

Media Release

Clariant and KBR supply turnkey design for low-cost, high-efficiency ammonia synthesis in Indonesia

- **Clariant supplies all process catalysts for ammonia synthesis at two major production plants in Indonesia**
- **Turnkey solution provided in collaboration with process and licensing partner KBR**
- **Advanced technology and catalysts designed to minimize costs and maximize efficiency**

Munich, January 11, 2017 – Clariant, a world leader in specialty chemicals, today announced that it is providing total catalyst solutions for two major ammonia production plants in Indonesia, in cooperation with its licensing partner KBR. The new projects rely on KBR's process technologies combined with a complete range of Clariant catalysts for the entire ammonia production process. Not only do the partners offer a turnkey design, but also an advanced solution that significantly reduces ammonia production costs while increasing plant efficiency.

The appointment further confirms Clariant's solid reputation as a leading supplier of catalysts for ammonia synthesis. The key catalysts selected for the projects include AmoMax® 10 for ammonia synthesis, ReforMax® 330 LDP and ReforMax 210 LDP for reforming, as well as ShiftMax® 120, ShiftMax 217 and ShiftMax 210 for high temperature shift (HTS) and low temperature shift (LTS) reactions. The catalysts' superior efficiency will ensure more cost-effective production, thereby greatly enhancing the producer's market prospects.

Of particular importance is the highly active AmoMax 10 catalyst, which presents a significant change in ammonia production after more than a century. In contrast to conventional magnetite catalysts, AmoMax 10 is based on a Wustite structure, which offers more than 20 percent higher activity. Besides boosting energy savings and ammonia yields, the catalyst's unique physical and chemical characteristics allow faster start of production, and reduce consumption of natural gas. AmoMax 10 has already demonstrated excellent performance in more than 100 ammonia plants worldwide.

Awarded in 2015, the Indonesian projects are part of a strategic cooperation between Clariant's Catalysts business and KBR, which effectively unites the partners' state-of-the-art solutions for ammonia synthesis into tangible and substantial benefits for producers. Successful startup of the plants is already underway, as per plan.

Stefan Heuser, Senior Vice President & General Manager Business Unit Catalysts at Clariant, stated, “We are delighted to collaborate with KBR on these important assignments in Indonesia. It validates the strength and success of our partnership – one that not only benefits our two companies, but also, and more importantly, our customers. The projects also demonstrate Clariant’s commitment to driving sustainable ammonia synthesis through continuous innovation.”

“KBR is committed to delivering complete solutions to our clients. Partnering with Clariant enables us to not only provide our market-leading ammonia technology, but also the best catalysts to optimize the performance of the plant and deliver best value and operability.”, said Avinash Malhotra, Vice President of Syngas Technologies at KBR.

GLOBAL TRADE MEDIA RELATIONS

STEFANIE NEHLSSEN

Phone +41 61 469 63 63
stefanie.nehlsen@clariant.com

Follow us on [Twitter](#), [Facebook](#), [Google Plus](#), [LinkedIn](#).

® TRADEMARK OF CLARIANT REGISTERED IN MANY COUNTRIES.

www.clariant.com

Clariant is a globally leading specialty chemicals company, based in Muttenz near Basel/Switzerland. On 31 December 2015 the company employed a total workforce of 17 213. In the financial year 2015, Clariant recorded sales of CHF 5.807 billion for its continuing businesses. The company reports in four business areas: Care Chemicals, Catalysis, Natural Resources, and Plastics & Coatings. Clariant’s corporate strategy is based on five pillars: focus on innovation through R&D, add value with sustainability, reposition portfolio, intensify growth, and increase profitability.

www.clariant.com/catalysts

Clariant’s Catalysts business unit is a leading global developer and producer of catalysts for industrial processes. It has been part of the Catalysis business area of the Clariant Group since the acquisition of Süd-Chemie in 2011. Clariant Catalysts is headquartered in Munich, Germany, and has a total of 18 production sites and 11 R&D and technical centers around the world. Approximately 1750 employees serve customers across all regional markets. Aimed at delivering sustainable value to customers, Clariant’s catalysts and adsorbents are designed to increase production throughput, lower energy consumption, and reduce hazardous emissions from industrial processes. The broad portfolio also includes products that enable the use of alternative feedstock for chemical and fuel production.