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METHANE ETHANE CRACKERS

Replaces steam with methane as the diluent in thermal cracking to simplify plants and lower operating costs while improving conversion control.

Researchers at Purdue University have developed a novel process to produce olefins via thermal cracking of paraffins. Whereas current cracking processes use steam as a diluent in the feed mixture, this technology uses methane as a diluent. With the implementation of methane as a diluent, the complex and expensive steps for steam generation associated with current steam crackers is eliminated, allowing for potential cost savings. Furthermore, this technology allows for the adjustment of partial pressure of alkanes in the dehydrogenation reactor to yield higher conversions.

Advantages:

-Cost savings

-Simpler process

Potential Applications:

-Thermal cracking of paraffins

TRL: 3

Intellectual Property:

NATL-Patent, N/A, United States

Provisional-Patent, 2019-03-29, United States

Utility-Gov. Funding, 2020-03-27, United States

PCT-Gov. Funding, 2020-03-27, WO

Keywords: Chemical Engineering, CISTAR, Ethane, Methane

Technology ID

2019-AGRA-68562

Category

Chemicals & Advanced Materials/Specialty & Performance Chemicals

Chemicals & Advanced Materials/Materials Processing & Manufacturing Technologies

Further information

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