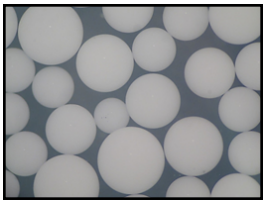
Product Data Sheet

AmberLite™ SCAV4 Cl Ion Exchange Resin

Gaussian, Macroporous, Acrylic, Organic Scavenging Resin for Industrial Applications

Description



AmberLite™ SCAV4 Cl Ion Exchange Resin is a scavenger to effectively remove natural organic matter (NOM) from waters under different operational circumstances, bringing water quality and operational stability back under control.

The macroporous structure allows very efficient removal of large organic molecules and provides excellent resistance to physical breakdown by attrition and osmotic shock. The hydrophilic acrylic polymer structure contributes to a more effective desorption of organics during regeneration compared to styrenic scavenger resins.

AmberLite™ SCAV4 Cl is the preferred organic scavenger for the bulk removal of NOM. Operated in the Cl-form, it is especially useful as pretreatment for reverse osmosis or demineralization systems to reduce the fouling potential of water with a high load of hydrophilic and/or hydrophobic NOM species. The resin offers excellent lifetime and long, stable performance, even under challenging operational conditions.

Operated in the OH-form, this resin will also have the ability to demineralize.

Applications

- Organic scavenging
- Reverse osmosis pretreatment
- Demineralization

System Designs

- Co-current

Form No. 45-D01262-en, Rev. 1
November 2019

Typical Properties

Physical Properties	
Copolymer	Crosslinked acrylic
Matrix	Macroporous
Type	Strong base anion, Type I
Physical Form	White, opaque, spherical beads
Chemical Properties	
Ionic Form as Shipped	Cl^-
Total Exchange Capacity	≥ 0.80 eq/L (Cl^- form)
Water Retention Capacity	66.0 – 72.0% (Cl^- form)
Particle Size [§]	
Particle Diameter	630 – 850 µm
< 300 µm	≤ 0.5%
> 1180 µm	≤ 5.0%
Stability	
Whole Uncracked Beads	≥ 95%
Density	
Particle Density	1.06 g/mL
Shipping Weight	700 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 – 35°C (41 – 95°F)
Cl^- form	5 – 80°C (41 – 176°F)
pH Range	
Service Cycle	2 – 10
Stable	0 – 14

For additional information regarding recommended minimum bed depth, operating conditions, and regeneration conditions for scavenger resins (Form No. 45-D01491-en) in water treatment, please refer to our Tech Fact.

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Hydraulic Characteristics

Estimated bed expansion of AmberLite™ SCAV4 Cl Ion Exchange Resin as a function of backwash flowrate and temperature is shown in Figure 1.

Estimated pressure drop for AmberLite™ SCAV4 Cl 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 and a well-classified bed.

Figure 1: Backwash Expansion

Temperature = 10 – 60°C (50 – 140°F)

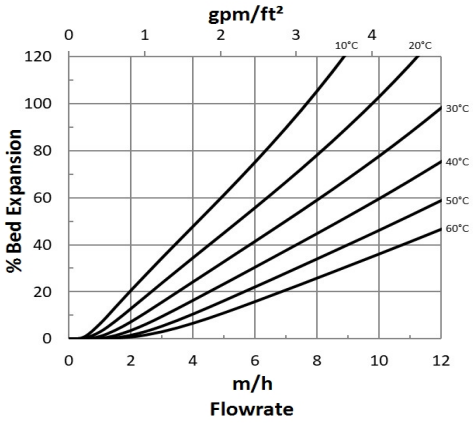
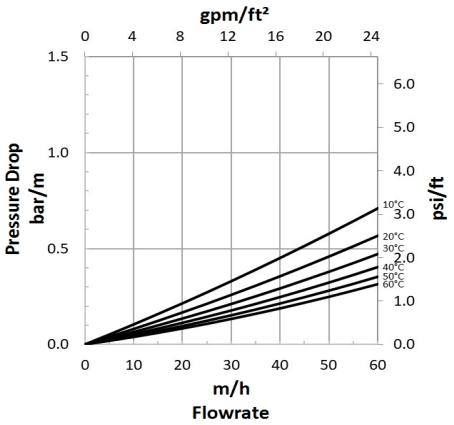


Figure 2: Pressure Drop

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.

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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.

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Form No. 45-D01262-en, Rev. 1
November 2019