Press Release

Kumho Mitsui Chemicals Begins Operation of Chlor-Alkali Plant Using thyssenkrupp nucera Technology

- Utilizing latest generation e-BiTAC v7 electrolyzers, thyssenkrupp nucera designed and supplied a chlor-alkali plant for Kumho Mitsui Chemicals (KMCI) in Yeosu, South Korea
- KMCI uses produced chlorine to replace imports of this raw material and to expand its Methylene Diphenyl Diisocyanate (MDI) production capacity
- New chlor-alkali plant also enables KMCI to recycle by-product brine from MDI production and to reduce its environmental footprint

Dortmund, Tokyo, June 16, 2025 – Kumho Mitsui Chemicals (KMCI) has enhanced its production process of Methylene Diphenyl Diisocyanate (MDI) by utilizing the latest generation e-BiTAC v7 electrolyzer technology from thyssenkrupp nucera. The supplier of world-leading technologies for high-efficiency electrolysis plants designed and supplied a chlor-alkali plant for KMCI in Yeosu, South Korea with a capacity of 60,000 tons per year of chlorine production. Recently, the operation of the plant has been started successfully.

KMCI, a South Korean petrochemical company and a world-leading polyurethane maker, will use the produced chlorine for MDI production – replacing imported raw material of chlorine. MDI is an essential raw material for production of Spandex, TPU (Thermoplastic polyurethane), synthetic leather, shoes, paints, coating, adhesives, and various elastomers.

Furthermore, the chlor-alkali plant will recycle by-product brine from MDI production which is usually discharged as effluent. This enables KMCI to comply with stringent environmental regulations on industrial effluent in a cost effective manner and to reduce their environmental footprint. “The start-up of our new chlor-alkali plant is an important step to expand our production capacities and to secure an independent supply of MDI without importing chlorine. It also underlines our commitment to supplying eco-friendly products,” says Kwon Hyung Seob General Manager of KMCI.

thyssenkrupp nucera initially supplied a lab cell facility as a pilot test and verified the technical feasibility for operating the chlor-alkali plant with waste brine from MDI process. Afterwards, in 2021, the electrolyzer specialist was awarded an EP contract to design and supply the entire chlor-alkali plant. “Once again, our

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proven electrolysis technology made an important contribution to our clients' path to improve their production processes and reduce their environmental footprint. By recycling by-product brine, KMCI and thyssenkrupp nucera have jointly addressed one of the major concerns of the polyurethane industry," says Akira Shigeta, CEO of thyssenkrupp nucera Japan.

Photos:
If you require photos, please contact us.

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About thyssenkrupp nucera:
thyssenkrupp nucera offers world-leading technologies for highly efficient electrolysis plants. The company has extensive expertise in the design, procurement, and construction of electrochemical plants. Its track record includes more than 600 successfully installed projects with a total capacity of more than 10 gigawatts. thyssenkrupp nucera's chlor-alkali electrolysis plants allow significant savings in construction costs and offer fast, simple, and cost-effective assembly. thyssenkrupp nucera successfully made an IPO in July 2023 and is a member of the SDAX of the Frankfurt Stock Exchange.
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