Selectivity and Flexibility: Two Reasons to Consider Ion Exchange Resins

Meeting safe drinking water standards for trace contaminants requires increasingly tailored solutions. Maximum contaminant levels for radionuclides, inorganic and organic chemicals now require selective removal solutions to ensure compliance. Ion exchange has emerged as the leading technology for selective removal for two reasons: exceptional selectivity for trace contaminants and flexibility of operation.

Ion exchange resins act as “chemical sponges,” efficiently removing greater than 99 percent of trace contaminants with an ultra-tight hold. Ion exchange resins also have a very high exchange capacity, so they can treat many thousands of volumes of water before they need to be replaced or regenerated.

Since ion exchange resins are incorporated in modular tanks, a system can be expanded incrementally to meet demand. Ion exchange systems are available as fixed installations at the treatment site or as mobile units with an exchange service. Flow variations do not affect performance in ion exchange, which operates effectively under a wide range of flow, temperature and feed water chemistry situations.

The high selectivity of ion exchange resins, combined with flexibility of operation, makes ion exchange the most cost-effective technology for trace contaminant removal for many potable water applications.

www.dowex.com

A New Portfolio of Cost-Effective Solutions for Trace Contaminant Removal

DOWEX™ Ion Exchange Resins
Benefits of DOWEX™ Ion Exchange Resins

DOWEX™ ion exchange resins provide the optimal balance of quality performance, reliability, and efficiency. Choose new product options for Dow offers a full array of options with the following benefits:

- Selectivity. Ion exchange resins provide selective removal of trace contaminants by matching cations or anions with a specific resin for a given ion species. DOWEX ion exchange resins include specialized techniques developed for selective removal of radium, strontium, perfluorocarbons, chromium, and many other trace contaminants.
- Durability. DOWEX ion exchange resins are tough, durable plastic beads that remain stable when exposed to strong acids, bases, and solvents. DOWEX ion exchange resins have been engineered by polymer chemist Dow to be the toughest beads on the market. DOWEX resins also have the highest capacities in the industry for metals and mineral salts that can accumulate during use.
- Reliability. DOWEX ion exchange resins provide reliable performance for difficult and demanding water purification solutions, backed by more than 60 years of ion exchange manufacturing expertise. DOWEX resins are manufactured in Midland, Michigan, with statistical quality controls under a comprehensive line of both gel and macroporous resins. Dow offers a full range of perchlorate resins, ranging from highest total capacity to highest perchlorate selectivity: DOWEX 1, DOWEX NSR-1, DOWEX PSR-2, and DOWEX PSR-3.

A Portfolio of Options for Potable Water Applications

A new portfolio of products from Dow for potable water applications offers options for removing a wide variety of trace contaminants. Experts at Dow can work with you to design a water purification system that meets your specific needs—whether you need removal of a single contaminant or a particular combination of contaminants. If your application requires removal of a contaminant that isn’t listed here, please contact us. We work with you to find a solution that meets your precise requirements.

About Us

Products from Dow are used in the full spectrum of potable water applications: industrial water treatment, municipal water treatment, production of ultra pure water, commercial and domestic drinking water purification, on-site processing and other specialty applications. Dow is the only manufacturer of both membrane and ion exchange products—FILMTEC™ reverse osmosis and DOWEX™ ion exchange resins.

Dow began producing ion exchange resins in the 1960s, and was the first company to introduce and commercialize gel-type uniform particle size resins. Today, Dow is the world’s only supplier to offer a comprehensive line of both gel and macroporous uniform particle size anion and cation exchange resins.

Dow offers customers a consistent and reliable supply of ion-exchange resins around the world, with manufacturing centers in Midland, Michigan; Stade, Germany; and Forlimpo, Italy. Customers can also count on global technical and application development assistance from Dow’s Technical Service Centers located in Midland, Michigan; Rheinmünster, Germany; Gotemba (Tokyo), Shizuoka, Japan; and São Paulo, Brazil.

Directors’ Services

Dow provides ion exchange resins sample analysis to help customers optimize system performance and identify the causes of performance problems. The analysis service includes a variety of diagnostic and testing options. CADDIX

CADDIX is a computer-aided design tool for ion exchange, which is a comprehensive ion exchange engineering software tool. CADDIX provides design options and economic comparison of various ion exchange systems. For live demonstration of CADDIX, go to www.dowex.com and click on “Download Software.”