

Altrium®

Innovative BASF FCC Resid Catalyst improves margin by up to 0.60 \$/bbl and allows for a flexible operation

Altrium® is the newest BASF catalyst based on the combined technologies AIM (Advanced Innovative Matrix) and IZY (Improved Zeolite-Y).

Due to changes in market environment, increasing the LCO output through better bottoms upgrading became more attractive for refineries. The newest BASF resid catalyst, **Altrium**, was introduced to a Western European refinery to increase transportation fuels yields and to improve the overall profitability of the operation.

Operation Background and Performance

The fluid catalytic cracking unit (FCCU) is a UOP stacked design with a 30 kbpsd processing capacity, operating in a deep partial burn. Resid feedstocks with high metals and Concarbon are converted into valuable products already using a catalyst from BASF (incumbent).

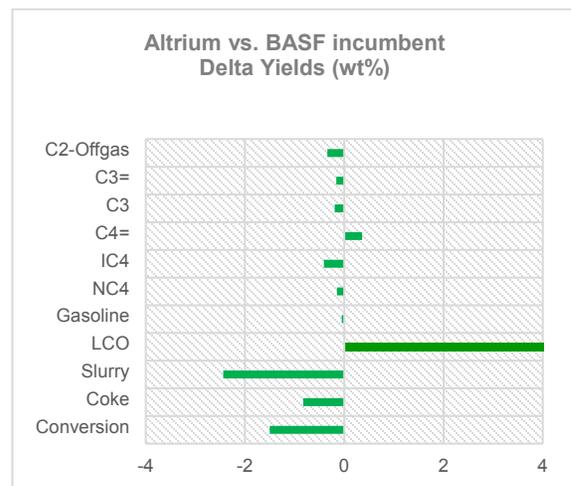
With **Altrium**, the fluidized dry gas factor (FDGF) and the fluidized coke factor (FCF) have been maintained through the full range of typical metals levels. This turns into a reliable operation of the wet gas compressor that has not been impacted by changes in dry gas yields, and stable regenerator temperature and delta coke.

Altrium improved the light cycle oil to bottoms ration (LCO/BOT), thanks to the conversion of big molecules, resulting in less slurry (reduced by approx. 2.5 - 3.0 wt.%), and more valuable products

Altrium improved the profitability by up to 0.60 \$/bbl

The economic performance Altrium achieved, was estimated based on the normalized yields.

The values show that gasoline yields were preserved, while coke and slurry yields were reduced. The conversion decreased in favor of more valuable LCO yields.



Under these conditions and using the standard refinery product prices, a profitability improvement of 0.50 - 0.60 \$/bbl was achieved.

During the actual operation, the products cut points were further optimized to take advantage of the wider operational envelope offered by Altrium and the new market conditions.

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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