

# GENERAL TECHNOLOGIES, SPC

## - High-Quality Services & Products

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### D891 — Cl, WQA/NSF-61 Certified STRONG BASE ANION NITRATE SELECTIVE ION EXCHANGE RESIN (Designed for use in highly selective nitrate removal applications)

#### Product Description

D891 (Cl form) resin is highly nitrate-selective due to its unique functional group. In fact, it is a product designed to be much more selective to nitrate or perchlorate than our standard nitrate-selective resin, D890. Both D891 and D890 have higher affinity for monovalent anions (e.g., nitrate) than for di- or tri-valent anions. This is the opposite of the standard Type I and Type II anion resins such as A307 and A302.

Because of its unique nature, D891 reverses the electro-selectivity of standard anion resins, and offers preferential removal of anions of lower valence. Particularly, the product can be highly effective in the removal of nitrate and/or perchlorate in water and wastewater treatment applications even with the presence of high sulfates, carbonates and bicarbonates.

#### Typical Physical, Chemical & Operating Characteristics

<b>Polymer Structure</b>	Polystyrene cross-linked with Divinylbenzene
<b>Physical Form and Appearance</b>	Tough spherical beads
<b>Whole Bead Count</b>	90% Min.
<b>Functional Groups</b>	R-N-R <sub>3</sub> <sup>+</sup> X <sup>-</sup>
<b>Ionic Form (as shipped)</b>	Cl <sup>-</sup>
<b>Shipping Weight, approx.</b>	675 g/l (42 lb./ft. <sup>3</sup> )
<b>Mesh Size (U.S. Std)</b>	16-50
<b>Moisture retention, Na<sup>+</sup> form</b>	50-65%
<b>Total Capacity</b>	>0.6 meq/ml
<b>pH Range, Stability</b>	0-14

#### CHEMICAL AND THERMAL STABILITY

D891 resin is insoluble in dilute or moderately concentrated acids, alkalies, and in all common solvents. However, exposure to significant amounts of free chlorine, "hypochlorite" ions, or other strong oxidizing agents over long periods of time will eventually break down the crosslinking. This will tend to increase the moisture retention of the resin, decreasing its mechanical strength, as well as generating small amounts of extractable breakdown products. It is thermally stable to higher than 75 °C (170 °F) in the chloride form.