

## Accepted Manuscript

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PII: S0040-6031(18)30531-8  
DOI: <https://doi.org/10.1016/j.tca.2018.09.008>  
Reference: TCA 78092

To appear in: *Thermochemica Acta*

Received date: 15-7-2018  
Revised date: 7-9-2018  
Accepted date: 9-9-2018

Please cite this article as: Pochivalov KV, Basko AV, Shilov AN, Lebedeva TN, Ilyasova AV, Shandryuk GA, Kudryavtsev YV, Thermal and optical studies on the compositions of low-density polyethylene with highly refined mineral oil, *Thermochemica Acta* (2018), <https://doi.org/10.1016/j.tca.2018.09.008>

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# Thermal and optical studies on the compositions of low-density polyethylene with highly refined mineral oil

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## Highlights

- Full phase diagram LDPE – highly refined mineral oil is constructed for the first time
- The diagram does not include a liquid-liquid binodal
- A capillary-porous body is formed during thermally induced phase separation
- Highly refined mineral oil is less miscible with LDPE than decane and tridecane
- The system attracts practical interest as a component of vibration-damping compositions

## ABSTRACT

An original optical method and differential scanning calorimetry were used to construct an experimental phase diagram for the binary composition low-density polyethylene – highly refined mineral oil. This diagram includes the polymer full amorphization curve and the oil solubility curve

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