GENERAL TECHNOLOGIES, SPC
- High-Quality Services & Products

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# A307UP - OH

## GEL TYPE I STRONG BASE ANION EXCHANGE RESIN

(Designed for use in high purity water applications)

### Product Description

A307 (OH) resin is a high capacity Type I strong base anion exchange resin specially designed for use in commercial or industrial demineralized water equipment.

The resin removes all anion ions such as sulfate, chloride, bicarbonate, and silica, by replacing them with hydroxide ions. When the resin bed is exhausted the weakest anions (such as silica) begin to pass through the bed. Functionality is returned by regeneration with diluted sodium hydroxide solution.

The resin is used in GT's mixed bed exchange resins with cation exchange resin to deliver effluent quality of >18 meg Ohms and <10 ppb TOC after initial rinse of 50 BV's (with >16 MΩ·cm DI water as feed water).

### Typical Physical, Chemical & Operating Characteristics

| | |
|---|---|
| Polymer Structure | Polystyrene cross-linked with Divinylbenzene |
| Physical Form and Appearance | Tough spherical beads |
| Whole Bead Count | 90% Min. |
| Functional Groups | $R\text{-}N^{+}(CH_3)_3$ |
| Ionic Form (as shipped) | $OH^{-}$ |
| Shipping Weight, approx. | 695 g/l (43 lb./ft.$_3$) |
| Mesh Size (U.S. Std.) | 20-40 |
| Moisture retention, OH form | 50–60% |
| Swelling, $Cl^{-}$ to $OH^{-}$, % | <20% |
| Total Capacity in OH form | >1.2 meq/ml |
| pH Range, Stability | 0–14 |

### CHEMICAL AND THERMAL STABILITY

A307 (OH) 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 it s mechanical strength, as well as generating small amounts of extractable breakdown products. Like all conventional gel type polystyrene Type I strong base anion resins, it is thermally stable to 90°C (195°F). The hydroxide form tends to degrade in water temperatures appreciably higher than 70°C (160°F), thereby losing capacity, as the functional groups are gradually replaced by hydroxyl groups.