AMBERLITE® IRA404 CI is a type 1 strong base anion exchange resin. Its gel type matrix exhibits a high porosity making it very suitable for reversible uptake of large organic molecules. AMBERLITE IRA404 CI beads have a very homogeneous structure, thus a high osmotic resistance.

**PROPERTIES**
- **Matrix**: Styrene divinylbenzene copolymer
- **Functional groups**: Type 1 Quaternary amine
- **Physical form**: Clear yellow beads
- **Ionic form as shipped**: Chloride
- **Total exchange capacity**: 1.1 meq/ml minimum (Cl form)
- **Moisture holding capacity**: 56 % min (Cr form)
- **Shipping weight**: 44lbs/ft³
- **Particle size**: Screen Grading (wet), Screen Analysis
  - 4% maximum on 16 mesh (US Std Screens)
  - 1% maximum thru 50 mesh
  - 1.5 maximum
- **Uniformity coefficient**: Cl⁻ ~ OH⁻: approximately 20%

**SUGGESTED OPERATING CONDITIONS**
- **pH range**: 0 to 14
- **Maximum operating temperature**: 140°F (OH form) 170°F (Cl form)
- **Minimum bed depth**: 24 inches minimum
- **Service flow rate**: 0.25 to 3 gpm/ft²

**Regenerant (100% basis)**
- **Level (lbs/ft³)**
  - NaOH: 2.5 to 12.5
  - NaCl*: 5 to 19
- **Concentration (%)**
  - 2 to 4
  - 0.25 to 1.0
- **Flow rate (gpm/ft³)**
  - 0.25 to 1.0
  - 0.25 to 1.0
- **Minimum contact time (minutes)**
  - 30
- **Slow rinse**: 15 gal/ft³ at regeneration flow rate
- **Fast rinse**: 30 to 60 gal/ft³ at service flow rate

* For color removal applications, alkaline brine (10% NaCl + 2% NaOH can also be used.

**APPLICATIONS**
AMBERLITE IRA404 CI is the resin of choice in many applications. Examples include:
- Decolorization of organic aqueous solutions derived from natural products (e.g. cane sugar syrups) or from fermentation broths (e.g. antibiotics),
- Enzyme Immobilization
- Organic trap ("Scavenger"), to remove natural organic components from surface water

**FOOD PROCESSING**
Rohm and Haas manufactures special resins for food processing and drinking water applications. As governmental regulations vary from country to country, it is recommended that potential users contact their Rohm and Haas representative to assess the best choice of resin and optimum operating conditions.
HYDRAULIC CHARACTERISTICS

Figure 1 shows the pressure drop data for Amberlite IRA 404 Cl resin as a function of flow rate and water temperature. Pressure drop data are valid at the start of the service run with clean water and a correctly classified bed. Figure 2 shows the bed expansion of Amberlite IRA 404 Cl as a function of backwash flow rate and water temperature.

![Fig. 1 : Bed Expansion](image1)
![Fig. 2 : Pressure Drop](image2)

All our products are produced in ISO 9002 certified manufacturing facilities.

SAFE HANDLING INFORMATION

Material Safety Data Sheets

Material Safety Data Sheets (MSDS) are available for all Rohm and Haas products. These sheets contain pertinent information that you may need to protect your employees and customers against any known health or safety hazards associated with our products.

We recommend that you obtain copies of our MSDS by calling 1-800-RH-AMBER before using our products in your facilities. We also suggest that you contact your suppliers of other materials recommended for use with our products for appropriate health and safety precautions before using them.

Caution:  Acidic and basic regenerant solutions are corrosive and should be handled in a manner that will prevent eye and skin contact. In addition, the hazards of other organic solvents should be recognized and steps taken to control exposure.

Nitric acid and other strong oxidizing agents can cause explosive reactions when mixed with ion exchange resins. Proper design of process equipment to prevent rapid build-up of pressure is necessary if use of an oxidizing agent such as nitric acid is contemplated. Before using strong oxidizing agents in contact with ion exchange resins, consult sources knowledgeable in the handling of these materials.

Note:  Ion exchange resins and polymeric adsorbents, as produced, contain by-products resulting from the manufacturing process. The user must determine the extent to which organic by-products must be removed for any particular use and establish techniques to assure that the appropriate level of purity is achieved for that use. The user must ensure compliance with all prudent safety standards and regulatory requirements governing the application. Except where specifically otherwise stated, Rohm and Haas Company does not recommend its ion exchange resins or polymeric adsorbents as supplied as being suitable or appropriately pure for any particular use. Consult your Rohm and Haas technical representative for further information.

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