HYDROGENATION AND SPECIALTY CATALYSTS

Introduction to Shell Catalysts & Technologies

SHELL CATALYSTS & TECHNOLOGIES
TRANSFORMING ENERGY TOGETHER

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In 2019, in a highly customer-focused move, Shell combined its refining and petrochemical technology licensor, Shell Global Solutions; refining catalysts company, Criterion Catalysts & Technologies; and petrochemical catalysts company, CRI Catalyst Company, to create Shell Catalysts & Technologies. The business operates research laboratories, development facilities, manufacturing plants and business units throughout the world.

It has a dedicated team providing a broad customer base with effective and cost-efficient catalysts and technologies. Customers can choose from a range of products with a specific focus on environmental applications, hydrogen separation and recovery, selective oxidation, selective and full hydrogenation, production of renewable fuels and specialty catalysts for specific applications.

Research and development

Shell Catalysts & Technologies' state-of-the-art capabilities include a broad spectrum of advanced tools and techniques to drive accelerated design and commercialisation of new high-performance catalyst formulations. Advanced analytical techniques offer unprecedented understanding of the delicate correlation between catalyst structure and function. Extensive on-site reactor systems span the technology range, from nano- to semi-commercial scale, and enable validation of catalyst performance, the creation of performance models and the execution of customer support studies.

Offerings

Since CRI (now part of Shell Catalysts & Technologies) acquired the hydrogenation and specialty catalyst company KataLeuna in 1997, it continued to promote the Leuna site in Germany and its history of catalyst innovations. Catalyst production capacity in Leuna, which started in 1921, has continued to grow. Today, two new world-scale production plants occupy the site. The site's research and development organisation combines the knowledge of deeply experienced staff with state-of-the art testing facilities, including the latest high-throughput catalyst testing devices.

The hydrogenation catalyst business is geared to providing top-tier catalysts for selective hydrogenation of the various product cuts associated with a steam cracker. Specifically, the catalyst products focus on selectively treating C_2, C_3, C_4 and pyrolysis gasoline (pygas, C_{5+}) streams. In addition, catalysts are available for a wide range of specialised selective and full hydrogenation applications.

With the catalyst knowledge from KataLeuna and the operational experience from Shell's ethylene steam crackers, the combined Shell Catalysts & Technologies technical and customer support teams can provide unique catalyst solutions to the industry. These solutions include high-performance catalyst products designed to address customers' specific concerns, including activity, pressure drop, cycle length and selectivity. In addition, tools such as detailed kinetic modelling enable a quick assessment of each customer's hydrogenation needs to help provide optimal solutions.

Finally, using the wealth of experience gained from KataLeuna and from the numerous research and development, and production sites within its organisation, Shell Catalysts & Technologies can work with individual customers to address specific catalyst needs. This could include the full process of new catalyst development: from initial catalyst concept through prototype manufacturing, laboratory testing and completion to full production scale-up.

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To read more about
“Hydrogenation and specialty
catalysts “**click the link above.**