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5th International Conference on

Advances in Chemical Engineering & Technology

October 04-05, 2018 | London, UK



Amarjit Bakshi

Refining Hydrocarbon Technologies LLC, USA

Changing refinery gasoline economics by breakthrough smart technologies: RHT-alkylation and RHT-iso-octene and iso-octane technology

A dvances 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 the same reaction chemistry. The breakthroughs reduce the CapEx and OpEx in 40 to 50% regions, compared to conventional technology; this is not just improvements but a 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 contactor/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 reduces 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 enhance the competitiveness of the unit. RHT-Iso-octene/iso-octane process provides major economic advantages with simple and smart configuration which enhances the yield and reduces the equipment sizes and utilities. These advances simplify the technology and provide economy of scale.



Recent Publications

- 1. E Khlebnikova, A Bekker, E Ivashkina, I Dolganova and E Yurev (2015) Thermodynamic analysis of benzene alkylation with ethylene. Procedia Chemistry 15:42–48.
- 2. A A Chudinova, A A Salishcheva, E N Ivashkina, O A Reutova, K S Gulyaev, et al. (2014) Estimation of sulfocationites application expediency as catalysts of benzene alkylation process with propylene. Procedia Chemistry 10:284–288.
- 3. A E Nurmakanova, A A Salishcheva, A A Chudinova, A A Syskina and E N Ivashkina (2014) Comparison between alkylation and transalkylation reactions using ab initio approach. Procedia Chemistry 10:430–436.
- 4. I O Dolganova, I M Dolganov, E D Ivanchina, E N Ivashkina, N S Belinskaya, et al. Reactor-regenerator system joint work optimization in benzene alkylation with higher olefins unit. Procedia Chemistry 10:547–554.

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5. E D Ivanchina, E N Ivashkina, I O Dolganova and V V Platonov (2014) Effect of thermodynamic stability of higher aromatic hydrocarbons on the activity of the HF catalyst for benzene alkylation with C9-C14 olefins. Petroleum Chemistry 54(6):445–451.

Biography

Amarjit Bakshi has a PhD and also Undergraduate Degree, both in Chemical Engineering from University of Surrey, Guildford, UK. He has 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. He has provided proven leadership and vision with broader perspectives and able to manage multiple tasks and personnel on mega projects. He has worked in all EU countries including UK, Germany and The Netherlands.

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