

Thematic division: Synthesis and research of properties of catalysts of reburning. Part 1.

Influence surfactant on viscous properties of suspension $\text{Pd}(\text{NO}_3)_2\text{-Al}_2\text{O}_3\text{-La}_2\text{O}_3\text{-HAc-H}_2\text{O}$ for afterburning catalysts

© Alena E. Bezdetnova,¹ Vyacheslav F. Markov^{1,2*}
Viktor I. Zelenin,¹ and Larisa N. Maskaeva^{1,2+}

¹ Physical and Colloidal Chemistry Department. Ural Federal University named after the first President of Russia B.N. Yeltsin. Mira St., 19. Ekaterinburg, 620002. Sverdlovsk Region. Russia. Phone: +7 (343) 375-93-18. E-mail: mln@ural.ru

² Chemistry and Burning Processes Department. Ural Institute GPS of the Ministry of Emergency Measures of Russia. Mira St., 22. Ekaterinburg, 620022. Russia. Phone: +7 (343) 360-81-68.

*Supervising author; +Corresponding author

Keywords: afterburning catalysts, viscosity, suspensions, ion equilibrium, surface-active substances, palladium(II) nitrate, lanthanum oxide.

Abstract

In system “ $\text{Pd}(\text{NO}_3)_2 - \text{Al}_2\text{O}_3 - \text{La}_2\text{O}_3 - \text{HAc} - \text{H}_2\text{O}$ ” calculation of ion equilibrium with use of thermodynamic constants are determined by boundary conditions of formation of hydroxides of metals. Possibility of decrease in dynamic viscosity of the “ $\text{Pd}(\text{NO}_3)_2 - \text{Al}_2\text{O}_3 - \text{La}_2\text{O}_3 - \text{HAc} - \text{H}_2\text{O}$ ”, suspension having $\text{pH} = 3$ at addition of 1% of an aqueous solution is experimentally shown cation-active surfactant at 1.74 time: with 850.62 to 488.95 mPa·s. The morphology of particles of suspension before and after the addition in it surfactant cation-active Praestol 655 FC is investigated.