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Process to Upgrade Natural Gas Liquids from Shale Gas Using Final Product as Absorbent to Recover C_2+ Hydrocarbons

A simplified loop recycles part of the final liquid to recover C2+ from gas, improving purity and lowering costs.

Researchers at Purdue University have developed a process to upgrade natural gas liquids in shale gas, wherein at least a portion of the liquid hydrocarbon product is used as the absorbent to recover C2+ hydrocarbon from

a gaseous stream. The processing steps could be adjusted for various upgrading processes and various product specifications. This process is shown to have high recovery and purity for both CH4 and liquid hydrocarbon products with a simple design.

Advantages

-Recyclable

-Cost Efficient

Potential Applications

-Oil and Gas

-Chemical Engineering

-Energy

TRL: 2

Intellectual Property:

Provisional-Patent, 2019-10-18, United States

Utility-Gov. Funding, 2020-10-16, United States

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Chemicals & Advanced Materials/Green & Bio-Based Chemistry

Chemicals & Advanced Materials/Materials Processing & Manufacturing Technologies

Further information

Will Buchanan
wdbuchanan@prf.org

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