

DeWitt 2009-2015 Global Pygas Study

Transitioning to Lighter Ethylene Cracker Feeds: Shale Gas, Pygas and Vanishing By-Product Benzene Supplies

Pyrolysis gasoline (pygas) is a liquid by-product derived from steam cracking of various hydrocarbon feedstocks in olefin plants. Benzene is a key component in pygas. On a capacity basis, pygas extraction accounts for approximately 36% of global benzene.

Despite the steady demand for benzene and other components, pygas production has recently been constrained by the changing supply of NGLs in the US and the economics of cracking light feeds versus naphtha to make ethylene and its co-products. Fundamentally, the growth of natural gas production has increased the supply of NGLs in North America (due to shale gas production) and both US NGLs and global LPG have become heavily discounted to crude oil on an energy equivalent basis. Olefins units have moved to lighter feed slates not only in US flexible crackers but producers are investing capital to convert liquid cracker capacity to NGLs. This is also occurring in Europe and Asia to a lesser degree. Additionally, most expansions are planned using lighter feedstock in the Middle East although Asian expansions still prefer naphtha. Due to the current and projected supplies of NGLs in the US, several companies have announced plans for grassroots crackers to take advantage of these economic feedstocks, which if implemented, will continue the trend of decreasing North American pygas production. As a result of these market changes, less pygas is being produced in the US and Europe and that trend is expected to continue in the future.

DeWitt & Company has developed a detailed analysis of the pygas market for the next few years to determine availability in the different regions utilizing our Olefins database coupled with our Aromatics database and recovery models. In doing so, we can assess not only the raw make of molecules based on expected feedstocks and conversion levels by cracker but also the commercially practical recovery of pygas and then benzene. Analysis of the inconsistencies can then define potential new extraction sources according to logically developed criteria.

The study will both define the reasons for today's supply and demand, which continues to evolve, as well as identify the projected trends for tomorrow's supply. It should be a must read for all involved in the production, consumption or trade of benzene, xylenes, toluene or even raffinate for blending.

The Pygas Supply/Demand Model 2009-2015 report will define pygas yield at different olefins operating severities. A live model of regional results will be provided to allow the client to modify cases as desired.

The fee will be \$25,000, with 3 hard copies included. Additional copies within the same company can be obtained for \$500 each. The study was completed July 2011 and is currently available.

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