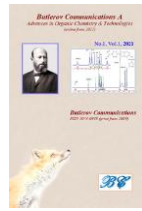
BUTLEROV HERITAGE

Butlerov Communications A
Advances in Organic Chemistry & Technologies
ISSN 2074-0948 (print)

2021. Vol.1, No.1, Id.16.
Journal Homepage: https://a-journal.butlerov.com/



Thematic section: Research into New Technologies.
Subsection: Petrochemistry.

Full Paper

The Reference Object Identifier – ROI-jbc-A/21-1-1-16
The Digital Object Identifier – DOI: 10.37952/ROI-jbc-A/21-1-1-16
Received 26 January 2021; Accepted 28 January 2021

Selection of an effective catalyst for hydrodeparaffinization of oil raw materials

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Keywords: catalysts, zeolite, naphthenic raw materials, kinematic viscosity, hydrodeparaffinization.

Abstract

In the world practice, polyfunctional metalloceolite catalysts are used for the processes of hydrogenation of oil fractions.

When molecules are adsorbed by zeolites, cations located in the area of windows can shift relative to their original position. This leads to some change in the size and shape of the windows.

High-silica zeolites, due to their unique properties (structural, physical and chemical), are widely used in the composition of catalysts for the hydro-parafinization of various petroleum distillates in order to provide the required properties of the target products.

Achievements in the field of modifying high-silica zeolites to increase their hydrocracking activity significantly (up to 20-40% by weight).) reduce the content of zeolite in catalysts in the production of low-hardening petroleum products and increase the content of the carrier and hydrogenating components.

The data obtained with the use of modified zeolites in industrial catalyst SGK-1 to receive transformer oil for *OJSC "Angarsknefteorgsintez"* formed the basis for the development of a catalyst to obtain oils of the required quality of high temperature oil distillates.

As a result of the comparative analysis of existing catalysts for selective hydrocracking, it was established that high-silica ZSM-type cyolites are currently the most effective carriers of catalysts for selective hydrocracking of normal and weakly branched paraffins. For the process, the catalyst of the company *"ART"* of the brand *ART-720X* was adopted. In the search and analytical work, the process scheme was determined taking into account the requirements for raw materials and finished products,

the scheme with a pre-hydrotreating reactor and the process parameters were selected t = 360 ºC, P = 4.5-5 MPa, $\omega = 0.8\ h^{-1}$, H_2/raw material = 800 nm^3/m^3.

For citation: Tatiana A. Kuryakova, Sergey G. Bezryadin, Larisa V. Mezhueva, Konstantin P. Uzun. Selection of an effective catalyst for hydrodeparaffinization of oil raw materials. *Butlerov Communications A*. **2021**. Vol.1. No.1. Id.16. DOI: 10.37952/ROI-jbc-A/21-1-1-16

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