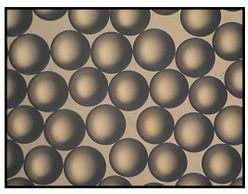
Product Data Sheet

DuPont™ AmberLite™ HPR4800 OH Ion Exchange Resin

Uniform Particle Size, Gel, Strong Base Anion Exchange Resin for Industrial Demineralization Applications

Description



DuPont™ AmberLite™ HPR4800 OH Ion Exchange Resin is a high-quality resin for use in industrial demineralization applications when high performance, high purity water, and cost-effective operation is required. The chemical properties and particle size of the resin have been optimized to help yield excellent operating capacity and rinse characteristics, while reducing chemical regenerant and rinse water usage.

AmberLite™ HPR4800 OH is compatible with all system technologies; it has the flexibility to be used in the lead single anion bed and in mixed bed polishers. The OH^- form offers a quick start-up in single beds. In mixed bed applications, the particle size is designed to enhance separability, and the light color of this anion resin allows easy visual distinction from the dark-colored cation resin following backwash separation.

Resin Pairings

Recommended pairing in mixed bed applications:

- AmberLite™ HPR1200 H Ion Exchange Resin (gel)
- AmberLite™ HPR1300 H Ion Exchange Resin (gel)

Applications

- Demineralization
  - Ideally when treating water with:
    - High percentage of silica
  - When the treatment goal is:
    - Removal of strong and weak acids
    - Lowest silica leakage
- Mixed bed polishing

System Designs

Compatible with all system technologies:

- Co-current
- Counter-current / Hold-down
- Packed beds
- Mixed beds

Historical Reference

AmberLite™ HPR4800 OH Ion Exchange Resin has previously been sold as DOWEX MARATHON™ A OH Ion Exchange Resin.

Form No. 45-D01234-en, Rev. 2
December 2019

Typical Properties

Physical Properties	
Copolymer	Styrene-divinylbenzene
Matrix	Gel
Type	Strong base anion, Type I
Functional Group	Trimethylammonium
Physical Form	Amber, translucent, spherical beads
Chemical Properties	
Ionic Form as Shipped	OH^-
Total Exchange Capacity	≥ 1.0 eq/L (OH^- form)
Water Retention Capacity	58.0 – 74.0% (OH^- form)
Ionic Conversion	
OH^-	≥ 95%
CO_3^{2-}	≤ 5%
Particle Size [§]	
Particle Diameter	610 ± 50 µm
Uniformity Coefficient	≤ 1.1
< 300 µm	≤ 0.3%
> 850 µm	≤ 1.0%
Stability	
Whole Uncracked Beads	≥ 95%
Swelling	$Cl^- \rightarrow OH^-$: 20%
Density	
Particle Density	1.07 g/mL
Shipping Weight	640 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

Temperature Range	
OH^- form [‡]	5 – 60°C (41 – 140°F)
Cl^- form	5 – 100°C (41 – 212°F)
pH Range	
Service Cycle	1 – 14
Stable	0 – 14

[‡] Operating at elevated temperatures, for example above 60 – 70°C (140 – 158°F), may impact resin life. Contact our technical representative for details.

Hydraulic Characteristics

Estimated bed expansion of DuPont™ AmberLite™ HPR4800 OH Ion Exchange Resin as a function of backwash flowrate and temperature is shown in Figure 1.

Estimated pressure drop for AmberLite™ HPR4800 OH as a function of service flowrate and temperature 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 = 10 – 60°C (50 – 140°F)

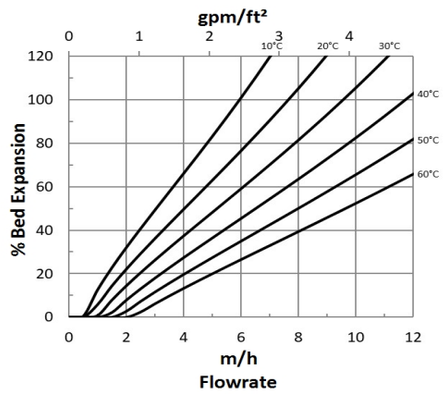
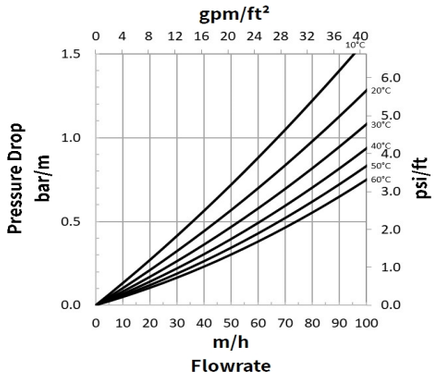


Figure 2: Pressure Drop

Temperature = 10 – 60°C (50 – 140°F)



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.

Form No. 45-D01234-en, Rev. 2
December 2019

Have a question? Contact us at:

www.dupont.com/water/contact-us

Form No. 45-D01234-en, Rev. 2
December 2019

Teléfono: (33) 3657-8500
Contacto@universalwater.com.mx