

CUSTOM TRANSLATION

GDA

CHEMISTRYSELECTIVELY INCREASING THE STABILITY OF A NICKEL-ALUMINA CATALYST BY
PRESSING (E)

L. Kh. Freidlin, E. D. Tulupova, N. V. Borunova, Kh. M. Minachev, and
Corresponding Member of the Academy of Sciences of the USSR

N. I. Shuikin

N. D. Zelinskii Institute of Organic Chemistry of the Academy of Sciences
of the USSR

Translated from Doklady Akademii Nauk SSSR, Vol. 100, No. 2, pp. 283-286,
January, 1955

Original article submitted July 13, 1954

It was shown earlier /1/ that aluminum oxide subjected to a pressure of 20,000 atm was twice as stable with respect to the reaction of the dehydration of alcohol than material not so pressed. The reduction in the activity of the catalyst in this process is due to the blocking of its surface by a film of polymerized unsaturated reaction products. This is confirmed by the fact that aluminum oxide left in an atmosphere of the reaction products of alcohol dehydration rapidly loses its activity, while in a nitrogen atmosphere the activity is entirely preserved. We ~~th~~ may therefore well suppose that the increase in the stability of the aluminum oxide after pressing is associated with a reduction in the rate of forming the polymer film, resulting from a change in the macrostructure of the catalyst /2/.