

Media Release

Clariant forges strategic partnership with Chemtex in China for its sunliquid® technology

- **Strategic partnership formed with Chemtex Global Corporation for second-generation (2G) biofuels projects in China**
- **Clariant and Chemtex will collaborate to market and sell sunliquid® technology licenses, services and supplies for advanced biofuel plants in China**
- **2G biofuels will contribute to China's environmental advancement and offer support to fulfill the national blending mandate**

Shanghai, August 17, 2020—Clariant's Business Line Biofuels and Derivatives announced on August 15 during a joint presentation at the 7th Asia-Pacific Biomass Utilization Summit in Guangzhou that a strategic partnership has been formed with Chemtex Global Corporation for the realization of second-generation biofuel projects. Under the partnership, the two parties will collaborate to market and sell Clariant's [sunliquid®](#) technology licenses, as well as services and supplies for advanced biofuel plants in China.

As the largest passenger car market in the world, the environmental impact posed by transport greenhouse gas (GHG) emissions has become a big challenge for the Chinese government. In 2017, the State Council of PRC endorsed a new strategic plan¹ to further utilize bioethanol converted from agricultural residue as gasoline for motor vehicles. Under the nationwide blending mandate proposed, all gasoline used for motor vehicles will need to contain bioethanol as an additive. Clariant, with its innovative sunliquid® technology that offers an efficient process for converting agricultural residues into low-emission, carbon negative biofuel, is fully supporting the rollout of the mandate.

“China represents one of the key growth markets for Clariant. This strategic partnership with Chemtex is another milestone reached in our continued pursuit of the corporate goal of Adding Value with Sustainability,” says Christian Librera, Clariant's Head of Business Line Biofuels and Derivatives. “It is also pivotal in further strengthening our position in the national 2G biofuels market by providing our customers a comprehensive solution for the development, construction, and commissioning of their commercial-scale cellulosic ethanol plants in China along the ‘green’ development path of the country.”

¹ “The Plan for Expanding Biofuel Ethanol Production and Promoting Ethanol Usage in Motor Vehicles” was jointly published by 15 Chinese government departments that include the National Development and Reform Commission and National Energy Administration with endorsement by the State Council of People's Republic of China.

In addition to reducing GHG emissions by offering 2G biofuel that is climate-friendly, the sunliquid® process also makes great use of agricultural residues, which so far are mostly burned in the fields after harvesting to become a seasonal source of air pollution.

The combined offerings of Clariant and Chemtex will provide a comprehensive package of 2G ethanol technology licenses and Engineering Procurement Construction (EPC) services, enabling customers in China to successfully design, build and operate their own full-scale plants. While Clariant will offer its sunliquid® technology licenses, technical services and the supply of starter cultures from its proprietary enzyme and yeast platform, Chemtex will be responsible for engineering, procurement and construction.

“As a global industrial solution provider in biofuels, Chemtex has over 40 years of experience in the Chinese market. Following the project with Anhui Guozhen signed at the beginning of this year, we’re delighted to collaborate with Clariant in this strategic partnership. Within this collaboration, both companies will join forces to support our potential customers in China with the development and EPC services of commercial plants for the production of cellulosic ethanol from agricultural residues,” says Sean Ma, Chairman and CEO of Chemtex.

In January this year, the first license agreement for Clariant’s sunliquid® technology in China was signed between Clariant and its partners Chemtex and Anhui Guozhen, a local green energy company. Under the license agreement, a full-scale commercial plant with a 50,000-ton annual capacity for the production of cellulosic ethanol leveraging Clariant’s sunliquid® technology is planned to be built in Fuyang city in the Anhui province. Globally, there are three other license agreements for Clariant’s sunliquid® technology with renowned industry players in Slovakia, Poland and Bulgaria, besides the aforementioned agreement with Anhui Gouzhen and Chemtex.



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SUNLIQUID® IS A TRADEMARK OF CLARIANT REGISTERED IN MANY COUNTRIES

www.clariant.com

Clariant is a focused, sustainable and innovative specialty chemical company based in Muttenz, near Basel/Switzerland. On 31 December 2019, the company employed a total workforce of 17 223. In the financial year 2019, Clariant recorded sales of CHF 4.399 billion for its continuing businesses. The company reports in three business areas: Care Chemicals, Catalysis and Natural Resources. Clariant's corporate strategy is based on five pillars: focus on innovation and R&D, add value with sustainability, reposition portfolio, intensify growth, and increase profitability.

www.sunliquid.com

sunliquid® is an innovative biotechnological method for manufacturing cellulosic ethanol from agricultural residues such as cereal straw, corn stover or sugarcane bagasse. In the completely integrated process, highly optimized, raw material-specific biocatalysts decompose cellulose and hemicellulose in high yields under stable processing conditions into fermentable sugar. The process-integrated production of the biocatalysts offers flexibility and reduces production costs. In the next step, an optimized fermentation organism simultaneously converts C5 and C6 into ethanol with high yields and short reaction times. A highly optimized purification process is instrumental in enabling all the energy required for the process to be derived from the process byproducts like insoluble lignin. Since July 2012, Clariant has been operating a precommercial plant in Straubing, Germany, which produces up to 1,000 metric tons of cellulosic ethanol every year, confirming technical and economic performance. In September 2018, Clariant broke ground for its first-of-its-kind commercial facility in Podari, Romania, where the construction is currently underway. Clariant licenses its sunliquid® technology platform globally. So far, four license agreements have been executed with renowned industry players in Slovakia, Poland, China and Bulgaria.

www.chemtex.com

Chemtex is a technology oriented multinational engineering company. Coupled with expertise in providing technologies suitable for local markets, Chemtex provides state-of-art design packages, high quality equipment and EPC services that enhance the project economics based on the local environment.

Press release and photograph can be downloaded from www.clariant.com or www.PressReleaseFinder.com.