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Jet fuel characterization using structural group analysis

Anca Iuliana DUMITRU*, Claudia Irina KONCSAG, Ancaelena Eliza STERPU
and Anisoara-Arleziana NEAGU

Ovidius University of Constanta, Department of Chemical Engineering and Technology, 124 Mamaia Blvd, 900527 Constanta, Romania

Abstract. This paper deals with the applicability of a structural method of analysis (the aniline point method) for light petroleum fractions like kerosene and jet fuel. As aniline point method requires, mixtures of pure hydrocarbons were used- typical for the corresponding classes of hydrocarbon within the same range of boiling points, thuse mimicking the petroleum fractions. The structural groups method n-d-M was applied further and the results were compared with those obtained by aniline point method. Results on hydrocarbon mixtures were compared with those for real petroleum fractions. It was demonstrated that chemical composition of kerosene and jet fuel can be determined either by aniline point method with good accuracy or with n-d-M method, both methods having the advantage to be cheap and fast. These methods can be used for intermediate products (raw or hydrogenated) but not for additivated finished products

Keywords: aniline point method, hydrocarbon class analysis, jet fuel composition , n-d-M method

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