Product Data Sheet

AmberLite™ PWA5 Ion Exchange Resin

Drinking Water-grade Resin for Selective Nitrate Removal

Description

DuPont™ AmberLite™ PWA5 Ion Exchange Resin is a strongly basic anion exchange resin developed for selective nitrate removal from drinking water. AmberLite™ PWA5 removes nitrate preferentially to sulfate and, therefore, can yield operating capacity higher than conventional resins. These characteristics make AmberLite™ PWA5 the perfect choice for a simple, regenerable, nitrate removal process for municipal water treatment.

Applications

Primary application:

- Nitrate removal in potable/drinking water

Also can be used for:

- Selenium removal
- Chlorate removal
- Perchlorate removal

Typical Properties

Physical Properties	
Copolymer	Styrene-divinylbenzene
Matrix	Macroporous
Type	Strong base anion
Functional Group	Triethylamine
Physical Form	Cream, opaque, spherical beads
Chemical Properties	
Ionic Form as Shipped	Cl^-
Total Exchange Capacity	≥ 0.9 eq/L
Water Retention Capacity	52 – 58%
Particle Size [§]	
Particle Diameter	650 to 850 µm
Uniformity Coefficient	≤ 1.5
< 300 µm	≤ 0.3%
> 1180 µm	≤ 5.0%
Density	
Shipping Weight	690 g/L

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

Suggested Operating Conditions

Maximum Operating Temperature	40°C (104°F)
pH Range	
Service Cycle	5 – 8
Stable	0 – 14

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Hydraulic Characteristics

Estimated bed expansion of AmberLite™ PWA5 Ion Exchange Resin as a function of backwash flowrate and temperature is shown in Figure 1a and Figure 1b.

Estimated pressure drop for AmberLite™ PWA5 as a function of service flowrate and temperature is shown in Figure 2a and Figure 2b. These pressure drop expectations are valid at the start of the service run with clean water and a well-classified bed.

Figure 1a: Backwash Expansion

Temperature = 10 – 60°C

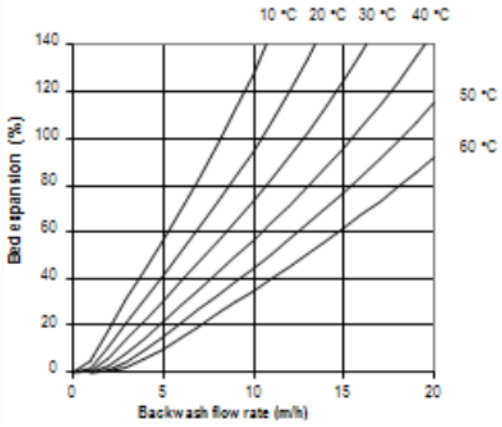


Figure 1b: Backwash Expansion

Temperature = 40 – 140°F

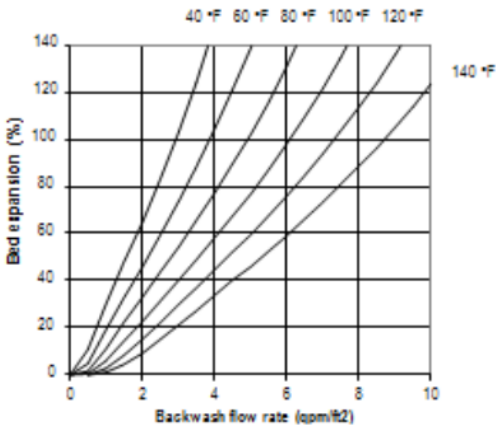


Figure 2a: Pressure Drop

Temperature = 10 – 60°C

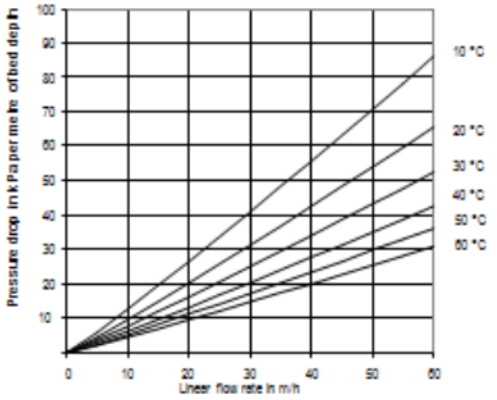
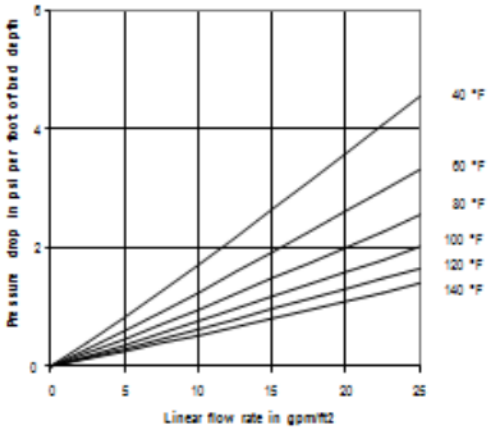


Figure 2b: Pressure Drop

Temperature = 40 – 140°F



Conditioning and Limits of Use

AmberLite™ PWA5 Ion Exchange Resin is suitable for use in potable water applications[1] after performing a full regeneration cycle at a dosage of 120 g of NaCl per liter of resin, followed by an adequate rinse to remove excess brine.

The operating capacity of AmberLite™ PWA5 resin depends on the operating conditions and the feedwater conditions.

1. Please confirm the regulatory approval in your specific country of use.

Form No. 45-D02562-en, Rev. 1
February 2023

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

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