

## **Formulation of clog removal by using mixture design**

### **Abstract**

Liquid for clog removal is one of the detergent products sold in the market. Generally, the formulation with good performance in term of cleaning effectiveness is desirable. On the other hand, the stability and cost of the product also must be considered. The quality of the clog removal is directly linked to the basic ingredients used in formulation. In this research, various compositions of sodium hypochlorite, sodium hydroxide, sodium carbonate and sodium meta-silicate were used to optimise the clog removal formulation. Twenty combination components were selected according to the D-optimal criterion. The cost and physical properties of the clog removal such as pH, cleaning effectiveness and stability were studied. Contour graphics were generated to assess the change in the response surface in order to understand the effect of the mixture composition on clog removal characteristics. The statistical study shows that the fitted model was adequate to describe the responses. © 2007 Asian Network for Scientific Information.