

Group Contribution Estimation of the Physical Properties of Hydrocarbons

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Abstract. The present research consists in the establishment of new group-contribution correlations with interactions to estimate three physical properties: freezing points, surface tensions and viscosities at 210°F of pure hydrocarbons as normal paraffins, isoparaffins, olefins, alcyne, naphthenes and aromatics.

The averages absolute deviations (AAD) obtained between tabulated and calculated values are respectively **4.7 %**, **0.8 %** and **0.8 %** for the freezing point, the surface tension and viscosity at 210°F.

Keywords: Hydrocarbons, group contribution, interactions, freezing points, surface tensions, viscosity at 210°F.