LANXESS Energizing Chemistry

LANXESS at the Ecwatech 2016 water management trade fair, April 26 to 28, 2016, Moscow, Russia, Stand C7.6

Water expertise from a single source

Cologne – Specialty chemicals company LANXESS is showcasing its range of water treatment products at Ecwatech in Moscow from April 26 to 28, 2016. The exhibition is dedicated to the company's proven Lewatit-brand ion exchange resins for demineralization, removing arsenic from drinking water and heavy metals from wastewater, and to its Lewabrane reverse osmosis membrane elements. Sergey Shilov, head of the Liquid Purification Technologies (LPT) business unit for Russia, emphasizes the significance of the trade fair: "As one of the leading trade fairs for the water industry in the Russian-speaking world, Ecwatech is the ideal platform for expanding our market presence and cultivating customer relationships. We also want to present ourselves to the industry as an innovative, competent and reliable partner." Shilov sees Russia and CIS countries as a key market for LANXESS's water treatment business: "Russian government has initiated programs to improve water management, including investments in water infrastructure projects and environmental protection. We expect the programs aimed at modernizing water treatment plants to contribute significantly to our business success in Russia."

Russia's target program, "Water Management Development from 2012 to 2020," supports the investment of RUB 520.6 billion (approx. EUR 6.6 billion) in constructing and modernizing wastewater treatment plants, water lines, water reservoirs and other water infrastructure systems, but also in environmental protection. "We can assist water treatment plant operators in their efforts with our ion exchange resins and membrane elements, particularly in combination with our technical applications expertise and our proprietary Lewaplus design software."

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Ion exchange resins for requirements in Russia

Worldwide demand for products that remove arsenic from drinking water has risen dramatically. Health studies have shown that the long-term consumption of contaminated drinking water containing even low concentrations of arsenic of just a few parts per billion (ppb) can increase the risk of cancer or changes in the skin. Therefore, in accordance with WHO recommendations, many countries have set the maximum permitted value of arsenic in drinking water at 10 ppb, equivalent to 10 micrograms per liter.

Lewatit FO36 is a high-performance hybrid adsorber comprising a plastics-based anion exchange resin and an iron oxide with a goethite structure. By a special production method, the iron oxide is distributed in the pores of the slightly alkaline ion exchange resin in a layer just a few nanometers thick. This fine and thus highly reactive iron oxide layer can selectively bind the arsenic. Only the arsenic is removed because, unlike other anionic components in water, such as chloride, nitrate, sulfate and carbonate, it alone has a high affinity for the iron oxide surface. The other mineral substances – some of which are nutrients – remain in the drinking water.

Lewatit MonoPlus TP 207 is a weakly acidic, macroporous cation exchange resin with chelating iminodiacetate groups for the selective extraction of heavy metal cations from weakly acidic to slightly alkaline solutions. It is characterized by a monodisperse particle size distribution, meaning it comprises beads of uniform size. Its superior kinetic behavior results in the faster uptake of ions and better capacity utilization compared to ion exchange resins with a heterodisperse particle size distribution. It is particularly suitable for the concentration, extraction and recovery of heavy metals from hydrometallurgical solutions, the removal of metal contaminants from processing baths, the recovery of useful metals from electroplating rinses, the selective removal of trace heavy metals from wastewater and from groundwater for the production of potable water.

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Pooled competence for water treatment

LANXESS's membrane elements for reverse osmosis, marketed under the brand name Lewabrane, also serve the treatment of brackish water and seawater. "Currently, tens of thousands of our elements are in use in more than two dozen countries around the world, including Russia," explained Alexander Scheffler, Director of Membrane Business in the LPT business unit. "To meet the rising demand, we will be doubling the capacity of our production facility in Bitterfeld by 2017," continued Scheffler. LANXESS membrane elements boast a long service life, a good permeate yield, effective salt rejection and low energy requirements. Innovative models recently became available with a novel feed spacer in which the mesh comprises strands of alternating thickness. The new product family is named after this alternating strand design (ASD) and will be premiered at Ecwatech in Russia.

LANXESS's technological and application expertise in membrane technology and ion exchange are continuously being incorporated into its LewaPlus design software. A new module of this software tool is now available that enables calculations of condensate treatment in water-steam circuits. These circuits are very widespread in industry, specifically in the power plant sector, and often place high and very specific demands on water quality.

Detailed information about LANXESS products can be obtained online at <u>http://lpt.lanxess.com/en/home/</u>. Brochures and the LewaPlus software can also be downloaded from this website free of charge.

LANXESS is a leading specialty chemicals company with sales of EUR 7.9 billion in 2015 and about 16,200 employees in 29 countries. The company is currently represented at 52 production sites worldwide. The core business of LANXESS is the development, manufacturing and marketing of chemical intermediates, specialty chemicals and plastics. Through ARLANXEO, the joint venture with Saudi Aramco, LANXESS is also a leading supplier of synthetic rubber. LANXESS is listed in the leading sustainability indices Dow Jones Sustainability Index (DJSI World) and FTSE4Good.

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Forward-Looking Statements.

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Information for editors:

All LANXESS news releases and their accompanying photos can be found at <u>http://press.lanxess.com</u>. Recent photos of the Board of Management and other LANXESS image material are available at <u>http://photos.lanxess.com</u>. TV footage can be found at <u>http://globe360.net/broadcast.lanxess/</u>.

You can find further information concerning LANXESS chemistry in our WebMagazine at http://webmagazine.lanxess.com.

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