

Fourtune™

Next generation Fluid Catalytic Cracking Catalyst Performance for butylenes maximization over propylene

Fourtune™ delivers highest butylenes yields and \$0.30/bbl profitability improvement.

Alkylate produced from butylenes offers a high value gasoline blendstock. FCC units supply most of the butylenes to be fed to the alkylation unit. Fourtune™ was tested in a Gasoil FCC unit that desired more butylenes and greater butylene selectivity (versus propylene) to fill its alkylation unit. The unit was already employing BASF's Fourte™ catalyst and sought further improvements in butylene selectivity.

Results

Fourtune™ outperformed the incumbent catalyst and generated significant profitability for the refinery via increased butylenes yields, improved butylenes selectivity and increased gasoline octane.

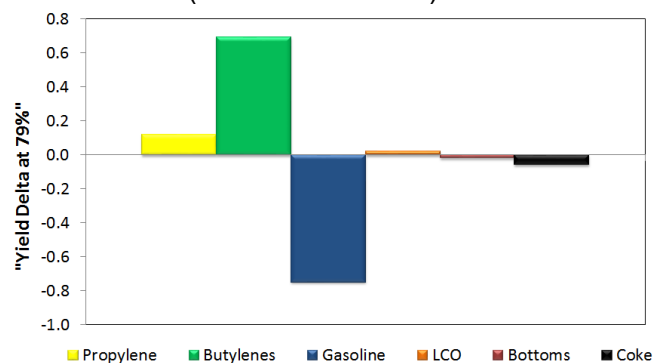
A post audit of the **Fourtune™** catalyst was performed using multiple tools, including circulating riser pilot plant testing, commercial data regression analyses and kinetic modeling.

The final analysis showed that **Fourtune™** at constant conditions:

- Increased butylenes by > 0.5 vol%
- Increased butylene/propylene ratio by > 10%
- Increased gasoline RON (R+M)/2 octane by 0.6

The net value to the refinery for the observed yield shifts with **Fourtune™** was calculated to provide an additional return of **\$0.30/bbl** at constant operating conditions and feed quality versus the incumbent Fourte™ catalyst employed previously. Compared to the catalyst that had been employed in this FCCU for an extended period prior to the introduction of Fourte™, the combined benefit was over **\$>1/bbl**.

Yield delta for Fourtune™ against Fourte™
(at 79% conversion)



- Data from refinery ECAT CRU post audit

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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