AmberLite™ PWA17 Ion Exchange Resin as a function of backwash flowrate at 25°C (77°F) is shown in Figure 1. The flowrate necessary to achieve a desired bed expansion for other water temperatures can be calculated with the provided equations.

Pressure drop for AmberLite™ PWA17 as a function of service flowrate at 20°C (68°F) is shown in Figure 2. These pressure drop expectations are valid at the start of the service run with clean water.

Figure 1: Backwash Expansion

Temperature = 25°C (77°F)



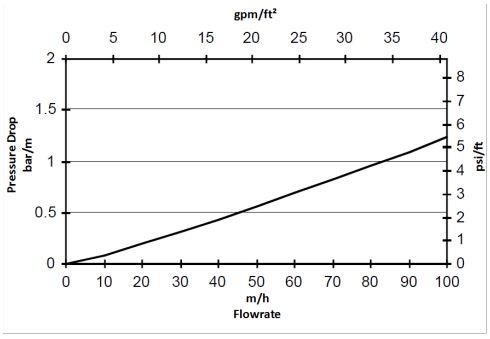
For other temperatures use:

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

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

Figure 2: Pressure Drop

Temperature = 20°C (68°F)



For other temperatures use:

$P_T = P_{20°C} / (0.026T_{°C} + 0.48)$, where P ≡ bar/m

$P_T = P_{68°F} / (0.014T_{°F} +$

Form No. 45-D02354-en, Rev. 1
March 2021

Product Stewardship

DuPont 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 DuPont products—from the initial concept and research, to manufacture, use, sale, disposal, and recycle of each product.

Customer Notice

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

Please be aware of the following:

- **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.

Regulatory Note

This product may be subject to drinking water application restrictions in some countries; please check the application status before use and sale.

Have a question? Contact us at:

www.dupont.com/water/contact-us

Form No. 45-D02354-en, Rev. 1
March 2021