

MEDIA RELEASE

Clariant's EnviCat[®] Green series catalyst chosen for major green ammonia project in China

- The large-scale project aims to produce green hydrogen from renewable sources for conversion into green ammonia
- A deoxygenation catalyst from Clariant's EnviCat Green series will be used to purify hydrogen by removing trace oxygen from the feed
- The catalyst offers superior gas hourly space velocity, which requires a smaller reactor, thereby reducing both capital and operating expenses

MUNICH, AUGUST 8, 2024

Clariant, a sustainability-focused specialty chemical company, today announced that a deoxygenation catalyst from its EnviCat Green series was selected for a major green ammonia project in China. The catalyst will be used to remove trace oxygen from green hydrogen produced at the facility, before conversion into green ammonia. Carbon-free production of ammonia greatly reduces the environmental impact of this valuable base chemical needed for vital applications, such as fertilizer production. Green ammonia is also expected to play a key role in the world's energy transition, offering versatile applications in transportation, power, and hydrogen supply.

Clariant's EnviCat Green catalyst demonstrates an excellent gas hourly space velocity (GHSV), a ratio of the gas rate per unit of catalyst, facilitating efficient deoxygenation processes. Thus, the process requires a considerably smaller reactor for oxygen removal, which not only saves equipment costs, but also offers high flexibility regarding transportation and installation. As a result, producers benefit from significant CAPEX and OPEX savings.

Xaver Karsunke, Vice President of Clariant Specialty Catalysts, commented, "The success of a global transition toward sustainable energy relies greatly on the collaboration of leading industry specialists. With our extensive experience in hydrogen purification technologies, and our innovative EnviCat Green series, we are proud to contribute to this project and others that support net-zero solutions like green ammonia."

As decarbonization momentum builds globally, demand has accelerated for emission-reducing technologies across sectors. Clariant's high-performance EnviCat Green series deoxygenation catalyst provides critical support by reducing contaminant levels, enabling the production of high-purity hydrogen, which is essential for next-generation energy. Besides high GHSV and related cost benefits, EnviCat Green also offers great efficiency in removing oxygen impurities down to 5 ppmv or even 0.1 ppmv, if required. Thanks to its outstanding activity and mechanical strength, the catalyst enables effective oxygen removal over a long lifetime.

The EnviCat series has been in commercial operation for over 20 years, with more than 1000 installations in various purification applications.

Learn more about Clariant's [EnviCat Green series catalysts](#) for hydrogen purification.



EnviCat Green series catalyst remove oxygen for high-purity green hydrogen. (AI Photo created using MidJourney™)

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Clariant is a focused specialty chemical company led by the overarching purpose of “Greater chemistry – between people and planet.” By connecting customer focus, innovation, and people the company creates solutions to foster sustainability in different industries. On 31 December 2023, Clariant totaled a staff number of 10 481 and recorded sales of CHF 4.377 billion in the fiscal year for its continuing businesses. Since January 2023, the Group conducts its business through the three Business Units Care Chemicals, Catalysts, and Adsorbents & Additives. Clariant is based in Switzerland.

www.clariant.com/catalysts

Building on a 165-year history, Clariant Catalysts is a global and independent manufacturer of energy-efficient catalyst technologies shaping a sustainable future for the chemical industry. We create greater chemistry – between people and planet – by helping to decarbonize our customers’ production processes and scaling up the transition toward zero-emission chemicals and fuels. Through our exceptional R&D and established expertise, our broad portfolio of catalysts and adsorbents provides innovative solutions that range from the oil and gas to the plastic sectors. With more than 2 000 employees at 31 locations, our high-performing teams collaborate with partners and customers across our global footprint.

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