

Enhancement of Octane Number of Gasoline by Isomerization Process

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Abstract: Upgrading light hydrocarbon (C_4 - C_7) streams in refineries, petrochemical plants and gas processing plants has continued to increase in commercial applications, as the world demand for gasoline and petrochemicals has experienced steady growth over the past decade. Increasingly stringent regulations have been enacted in most regions of the world, driving the increased demand for clean fuels. As a result, gasoline composition has been adjusted to a greater extent using C_5 - C_7 isomerization process. Light Naphtha isomerization technology plays a key role in meeting octane demand in the gasoline pool for clean fuels and premium grades. Low octane naphtha feedstock is processed into isomerate with increase octane number ranging from 70 to 89. This process involves the skeletal isomerization of a paraffin to highly branched paraffin with the same carbon number. The industrial practice of isomerization of light naphtha is discussed with focus on economic motivation, flow schemes, processing conditions, hazards and safety aspects and industrial process configurations in this project.

Keywords: Upgrading light hydrocarbon

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