

# GENERAL TECHNOLOGIES, SPC

## - High-Quality Services & Products

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### D860 - Na CHELATING WEAK ACID CATION EXCHANGE RESIN

(Designed for selective heavy metal removal in wastewater treatment applications and hardness removal from brine)

#### Product Description

D860 (Na form) resin is a premium grade, macroporous weak acid cation exchange resin with amino phosphonyl functional groups. It is designed to chelate/remove many heavy metal cations, especially for heavy metals in mining and petroleum refinery drainage and waste water.

It has excellent adsorbing capability. D860 (Na form) resin has even particle size and good mechanical strength. High concentrations of sulfates and chlorides or the presence of chelating or complexing agents can alter this sequence and will affect the operating capacity.

D860 has very strong selectivity to earth metals, such as calcium ( $Ca^{++}$ ) and magnesium ( $Mg^{++}$ ), over alkali metals such as sodium ( $Na^+$ ) and potassium ( $K^+$ ). This makes it especially useful in brine softening applications for the chlor-alkali industry.

#### Typical Physical, Chemical & Operating Characteristics

Polymer Structure	Polystyrene cross linked with Divinylbenzene
Physical Form and Appearance	Tough spherical beads
Whole Bead Count	93% Min.
Functional Groups	$R-CH_2-NH-CH_2-P=O$   (OH) <sub>2</sub>
Ionic Form (as shipped)	Na <sup>+</sup>
Shipping Weight, approx.	735 g/l (47 lb./ft. <sup>3</sup> )
Mesh Size (U.S. Std)	16-50
Moisture retention, Na <sup>+</sup> form	58–64%
Total Capacity in sodium form	>1.1 meq/ml
pH Range, operating	Na Form: 6-12 H Form: 1-6

#### CHEMICAL AND THERMAL STABILITY

D860 resin is insoluble in dilute or moderately concentrated acids, alkalis, 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. The product is thermally stable to higher than 100 °C (212 °F) in the sodium form, and 60 °C (140 °F) in the hydrogen form.