J Chem Eng Process Technol 2016, 7:4 (Suppl)
http://dx.doi.org/10.4172/2157-7048.C1.003

Comparison of catalytic reforming performance between R-20 And R-56 catalysts

Abdul-Ameer Kadhum[1] and **Mustafa Oun**[2]
[1]Pro-Knowledge Engineering Pty Ltd., Canada
[2]Azzawiya Oil Refining Company, Libya

The present paper describes the comparison performance between the UOP R-56 catalyst, with its higher activity and increased cycle length, and the UOP R-20 catalyst for catalytic platforming unit at Azzawiya refinery. UOP's R-56 reforming catalyst achieved 96 RON reformate production ability, long cycle length, and good stability of the yield compared with R-20 catalyst. Reason for change of the catalyst was to have higher RON from platforming units from average 89-90 RON to 96-97 RON to meet the lead phasedown in gasoline. Gasoline lead content was decreased in Europe and other advanced countries from 0.4 to nil and this is the trend for its harmful effect on human health. With R-20 Catalyst Reformate RON of 96 possibly could not be reached. Even we consider that the RON of reformate can be reached, cycle life (the period between two successive regenerations) would have been too short (may be 4-6 months) and in a running refinery this short period is unacceptable. In view of this, we selected R-56 which is considered to be more stable and economic than possibly any platforming catalyst in the world. The data presented in this paper have described the comparison of catalytic reforming performance between R-20 And R-56 catalysts. Significant points on comparison platforming catalyst performance include: 1) UOP's R-56 reforming catalyst achieved 96 RON reformate production ability, long cycle length, and good stability of the yield. 2) The reactor inlet temperatures at the end of run for the cycle are near 523°C and 530°C for R-56 and R-20, respectively. 3) Finally, compared to traditional "sock-loading" the dense loading results in higher catalyst bed density and more homogeneous catalyst distribution and consequently leads to longer cycles. Initial smooth operations of platfomer unit show that catalyst R-56 properties were fully restored by regeneration.

askadhum@hotmail.com

Petrochemical production

Acheampong Maxwell
Kwame Nkrumah University of Science and Technology, Ghana

Petrochemicals refer to the chemical products obtained as a result of the synthesis of petroleum derivatives. The five (5) principal groups of starting compounds for the synthesis of petrochemicals are: Paraffins, Olefins, Aromatic Hydrocarbons, Acetylene, and Carbon monoxide and Synthesis gas. These principal groups of starting compounds are obtained from petroleum through thermal and catalytic processes such as pyrolysis, thermal cracking, catalytic cracking, reforming and catalytic hydrogenation. These starting compounds are subjected to various processes such as oxidation, alkylation, halogenation, esterification, etc., yielding products which differ widely in structure, properties and areas of application. Examples of such products include: Alcohols, ketones, aldehydes, esters, phenols, etc. Depending on their application, these products can be grouped into two (2): Intermediate products and specialized application products. The economy of raw materials in petrochemical production is of great importance since the raw materials form a major part of production cost. Hence there is a need to develop new trends and technologies for the synthesis of petrochemicals in an economical way without compromising quality.

acheampongmaxwell10@gmail.com