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Authors: Elham Torabian, Mohammad Amin Sobati

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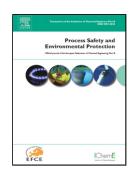
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New models for predicting the flash point of mixtures containing different

alcohols

Elham Torabian, Mohammad Amin Sobati*

School of Chemical Engineering, Iran University of Science and Technology (IUST), Tehran, Iran

Corresponding author: Phone: +98 (21) 77240496, *Fax:* +98 (21) 77240495

, *E-mail*: sobati@iust.ac.ir

Highlights:

• New models have been proposed for predicting the flash point of the

mixtures.

• An experimental data set on the flash point of 62 binary mixtures were

collected.

• The model inputs are the flash point of pure components and the molar

composition.

• The proposed models are simple and accurate.

Abstract

In the present study, new empirical models have been proposed to predict the flash point of

mixtures containing different alcohols. The models predict the flash point of mixtures as a function

of molar composition and the flash point of pure compounds composing the mixture. The models

have been developed by the generalization of the available correlations for the prediction of the

flash point of petroleum blends using the Levenberg-Marquart algorithm. 642 experimental data

on the flash points of 62 different binary mixtures containing alcohols along with different

compounds such as alkanes, alcohols, ketones and esters was used for the model development. The

average absolute relative deviation (AARD) of the optimized models over all binary experimental

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