

### Excess Molar Enthalpies and Volumes of Binary Mixtures of 1,2-dichloropropane with 1-propanol and 1-butanol at T=298.15K

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Excess molar enthalpies,  $H_m^E$  and excess molar volumes,  $V_m^E$  over the whole range of compositions have been measured for the binary mixtures {1,2-dichloropropane + 1-propanol} and {1,2-dichloropropane + 1-butanol} at the temperature 298.15K under atmospheric pressure. All the  $H_m^E$  of the two binary mixtures showed an endothermic effect (positive values) which increases with the increase of the chain length of alkanol. These positive values are in good agreement with breaking of hydrogen bonding of alkanol during mixing. The dependence of  $V_m^E$  on compositions showed a slight S-shape form, being negative for poor and positive for rich 1,2-dichloropropane mole fractions with exception of 1-butanol, which has been shown to be positive values over the entire composition range. The experimental results of  $H_m^E$  and  $V_m^E$  values were fitted to the Redlich-Kister equation to correlate the composition dependence of both excess properties. The Wilson, NRTL, and UNIQUAC models were used to fit the  $H_m^E$  values.