PUROLITE
ION EXCHANGE RESINS

Product Data Sheet

PUROLITE® A300E

Strong Base Anion Gel

Gel Type II Strong Base Anion Exchange Resin

Purolite A300E is a Type II, strongly basic gel anion exchange resin with outstanding operating capacity and excellent regeneration efficiency. A300E has both high operating capacity and designed for removal of alkalinity, uranium and nitrate from drinking water. Purolite A300E also removes all ions including silica and CO2, however, it operates best on waters having a high percentage of strong acids (FMA). A300E can be used in all types of demineralization equipment where regeneration efficiency and high operating capacities are needed. Purolite A300E has excellent physical stability which allows for long life and better efficiency within the operating bed. Whole bead counts are a minimum of 92% clear beads with mechanical strengths ranging over 300 grams. Purolite A300E can be regenerated with sodium chloride to remove alkalinity from different water supplies. This dealkalization by ion exchange prevents the formation of insoluble carbonate precipitates and stops corrosion due to the formation of carbonic acid. A300 can also remove nitrates when regenerated with salt. In some dealkalization cases, small amounts of caustic is used in combination with salt during the regeneration in order to enhance the resin operation. This addition gives higher operating capacity and lower silica leakage. Purolite A300E is a Type II strong base anion devoid of taste and odor. A300E meets the requirements of paragraph 173.25 of the FDA Code of Federal Regulations no. 21. Capacities and Leakages of A300 or A300E are based on the regenerant reaching the bed at either 70ºC or 95ºF. With some water supplies, it will be necessary to preheat the bed prior to the introduction of the regenerant. In water supplies where the alkalinity is in excess of 50%, keep in mind that you may be unable to achieve these leakages and capacities. This is because CO2 passing from the cation reacts with anionic sites forming HCO3. During the regeneration process of the anion, HCO3 is displaced by NaOH. Additional NaOH then reacts with the HCO3 forming Na2CO3. Since the above leakages and capacities are based on having excess NaOH above theory, it may be necessary to compensate for this problem.

Basic Features:

Application	Regeneration Efficient Demineralization - Food Grade for Potable water; Dealkalization; Nitrate and or Sulfate removal
Polymer Structure	Gel polystyrene crosslinked with divinylbenzene
Appearance	Spherical beads
Functional Group	Type 2 Quaternary Ammonium
Ionic form as shipped	Cl^-

Typical Physical and Chemical Characteristics:

Total Capacity (min.)	Cl^-	1.40 eq/l
Total Capacity (min.)	Cl^-	30.57 kGr/ft^3
Moisture Retention	Cl^-	40-45 %
Mean Size Typical		0.60-0.85 mm
Uniformity Coefficient (max.)		1.70

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Reversible Swelling (max.)	$Cl^- \rightarrow OH^-$	10 %
Specific Gravity		1.09 g/ml
Shipping Weight (approx.)		685-720 g/l
Shipping Weight (approx.)		42.8-45 lbs/ft^3
Temp Limit	OH^-	35 °C
Temp Limit	OH^-	104 °F
Temp Limit	Cl^-	85 °C
Temp Limit	Cl^-	185 °F
pH Limits		0-14 (Stability)
pH Limits	OH^-	1-10 (Operating)

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