

# EXPERIMENTAL DETERMINATION OF DESTRUCTION OF THERMALLY UNSTABLE SUBSTANCES

*Dzhapparov T.A-G.,\* Bazaev A.R.*

*IGR DSC RAS, Makhachkala, Russia*

*\*timur507@mail.ru*

In this work the technique of experimental determination of decomposition point of thermally unstable substances is offered. The available data on the thermal stability of aliphatic alcohols and their aqueous mixtures is contradictory [1–4]. By identification of increase of vapor pressure of the system in the constant volume piezometer during long-term time (about 48 hours) the decomposition points of the pure alcohols (methanol, ethanol, 1-propanol and 1-butanol) and of the alcohols dissolved in water are determined [5]. The dependence of decomposition point of the molecules of pure alcohols on the number of carbon atoms and of dissolved in water alcohols on their structure and concentration is determined. The rate of thermal decomposition of alcohol molecules depending on the temperature, carbon atoms, and concentration is estimated. The effect of thermal destruction of alcohol molecules on changes of thermal coefficients (isothermal compressibility factor  $K_T$ , coefficient of volumetric expansion  $\alpha$  thermal coefficient of pressure  $\beta$ ), and main thermodynamic properties ( $C_v$ ,  $C_p$ , H, S, U, F, G) of water+alcohol mixtures is examined.

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