

# Purolite® C104Plus

Porous Weak Acid Cation Exchange Resin

## PRODUCT DATA SHEET

**Purolite C104Plus** is a premium grade polyacrylic weak acid cation exchanger. The functional groups of the carboxylic type give high chemical efficiency in many applications, especially for the removal of bicarbonate alkalinity in water treatment, showing good rates of exchange. Its major use is in the dealkalization and softening of waters and thereby the ionic load on the subsequent strong acid resin bed can be reduced. Because it has a lower density than the conventional strong acid resins, **Purolite C104Plus** is ideal for use in layered beds (**Doublite**) which can be economically regenerated by an upflow counter-current technique. This product has also been used to selectively recover transition metals from aqueous solutions. The resin is insoluble in acids, alkalies, and all common solvents. Its physical characteristics are outstanding, and often permit its use where a macroporous resin might otherwise be indicated. Hence **Purolite C104Plus** may be operated successfully at relatively high temperatures, e.g. in sugar treatment. However, the macroporous polyacrylic weak acid cation exchanger **Purolite C106** is generally recommended where it is required to work between the acid and the highly-swollen alkali salt form (for example in the treatment of ammoniacal condensate waters or high solids softening). Weakly acidic cation resins are increasingly being used in special applications including treatment of waste water streams in order to reduce environmental pollution.

### Typical Physical and Chemical Characteristics

Application	Dealkalization, Deionization; Softening - High Capacity
Polymer Structure	Porous crosslinked polyacrylic
Appearance	Spherical beads
Functional Group	Carboxylic Acid
Ionic Form as Shipped	H <sup>+</sup>
Total Capacity (min.)	4.5 eq/l (98.3 Kgr/ft <sup>3</sup> (H <sup>+</sup> form))
Moisture Retention	45 - 55 % (H <sup>+</sup> form)
Particle Size Range	300 - 1600 µm
<300 µm (max.)	1 %
Reversible Swelling, H <sup>+</sup> → Ca <sup>2+</sup> (max.)	20 %
Reversible Swelling, H <sup>+</sup> → Ca <sup>2+</sup> (operating)	7 % (approx.)
Reversible Swelling, H <sup>+</sup> → Na <sup>+</sup> (max.)	70 %
Specific Gravity	1.19
Shipping Weight (approx.)	740 - 780 g/l (46.3 - 48.8 lb/ft <sup>3</sup> )
Temperature Limit	120°C (250°F)



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