

Flash Points and Fire Points of Flammable Liquid Mixture Using Tag Open-Cup Apparatus(ASTM D1310)

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The flash point are used to classify combustible liquids according to their relative flammability. The flash and fire points for the n-propanol+n-decane mixture were measured by Tag open-cup apparatus. The experimental results exhibited the flash point, i. e., less than those of pure component in the flash point versus composition curve. The experimental value of the minimum flash point is 27°C at a mole fraction of n-propanol of 0.71, and the flash points of n-propanol and n-decane were 28°C and 54°C, respectively. The experimental data were compared with the values calculated by the prediction model based on an ideal solution assumption and the flash point prediction models based on the van Laar, respectively. The predictive curve based upon an ideal solution deviated form the experimental data for this system. The experimental results are in good agreement with the predictive curves, which use the van Laar. The average absolute deviations by using van Laar equation is 0.83°C.