

Refinery – Petrochemical Integration: Valuable Aromatics from FCC Naphtha

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OBJECTIVE: This presentation covers the important topic of upgrading FCC gasoline. Many refiners recover propylene from the light ends of the FCC, but are ignorant of the commercial process to recover aromatics or other products from the naphtha stream. The GTBTXPluS technology presented here is a route to recover pure aromatics from FCC Gasoline which can be converted to high value petrochemical product, paraxylene.

PROCESS: The technology uses novel unit operation such as extractive distillation using proprietary solvent to separate aromatics and sulfur contained in the FCC gasoline from non-aromatic component. The extracted aromatics and sulfur are subjected to hydrogenation to reduce the sulfur to acceptable level for the aromatics to be sent for paraxylene production. The GTBTX PluS[®] process automatically produces high quality aromatics after the HDS section, rich in toluene, xylenes, and C9 aromatics, which can all be converted into paraxylene. Coincident with product upgrading opportunities is the need to reduce sulfur to very low levels, which this same technology accomplishes nicely. Traditional technologies use selective hydrodesulfurization, which results in an objectionable octane loss in the gasoline. *The topic* covers the commercial application of the GTBTX PluS[®] technology which is used to meet the stringent gasoline specifications in the most economical manner. Additional case studies show how to gain value from FCC gasoline processing, rather than to downgrade products or suffer losses by conventional processing schemes.

CONCLUSION: GT-BTXPluS is the process through which a refinery stream such as FCC gasoline can be directly sent to a petrochemical plant for higher value petrochemical product (paraxylene) production, thus enhancing refinery margins.