Product Data Sheet

# DuPont™ AmberLite™ FPA42 Cl Ion Exchange Resin

Food-grade, Gel, Strong Base Anion Exchange Resin

## Description

DuPont™ AmberLite™ FPA42 Cl Ion Exchange Resin is a high-capacity, uniform particle size, gel, Type I strong base anion exchanger. It is intended for general demineralization and deashing in which the risk of fouling from colored bodies and organics is relatively low.

The uniformity and mean particle size of AmberLite™ FPA42 Cl have been optimized for use in equipment including mixed beds. AmberLite™ FPA42 Cl can be directly substituted for conventional gel anion exchange resin in new equipment and in rebeds of existing demineralizers.

## Applications

- Sweetener deashing
- Demineralization

## 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 | $Cl^-$ |
| Total Exchange Capacity | ≥ 1.3 eq/L |
| Water Retention Capacity | 49 – 55% |
| **Particle Size** | |
| Particle Diameter | 600 – 800 µm |
| Uniformity Coefficient | ≤ 1.25 |
| < 425 µm | ≤ 0.5% |
| > 850 µm | ≤ 5.0% |
| **Stability** | |
| Swelling | $Cl^- \rightarrow OH^-$ : 30% |
| **Density** | |
| Particle Density | 1.06 – 1.08 g/mL |
| Shipping Weight | 670 g/L |

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



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## Suggested Operating Conditions

| | |
|---|---|
| Bed Depth, min. | 800 mm (2.6 ft) |
| Flowrates | |
| Service | 5 – 50 BV*/h |
| Linear Velocity | ≤ 60 m/h |
| Backwash | See Figure 1 |
| Slow Rinse | Regeneration flowrate for 2 BV |
| Fast Rinse (if applicable) | Service flowrate for 3 – 6 BV |
| Regenerant | NaOH |
| Concentration | 2 – 5% |
| Level, 100% basis | 40 – 100 kg/m$^3$ (2.5 – 6.3 lb/ft$^3$) |
| Contact Time | ≥ 20 minutes |

* 1 BV (Bed Volume) = 1 m$^3$ solution per m$^3$ resin or 7.5 gal solution per ft$^3$ resin

## Hydraulic Characteristics

Estimated bed expansion of DuPont™ AmberLite™ FPA42 Cl ion exchange resin as a function of backwash flowrate at 5– 40°C (41 – 104°F) is shown in Figure 1.

Estimated pressure drop for AmberLite™ FPA42 Cl as a function of service flowrate at 20°C (68°F) 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 = 5 – 40°C (41 – 104°F)

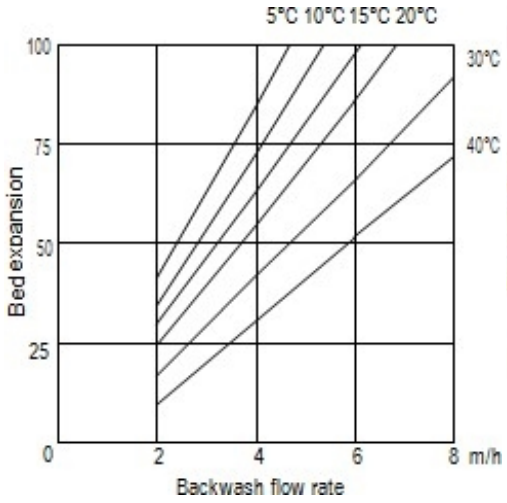
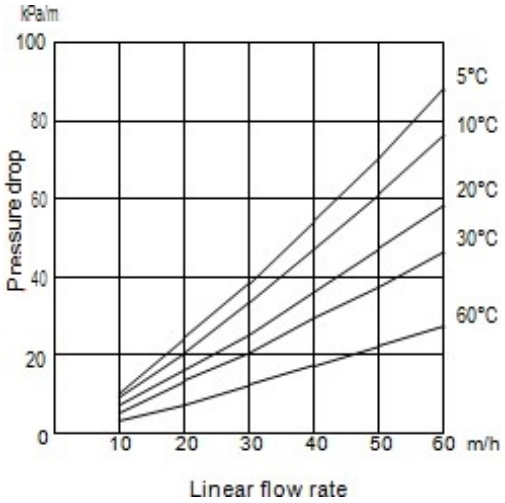



**Figure 2: Pressure Drop**

Temperature = 5 – 60°C (41 – 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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## 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.

**Have a question? Contact us at:**

www.dupont.com/water/contact-us





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