

## **KINETICS OF OIL SHALE PYROLYSIS IN AN AUTOCLAVE UNDER NON-LINEAR INCREASE OF TEMPERATURE**

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*An approximate step-by-step model has been deduced for description of the thermal decomposition kinetics of Estonian oil shale in an autoclave under non-linear increase of temperature. The apparent first-order kinetic constants have been estimated for the overall parallel formation of gaseous and liquid phases from the initial organic matter, for the parallel and consequent formation of gas from the liquid product at the stage of oil shale thermal decomposition, and for the parallel formation of gas and solid residue from the liquid product in the cracking stage. A linear dependence between the apparent Arrhenius constants  $\ln A = 0.179E - 3.258$  ( $n = 24$ ,  $r = 0.991$ ) was revealed for different kinetic steps of kukersite pyrolysis using the constants estimated in this work and published by others.*

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