

DuPont Clean Technologies



Orlen Lietuva Contracts DuPont Clean Technologies for STRATCO® Alkylation Technology

Offering Operational Flexibility and Reliability in Lithuania

WILMINGTON, Del., February 10, 2021 – DuPont Clean Technologies (DuPont) has been awarded the contract to supply ORLEN Lietuva (ORLEN) with licensing, engineering, and technical services for a STRATCO® alkylation unit and a MECS® spent acid regeneration (SAR) unit at the Mažeikiai refinery in Mažeikiai, Lithuania. The Mažeikiai refinery processes an average of 8 million tons of crude per year with capacity of up to 10 million tons of crude per year. In order to increase refinery complexity and flexibility of the Mažeikiai refinery, ORLEN commissioned DuPont for a STRATCO® alkylation unit with 240 kmta (6,000 bpsd) alkylate capacity. The alkylation unit will utilize LPG in the conversion to alkylate, and therefore upgrade refinery profitability. The 75 mtpd MECS® SAR unit, also under license from DuPont, will provide the refinery with a consistent supply of sulfuric acid, which is utilized as the catalyst for the alkylation unit, while ensuring compliance with the region's stringent emission regulations.

The STRATCO® alkylation unit will enable ORLEN to generate low-sulfur, high-octane, low-Rvp alkylate with zero olefins that meets the criteria of the EURO VI standard. Startup for both units is targeted for 2025.

"The addition of an alkylation unit will continue to increase the flexibility of operations and refining efficiency at the Mažeikiai Refinery. We are extremely excited to enter into this project with ORLEN, supporting them through their modernization efforts by enabling them to produce high quality alkylate for their gasoline pool. It will be our pleasure to assist ORLEN from design to startup of their unit and for years to follow," said Kevin Bockwinkel, global business manager, STRATCO® Alkylation Technology.

The STRATCO® alkylation technology is a sulfuric acid-catalyzed process that converts low-value, straight-chain olefins (propylene, butylene and amylene) into high-value, branched components called alkylate. Alkylate is known for its superior blending properties and is a key component for clean gasoline. The STRATCO® alkylation technology helps refiners safely produce cleaner-burning gasoline with high octane, low Reid vapor pressure, low sulfur, zero aromatics and zero olefins. Licensed and marketed by DuPont as part of its Clean Technologies portfolio, the STRATCO® alkylation technology is the world-leading alkylation

technology with more than 100 licensed units worldwide and more than 915,000 bpsd (35,800 kmta) of installed capacity. DuPont is committed to alkylation research and has extensive experience in assisting refiners with alkylation research, design, start-ups, test runs, troubleshooting, optimization, revamps, expansions, analytical testing, operator training, turnarounds and HAZOP studies.

The MECS® Spent Acid Regeneration (SAR) technology is an extremely reliable, dry gas technology which produces the highest acid concentration (99.2 wt% sulfuric acid and oleum) of all SAR processes for refinery alkylation, acrylonitrile and methyl methacrylate unit performance. High acid concentrations are particularly important for refinery alkylation units as it increases alkylate quality and reduces acid consumption. MECS® SAR plants offer high mechanical reliability and high on-stream time in comparison to wet gas processes, while also providing emissions abatement to ensure compliance with local and country environmental requirements. Integrated into the MECS® SAR technology are proven specialty products such as catalysts, Brink® mist eliminators, DynaWave® scrubbers, ZeCor® corrosion resistant alloy products, and acid coolers all of which are specifically designed for the most demanding operating environments. Licensed and marketed by DuPont as part of its Clean Technologies portfolio, the MECS® technology is the world-leading sulfuric acid production technology with more than 400 licensed acid plants worldwide since the 1960's. DuPont Clean Technologies is committed to long-term customer satisfaction and support for the life of customer assets.



CONTACTS

DuPont Clean Technologies

Jeannie Branzaru
Tel: +1-913-327-3552
jeannie.e.branzaru@dupont.com

STRATCO® Alkylation Technology

Kevin Bockwinkel
Tel: +1-913-327-3536
kevin.b.bockwinkel@dupont.com

About DuPont Clean Technologies

The Clean Technologies division of DuPont is a global leader in process technology licensing & engineering, with an unwavering commitment to customer support. We provide extensive global expertise across our portfolio of offerings in key applications - MECS® sulfuric acid production, STRATCO® alkylation, BELCO® wet scrubbing and IsoThermining® hydroprocessing. Offering critical process equipment, products, technology and services, we enable an array of industrial markets, including phosphate fertilizer, non-ferrous metals, oil refining, petrochemicals and chemicals, to minimize their environmental impact and optimize productivity. We are dedicated to helping our customers produce high-quality products used in everyday life in the safest, most environmentally-sound way possible, with a vision to make the world a better place by creating clean alternatives to traditional industrial processes. We make everyday life better, safer, cleaner.

www.cleantechnologies.dupont.com

DuPont Clean Technologies



About DuPont

DuPont (NYSE: DD) is a global innovation leader with technology-based materials, ingredients and solutions that help transform industries and everyday life. Our employees apply diverse science and expertise to help customers advance their best ideas and deliver essential innovations in key markets including electronics, transportation, construction, water, health and wellness, food and worker safety. More information can be found at www.dupont.com