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<br>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

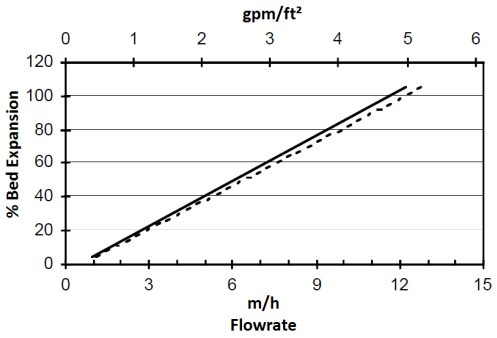
## Hydraulic Characteristics

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)



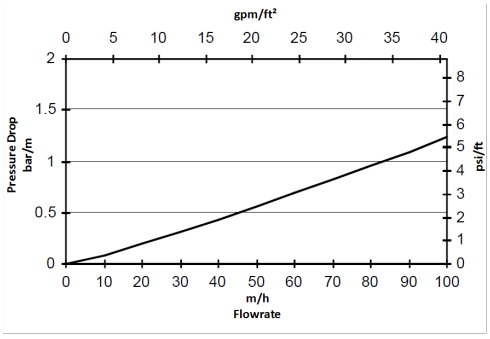

**For other temperatures use:**

$F_T = F_{25°C} [1 + 0.008 (1.8T_{°C} - 45)]$, 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

All information set forth herein is for informational purposes only. This information is general information and may differ from that based on actual conditions. 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 DuPont is represented. The claims made may not have been approved for use in all countries. Please note that physical properties may vary depending on certain conditions and while operating conditions stated in this document are intended to lengthen product lifespan and/or improve product performance, it will ultimately depend on actual circumstances and is in no event a guarantee of achieving any specific results. DuPont assumes no obligation or liability for the information in this document. References to "DuPont" or the "Company" mean the DuPont 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. No freedom from infringement of any patent or trademark owned by DuPont or others is to be inferred.

© 2021 DuPont. DuPont™, the DuPont Oval Logo, and all trademarks and service marks denoted with ™, ℠ or ® are owned by affiliates of DuPont de Nemours Inc., unless otherwise noted.



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