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PetroChina refinery starts up Ionikylation unit

PetroChina Dagang Petrochemical has commissioned a new unit based on composite ionic liquid alkylation technology for production of high-octane alkylate at its 5-million tpy refinery in Dagang, Tianjin, at northeastern China's Dagang field.

Robert Brelsford

Aug. 26, 2022



PetroChina Dagang's new ionikylation unit.

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PetroChina Dagang Petrochemical Co., a subsidiary of [PetroChina Co. Ltd.](#)—the publicly listed arm of state-owned China National Petroleum Corp. (CNPC)—has commissioned a new unit based on composite ionic liquid alkylation technology for production of high-octane alkylate at its 5-million tonnes/year (tpy) refinery in Dagang, Tianjin, at northeastern China's Dagang field.

Operational as of Aug. 14 and located on a plot space of 159 m by 71 m at the site of the refinery's previously dismantled catalytic reforming unit, the new 150,000-tpy Ionikylation unit is producing high-octane alkylate with a RON of 98 to help the operator ensure the site's 1.5-million tpy production of gasoline meets China's current National VI (equivalent to Euro 6) emission standard, Well Resources Inc.—the technology's global licensor—said on Aug. 23.

Estimated at total project cost of 330 million yuan, the new Dagang alkylation unit is the third unit in PetroChina's portfolio based on Beijing-based China University of Petroleum's Ionikylation process, which uses a proprietary composite ionic liquid catalyst that eliminates reliance on more dangerous, corrosive, and hazardous chemicals—such as hydrofluoric and sulfuric acids—to safely and more efficiently

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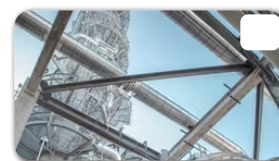
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sulfur acids to safely and more efficiently

produce low-sulfur, high-octane alkylate free of sulfur, benzene, olefins, and aromatics that complies with increasingly more stringent clean-fuel standards ([OGJ Online, Apr. 1, 2022; July 8, 2019](#)).

PetroChina previously completed startup of a revamped 3,000-b/d brownfield alkylation unit retrofitted with Ionikylation technology in November 2018 at subsidiary Harbin Petrochemical Co. Ltd.'s refinery in Harbin City, Heilongjiang Province, as well as the January 2019 commissioning of a 1,000-b/d Ionikylation unit at subsidiary Golmud Petroleum Refinery's 20,000-b/d refinery in the Qinghai-Tibet Plateau of Golmud City, Qinghai Province ([OGJ Online, Apr. 16, 2020](#)).

Commissioning of the Dagang refinery's new unit marks the seventh commercial Ionikylation project entering operation to date, Well Resources confirmed.

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