Change refinery gasoline economics by breakthrough smart technologies: RHT-Alkylation and RHT-Iso-octene and Iso-octane

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Advances in Alkylation Technology: With the invention of RHT-Alkylation, sulfuric acid alkylation process configuration and equipment, provides multiple paradigm shifts and breakthroughs in the technology but keeping same reaction chemistry. The breakthroughs reduce the Capex and Opex in region of 40 to 50% compared to conventional technology; this is not just improvements but major paradigm shift. The process uses a unique eductor-mixing device, which reduce the costs and maintenance requirements on stream factor with simple equipment. The unit uses classical coalescers for separating the acid and hydrocarbon from the contacor/reactor effluent, making it a dry process that simplifies the process by reducing equipment items, corrosion and cost. Additionally major breakthrough is in absorbing the auto refrigeration vapors in reactor effluent. This reduce the requirement for compressor saving 20% Capex and 50% of power requirements and operating costs. These are major benefits to the refining industry and should be embraced by the industry to make the competitiveness of the unit. RHT-Isooctene/iso-octane process provides major economics advantages with simple and smart configuration which enhances the yield and reduces the equipment sizes and utilities. Advances simplify the technology and provide economy of scale.

Biography

Over 40 years’ experience in Engineering/Consulting Management at senior level in Process Engineering, Technology, Business Development, Licensing, Acquisitions, Alliances and Project Management and Engineering, Operations Management and Process Engineering. Provided proven leadership and vision with broader perspectives and able to manage multiple tasks and personnel on mega projects. Patents provide refiners and petrochemical plants innovations to enhance the performance of the units. Worked in all EU countries including UK, Germany, The Netherlands. Major developments in Oil and gas business, downstream and petrochemicals technology, Catalysts, international alliance, licensing & contract negotiation, technology marketing, new technology commercial launch, partner relations. Dr Amarjit Bakshi has a Ph.D and also undergraduate degree both in Chemical Engineering from University of Surrey, Guildford, UK.

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