

Media Release

Clariant's EnviCat[®] VOC catalyst: the efficient solution for clean energy and air

- **High-performance catalyst for removal of VOCs and CO by catalytic oxidation**
- **High conversion efficiency at far lower temperatures than alternative off-gas purification methods**
- **Flexible design allows customization for many applications, and potential compatibility with future emissions regulations**

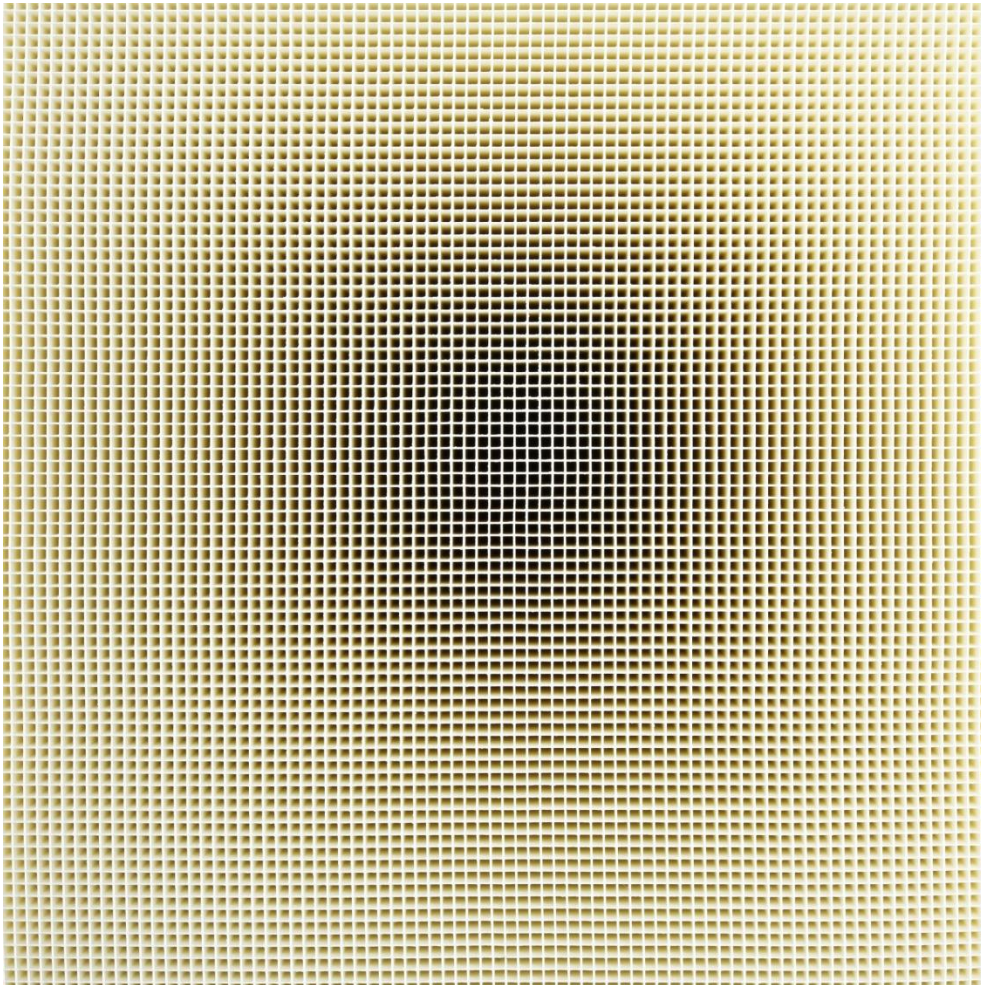
Munich, July 13, 2017 – Clariant, a world leader in specialty chemicals, is among the foremost suppliers of catalysts for off-gas purification. The company combines high-performance EnviCat catalysts with 40 years of global expertise in catalytic air and gas purification to offer highly effective solutions for the market. Based on the technique of catalytic oxidation, EnviCat VOC effectively removes harmful volatile organic compounds (VOCs) and carbon monoxide while reducing the energy consumption of thermal units by up to 40%. The catalyst is suitable for numerous industries that emit VOCs, such as the chemicals, food, printing, and energy production sectors.

With the growing focus on air purification, regulations regarding VOC limits are becoming increasingly stringent, both nationally and internationally. This is especially true in larger, high-growth economies like China. Conventionally, off-gas is treated by recuperative thermal oxidization (RTO). However, compared to catalytic oxidation, RTO occupies far more plant capacity, and requires substantially higher reaction temperatures, making it more expensive and less safe. Moreover, while RTO is adequate for meeting current regulations, its efficiency for future, stricter policies is uncertain.

In contrast, EnviCat VOC offers a high conversion efficiency of more than 99%, yet it operates at up to 400°C lower temperatures. This reduces fuel consumption and stress on equipment, resulting in significant economic, operational and safety advantages for producers. Thanks to the catalyst's adaptable design, and Clariant's advanced manufacturing capabilities, EnviCat VOC can be customized according to operators' processes and requirements to ensure optimum efficiency. This flexibility also means that EnviCat VOC has the potential to fulfill both current and future emissions standards. Numerous production facilities around the world already benefit from the high conversion and cost efficiencies of EnviCat VOC.

Stefan Heuser, Senior Vice President & General Manager Business Unit Catalysts at Clariant, explained the company's comprehensive customization concept, saying, "With EnviCat VOC, high efficiency is truly tailor-made. We work closely with our customers and engineering partners to deliver the optimum, one-stop solution in every case. Our versatility and innovation has made Clariant one of the market leaders in off-gas purification."

Shanghai Donghua Environmental Engineering Co. has been one of Clariant's key partners in China for almost 15 years. Mr. Zhao Xiaoping, the General Manager at Shanghai Donghua, described the relationship, stating, "Both our companies and customers benefit from our collaboration. EnviCat VOC is a perfect fit for our technology. We have used the catalyst in numerous off-gas treatment facilities, such as acrylic acid and acrylonitrile plants, with great results."



Clariant EnviCat[®] Catalyst ceramic honeycomb. (Photo: Clariant)

EnviCat® IS A TRADEMARK OF CLARIANT REGISTERED IN MANY COUNTRIES.

GLOBAL TRADE MEDIA RELATIONS

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Clariant is a globally leading specialty chemicals company, based in Muttenz near Basel/Switzerland. On 31 December 2016 the company employed a total workforce of 17 442. In the financial year 2016, Clariant recorded sales of CHF 5.847 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 16 production sites, 15 sales offices, and 11 R&D and technical centers around the world. Approximately 1 550 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.