

Ion Exchange Resins Providing Holistic Solutions

By LANXESS India Pvt Ltd

"Ion exchange resins is a powerful tool in the toolbox of a modern water professional."

– Dr. Stefan Neumann, LANXESS Deutschland GmbH



LANXESS India Private Limited, a specialty chemical company recently showcased its high-performance ion exchange resins at 6th EverythingAboutWater Expo 2009 in New Delhi from January 28-30. For the event, Ion Exchange Resins Business Unit from LANXESS India Private Limited, an affiliated company of Deutschland GmbH with its headquarter in Leverkusen (Germany) participated.

At the conference taking place in parallel to the exhibition, Dr. Stefan Neumann, Manager Technical Marketing Water and Chemicals Purification in the Ion Exchange Resins Business Unit presented technical papers on possible applications for ion exchange resins in water treatment.

The focus was on holistic solutions for the fields of food, catalysis, chemical processes and industrial water treatment. For these sectors, the Ion Exchange Resins business unit, one of the leading manufacturers of ion exchangers, offers its premium products from the Lewatit range, which play a key role, for example, in the treatment of drinking water, the production of ultra-pure water and in applications in the power plant sector.

The following topics were covered:

- ▶▶ Co-flow or counter-flow: a comparison between different ion exchange processes
- ▶▶ Overview of applications of ion exchange and adsorber resins in wastewater treatment
- ▶▶ Removal of arsenic from potable water by means of a new hybrid adsorber

In his first presentation, Dr. Neumann gave insight into the various ion exchange processes that are used worldwide and describe

their characteristics and action. In addition, he explained the most important pros and cons, putting the audience in a position to be able to select the most suitable solution among the varieties offered to meet their individual needs and the local conditions.

In the second presentation, he explored the most important applications for ion exchange and adsorber resins in wastewater treatment. He described the use of premium products in the areas of direct filtration, polishing, water and process steam treatment and in the development of new, environmentally compatible processes. Fields of application include mining, semiconductor manufacture and surface finishing and the photographic, glass, ceramics and leather industries. He explained how among the numerous physical, chemical and biological methods available for water treatment ion exchange and adsorber resins offer particularly interesting and efficient technical solutions.



Removing traces of toxic substances, especially arsenic, is becoming increasingly important in the production of drinking water. And LANXESS's new premium product Lewatit FO36 is able to selectively remove the toxic metalloid from drinking water. In his third presentation, Dr. Neumann focussed on experiments with the new adsorber Lewatit FO36. Issues of interest hereby were parameters like equilibrium and operating capacity, effects of water constituents on arsenic uptake as well as regenerability.

Ion exchange resins business unit in India

Ion exchange resins business unit is currently constructing a world scale ion exchange plant in the new Jhagadia Chemical Park near the city of Baroda in Gujarat state, India which will become the most modern plant in India. Production is scheduled to start in 2010 with 230 new employees.

Products which help to reduce contamination in water supply and wastewater disposal are becoming increasingly indispensable all over the world. "Demand for our ion exchange resins will grow, which is why we need to be well prepared in future so that we can satisfy rising demand in the long term while maintaining high quality standards," says Dr. Michael Zobel, head of the Ion Exchange Resins business unit.

In terms of investment volume, this is the biggest project undertaken by LANXESS's Ion Exchange Resins business unit since the end of the 1990s. "We intend to generate profitable growth and strengthen our good position in the global market", adds Zobel.

"We are entering one of the most rapidly growing and promising sectors of the industrial chemicals market," says Rainier van Roessel, the LANXESS Board of Management member responsible for this field. "We want to generate profitable growth and further strengthen our already good position on the world market."

Once it is completed, the plant will manufacture products for industrial water treatment and for creating extra-pure water for the semi-conductor and pharmaceuticals industries. The portfolio of anion, cation and mixed bed exchangers will encompass part of the Ion Exchange Resins Business Units' range of ion exchanger products.

India: the right place to be in

After China, India is LANXESS's most important growth market in Asia and its third-largest market in the region in terms of revenues. The world's seventh largest country also has the fastest growing consumer market, covering all sectors. What's more, the huge increases expected in future consumption will lead to the construction of many more production facilities for raw materials and intermediate products. The key industries for LANXESS in India are the automotive industry, the electrical and electronics sector, the tire industry and the

leather sector. These sectors currently generate nearly €55bn, or more than half of the company's total revenues. India is the fourth-largest chemicals producer in Asia, surpassed only by Japan, China and South Korea. Measured in terms of its gross value added, the chemicals sector is India's largest industry.

Over the past several years, India's chemicals industry has grown at an above-average rate of over seven percent per year. According to the Organisation for Economic Co-operation and Development, India's gross domestic product increased by slightly less than nine percent in 2007, and is expected to continue to grow by more than eight percent in the years ahead. All of these make India the right place for expansion and sustainable growth for LANXESS.

About the Contributor

LANXESS India Private Limited, the Indian subsidiary of LANXESS AG is a leading supplier of performance polymers, advanced intermediates and performance chemicals. LANXESS AG is a leader in specialty chemicals with sales in 2007 of €6.61bn and currently around 15,200 employees in 21 countries. The company is represented at 44 production sites worldwide.

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