

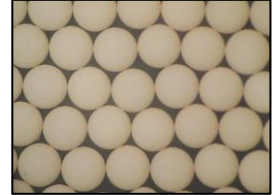


## **AMBERLITE™ HPR2900 H Ion Exchange Resin**

Uniform Particle Size, Macroporous, Strong Acid Cation Exchange Resin for Industrial Demineralization Applications

### **Description**

AMBERLITE™ HPR2900 H Ion Exchange Resin is a robust, high-quality resin for use in industrial demineralization applications when a combination of exceptional physical stability, simple and reliable operation, and long resin life is required.



Its high degree of crosslinking provides exceptional stability, which gives it great resistance to chemical oxidation and to mechanical, thermal, or osmotic stress. The properties of this macroporous resin have been designed for optimal kinetics.

AMBERLITE™ HPR2900 Na Ion Exchange Resin is available for industrial softening or demineralization applications when the sodium-form is preferred by the user.

### **Applications**

- Systems requiring exceptionally high osmotic stability
- Demineralization, ideally when treating water with:
  - High oxidant level
  - High temperature on the cation resin
- Amine-cycle condensate treatment

### **System Designs**

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

### **Historical Reference**

AMBERLITE™ HPR2900 H Ion Exchange Resin has previously been sold as DOWEX MARATHON™ MSC H Ion Exchange Resin.

## Typical Physical and Chemical Properties\*\*

<b>Physical Properties</b>	
Copolymer	Styrene-divinylbenzene
Matrix	Macroporous
Type	Strong acid cation
Functional Group	Sulfonic acid
Physical Form	White, opaque, spherical beads
<b>Chemical Properties</b>	
Ionic Form as Shipped	H <sup>+</sup>
Total Exchange Capacity	≥ 1.7 eq/L (H <sup>+</sup> form)
Water Retention Capacity	50.0 – 56.0% (H <sup>+</sup> form)
<b>Particle Size</b>	
Particle Diameter §	575 ± 50 µm
Uniformity Coefficient	≤ 1.10
< 300 µm	≤ 0.3%
> 850 µm	≤ 3.0%
<b>Stability</b>	
Whole Uncracked Beads	≥ 95%
Swelling	Na <sup>+</sup> → H <sup>+</sup> : 4%
<b>Density</b>	
Particle Density	1.20 g/mL
Shipping Weight	770 g/L

§ For additional particle size information, please refer to the [Particle Size Distribution Cross Reference Chart](#) (Form No. 177-01775).

## Suggested Operating Conditions\*\*

Temperature Range (H <sup>+</sup> form)	5 – 120°C (41 – 248°F)
pH Range	
Service Cycle	1 – 14
Stable	0 – 14

For additional information regarding recommended minimum bed depth, operating conditions, and regeneration conditions for [separate beds](#) (Form No. 177-03729) in water treatment, please refer to our Tech Fact.

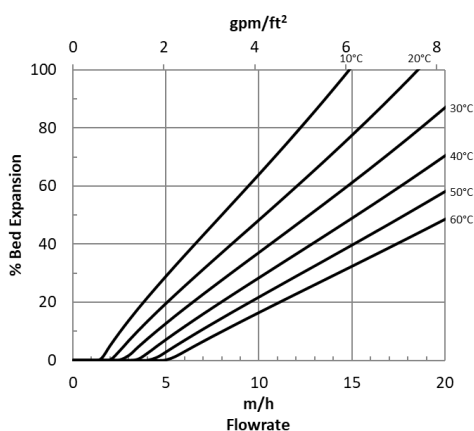
## Hydraulic Characteristics

Estimated bed expansion of AMBERLITE™ HPR2900 H Ion Exchange Resin as a function of backwash flowrate and temperature is shown in Figure 1.

Estimated pressure drop for AMBERLITE HPR2900 H 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.

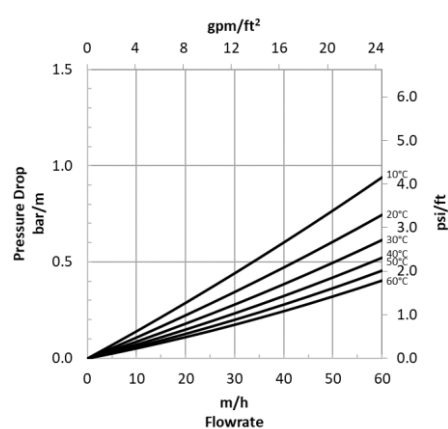
**Figure 1: Backwash Expansion**

Temperature = 10 – 60°C (50 – 140°F)



**Figure 2: Pressure Drop**

Temperature = 10 – 60°C (50 – 140°F)



## Product Stewardship

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

## Customer Notice

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

### For more information, contact our Customer Information Group:

Asia Pacific	+86 21 3851 4988
Europe, Middle East, Africa	+31 115 672626
Latin America	+55 11 5184 8722
North America	1-800-447-4369

[www.dowwaterandprocess.com](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 government 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.

"All information set forth herein is for informational purposes only. This information is general information and may differ from that based on actual conditions. 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. Nothing in this document should be treated as a warranty by Dow.

