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Corporate Profile





Worldwide Headquarters
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About Orica

Orica is a leading publicly owned Australian company with operations in 50 countries and customers in twice that many.

Orica turns science into the solutions that satisfy basic human needs. Our products, brands and services can be trusted for their reliability, range and quality. Each of our businesses – Orica Mining Services, Orica Consumer Products, Chemnet, and Chemical Services – is the leader in its chosen market and enjoys a world-class reputation.

At Orica, we care about people and the environment. We recognize the impact our products and services have on the communities in which we work. That's why we are committed to conducting our business in a sustainable manner that best serves our customers and the environment.

Orica Watercare

Orica Watercare, a division of Chemical Services, supplies a range of water and wastewater treatment products and services for municipal and industrial applications in Australia, North America, Europe, Africa, and the Asia-Pacific region.

The MIEX® Business Platform, within Orica Watercare, devotes itself to the development and support of ion exchange solutions for water, wastewater, and industrial processing applications. Our international team is focused primarily on the sale, manufacture, and distribution of the MIEX® Technology – an advanced ion exchange process that uses MIEX® Resins for the removal or recovery of targeted species from waters.

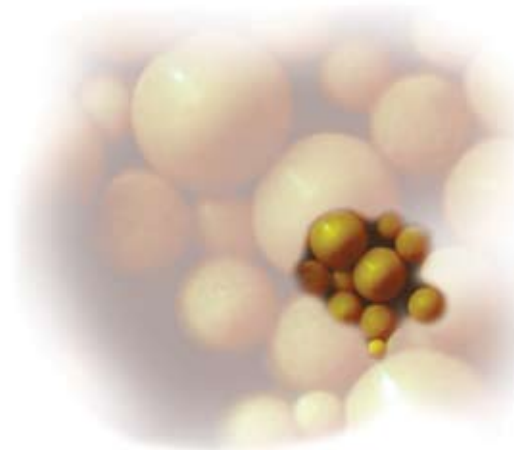
We take pride in creating cost-effective and value adding treatment solutions that are environmentally friendly and designed with the future in mind. Whether the objectives are for health, environmental, or aesthetic purposes or for improved plant efficiencies, Orica Watercare can help.

MIEX® Technology

The name MIEX® is derived from 'Magnetic Ion Exchange' as the MIEX® Resin beads have a unique magnetic property. This magnetic property enables the ion exchange process to occur in either continuous or batch processes. This provides a distinct advantage over conventional ion exchange processes, where continuous operation is not typically available.

The MIEX® Technology is utilized as a continuous process where capacities are large and consistent treatment quality is required. This process involves the continuous treatment of a liquid stream and the removal of targeted species. The ion exchange process is maintained in a steady state by the withdrawal and regeneration of loaded resin, and the return of this resin to the process.

The MIEX® Technology can also be applied by utilizing MIEX® Resin in a batch process. Often, existing infrastructure can be used with minimal capital investment. This application involves the simple mixing of resin with the liquid to be treated, loading this resin with the target species and then capturing and removing the loaded resin from the process stream.



Magnified MIEX® Resin beads

Regeneration of the loaded resin then takes place in a separate process, or the resin is simply disposed of in its loaded form. This treatment approach can be used specifically for the separation and disposal of hazardous materials from waste streams.

MIEX® Process Benefits

The MIEX® Process offers a number of benefits over alternative technologies.

- The ability to apply it in a continuous or batch process.
- High up-flow rates in continuous operation of up to 10 gpm/ft².
- High ion exchange surface areas allowing for rapid kinetics in both the ion exchange and regeneration processes.

- Minimal impact from suspended solids allowing the technology to be used in various locations within a treatment process.
- Small treatment footprint and low resin inventories.
- Enhanced downstream treatment efficiencies due to a reduced contaminant load.
- Significant reductions in coagulant and chemical doses with reduced operating costs.
- Very low waste volumes of less than 0.1% of flow.
- No contaminant breakthrough.

Potable Water Treatment

The MIEX® Process has a number of applications in potable/drinking water treatment. One key application is the removal of dissolved organic carbon (DOC). The benefits of efficient DOC removal include reductions in disinfection by-products, color, taste and odor as well as reduced coagulant and chlorine demand, improved downstream process efficiencies (i.e. reduced membrane fouling) and reduced sludge volumes. In addition to the removal of DOC, MIEX® Resins can also be used in the removal of nitrate, bromide, arsenic, and chromate, and in water softening applications.

Wastewater Treatment

The MIEX® Process is also suited for the treatment of both municipal and industrial wastewater. The MIEX® Technology finds application where water quality improvements are sought prior to discharge to sewer or further waste treatment and where water reclaim or recycle is a priority. The ability of the MIEX® Technology to remove DOC provides significant benefits in municipal wastewater treatment and in

a range of industrial processes including pulp and paper, food and dairy, textiles, and power generation. In addition, the removal of a range of inorganic materials provides benefits in mining, mixed acid waste treatment and numerous other applications.

Industrial Processing

The unique continuous ion exchange process that the MIEX® Technology offers also allows ion exchange to be used in industrial processes more efficiently than conventional ion exchange systems. To this end, MIEX® Resins can be used to treat process streams in industrial applications, such as ultrapure water, in order to improve treatment efficiency and throughput capacity.

Treatment Systems

MIEX® Systems are available as packaged units (MAGNAPAK® Systems) up to 2 Million Gallons per Day (2 MGD) and as custom-designed systems for all capacities greater than 2 MGD. Open tank gravity flow systems and enclosed pressurized systems are available.

MIEX® Treatment Systems are modular, allowing simple delivery, installation, and equipment addition should additional capacity be required.

Services

Orica Watercare performs laboratory and pilot evaluations to determine the optimum performance of the MIEX® Technology on water and wastewater streams. A design package and budget estimate can be provided based on these feasibility studies. Orica Watercare is also fully equipped to supply equipment and perform system commissioning and optimization upon installation.