

## **Selection of efficient reagent compositions reducing hydraulic resistance in poly-phase liquid stream**

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### **Abstract**

© Research India Publications. During the present period in connection with electric power price increase especially timely is a question of pipeline overall performance increase for the purpose of decrease in operational expenses when pumping naphtha and oil products. One of this problem solution ways is using the additives reducing hydraulic resistance as dopant to pumping naphtha and oil products. The oil emulsion is characterized by high pitch and paraffin content. In spite of the fact that oil emulsion set point is low, its transportation on pipelines, especially in cold season, is strongly complicated owing to rod waxes formation. The pitches and asphaltenes present in naphtha aggravate this process, which leads to structuring liquid and increase in its viscosity. Experiments on Toms effect defining were made on equipment similar to presented in work [1]. In the oil-extracting industry for decrease in hydraulic resistance during naphtha pipeline transporting high-molecular polymers, soluble in naphtha are most often used. As shown in work [2], they are destruction-inclined and are not effective in circulation loop. Also it should be noted that the oil emulsion is poly-phase liquid, therefore the reagents applied to uniphase liquids are much less effective, and in some cases - are absolutely inapplicable. Besides with increase in water content in emulsion also the probability of naphtha direct emulsions formation that leads to padding complications of main product transportation process increases. In this case use of water-soluble and oil-soluble reagents composition [1-4] is justified

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### **Keywords**

Emulsion, Flow turbulence, Fluid structuring, Physics-chemical properties, Reagent, Toms effect