



Product Data Sheet

AmberLite™ CC3 Ion Exchange Resin

Nutrition resin for sugar decolorization process

Description

DuPont™ AmberLite™ CC3 Ion Exchange Resin is a strongly basic anion exchange resin developed for Sugar Decolorization application.

AmberLite™ CC3 is compatible with packed bed systems under conditions of liquid sugar or sugar syrup decolorization processing.

Applications

Primary application:

- Sugar decolorization

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
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§ 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	80°C (176°F) in Cl ionic form
pH Range	
Service Cycle	5 – 8
Stable	0 – 14
Maximum operating temperature	80°C (176°F) in Cl ionic form
Minimum bed depth	1000 mm
Service flow rate	2 to 4 BV*/h
Regenerant	NaCl (10 %) + NaOH (0.1 – 0.5%)
Regenerant flow rate	2 to 4 BV/h
Regenerant level	160 to 240 g/L
Minimum contact time	60 minutes
Regenerant temperature	50 to 70°C
Slow rinse	2 BV at 2 to 4 BV/h
Fast rinse	4 to 8 BV up to 12 BV/h

Hydraulic Characteristics

Estimated bed expansion of AmberLite™ CC3 Ion Exchange Resin as a function of backwash flowrate and temperature is shown in Figure 1a and Figure 1b.

Estimated pressure drop for AmberLite™ CC3 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

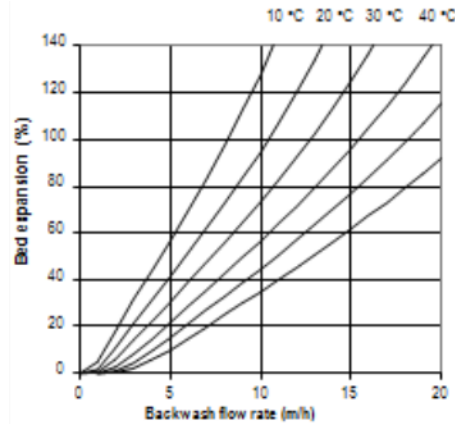


Figure 1b: Backwash Expansion
Temperature = 40 – 140°F

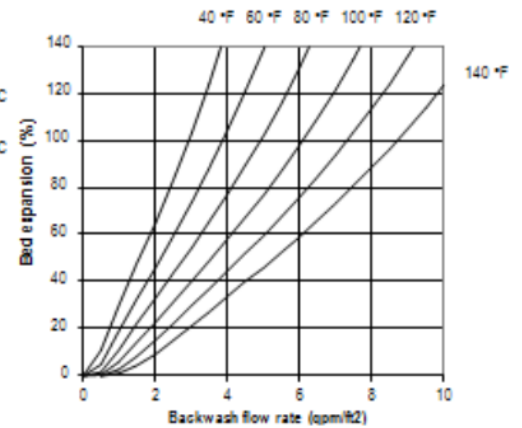


Figure 2a: Pressure Drop
Temperature = 10 – 60°C

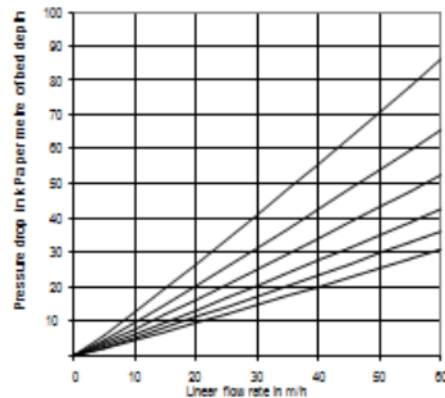
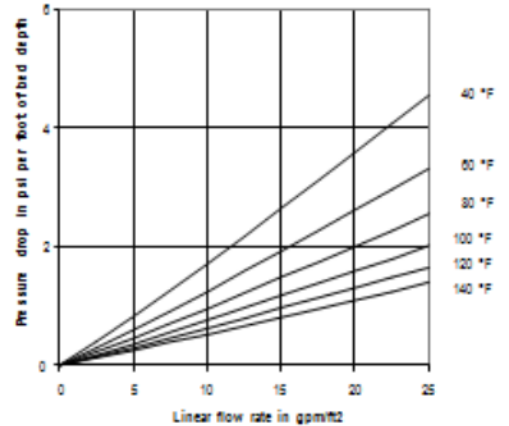


Figure 2b: Pressure Drop
Temperature = 40 – 140°F



Conditioning and Limits of Use

AmberLite™ CC3 Ion Exchange Resin is suitable for use in nutrition applications¹ after an initial commissioning soak in water for 24 h followed by a rinse of 5 bed volumes (35 gal/ft³) and double regeneration and washing procedures at ambient temperature.

The operating capacity of AmberLite™ CC3 resin depends on the operating conditions, such as flowrate, temperature, linear velocity and quality of the feedstock used (i.e. ICUMSA and Brix).

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

Product Stewardship

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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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