

Fourte®

Innovative Fluid Catalytic Cracking Catalyst for butylenes maximization

Fourte® delivers higher butylenes yields for a \$0.68 / bbl profitability improvement.

A Gasoil FCC unit desired more butylenes to fill its alkylation unit. Other objectives were to improve delta coke, straight run naphtha octane, and bottoms upgrading, while maintaining the same transportation fuel yields.

Results

Fourte outperformed the incumbent catalyst and generated significant profitability for the refinery via increased LPG olefins, particularly butylenes, improved bottoms upgrading, and increase in gasoline octane.

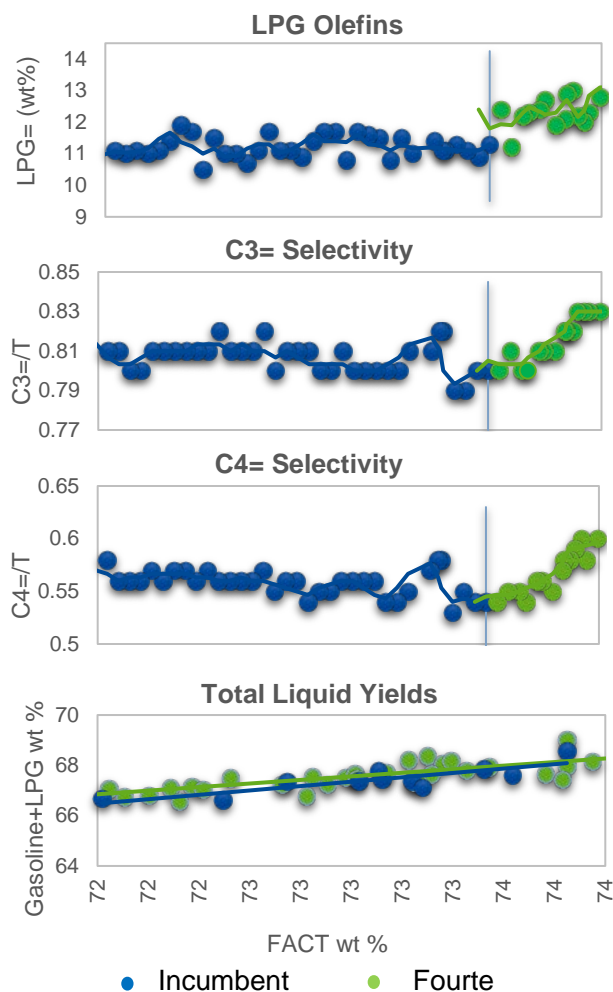
The **Fourte** catalyst:

- increased butylenes by 9%;
- increased LPG by 4%;
- maintained total LPG and gasoline;
- increased gasoline octane by 1.2 $(R+M)/2$;
- lowered dry gas by 15%;
- increased total liquid yields by 0.7%

The refinery also saw a sharp boost in LPG olefins. The propylene selectivity increased by 3% and butylene selectivity increased by 11%. Road gasoline octane of the as-produced naphtha was 1.2 $(R+M)/2$ higher. The refinery significantly increased high octane blending components by:

- maximizing liquid yields stream;
- maximizing butylenes make up to the alkylation unit capacity;
- boosting FCCU gasoline octane

With the yield and product property benefits, and by maximizing the alkylation unit usage, the refinery achieved an improvement of **\$0.68 / bbl** in profitability.



About Us

BASF's Catalysts division is the world's leading supplier of environmental and process catalysts. The group offers exceptional expertise in the development of technologies that protect the air we breathe, produce the fuels that power our world and ensure efficient production of a wide variety of chemicals, plastics and other products, including advanced battery materials. By leveraging our industry-leading R&D platforms, passion for innovation and deep knowledge of precious and base metals, BASF's Catalysts division develops unique, proprietary solutions that drive customer success.

BASF - We create chemistry

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