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# AMBERLITE™ IRA910 Cl

Industrial Grade Strong Base Anion Exchanger

## Introduction

AMBERLITE IRA910 Cl resin is a strongly basic, type 2, macroreticular anion exchange resin. The fixed porosity of the resin bead structure is important. It is a true, discretely porous network which differs completely from conventional gel type resins, and provides far more complete removal of large organic molecules during adsorption and desorption cycles. The crosslinked polystyrenic matrix makes this resin particularly stable mechanically.

## Properties

| | |
|---|---|
| Physical form | Pale yellow, opaque spherical beads |
| Matrix | Macroreticular crosslinked polystyrene |
| Functional group | Dimethyl ethanol ammonium |
| Ionic form as shipped | Chloride |
| Total exchange capacity | ≥ 1.00 eq/L (Cl- form) |
| Moisture holding capacity | 54 to 61 % (Cl- form) |
| Shipping weight | 700 g/L |
| Particle size | |
| Uniformity coefficient | ≤ 1.9 |
| Harmonic mean size | 0.53 to 0.80 mm<br>< 0.300 mm<br>2.5 % max |
| Reversible swelling | $Cl^- \rightarrow OH^-$ : 15 % |

## Suggested Operating Conditions

| | |
|---|---|
| Maximum operating temperature | 35°C |
| Minimum bed depth | 700 mm |
| Service flow rate | 5 to 40 BV*/h |
| Regeneration | |
| Regenerant | NaOH |
| Level | 40 to 100 g/L |
| Concentration | 2 to 4 % |
| Minimum contact time | 30 minutes |
| Slow rinse | 2 BV at regeneration flow rate |
| Fast rinse | 4 to 8 BV at service flow rate |

## Applications

With its excellent resistance to attrition and osmotic stress, AMBERLITE IRA910 Cl resin is used in co- flow regeneration systems requiring very severe specifications : very deep beds, treatment of highly saline solutions. In the sugar industry, AMBERLITE IRA910 Cl resin, usually mixed with a cationic resin, operates in mixed bed polishers for glucose syrups purification. In this position, last traces of coloured bodies, weak acids, hydroxymethyl-furfural are removed.

## Performance

Operating capacity and silica leakage depend on several factors such as water analysis, temperature and regenerant level. The engineering data sheet EDS 0256 A provide information to calculate the operating capacity and silica leakage of AMBERLITE IRA910 Cl resin used in water treatment.

## Hydraulic Characteristics

AMBERLITE IRA910 Cl resin gives a pressure drop of about 15 kPa/m bed depth per 10 m/h at 15°C. A backwash flow rate of 6 m/h gives a bed expansion of about 65 % at 15°C in water. Pressure drop data are valid at the start of the service run with a clear water and a correctly classifed bed. These data are valid for water treatment and have to be corrected according to the solution to be treated.

## Limits of use

Dow Water & Process Solutions manufactures special resins for food processing and potable water applications. As governmental regulations vary from country to country, it is recommended that potential users seek advice from their Amberlite representative in order to determine the best resin choice and optimum operating conditions.

**For more information about DOW™ resins, call the Dow Water & Process Solutions business:**
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