

**Malczewska, B., Czaban, S., Glowski, R., Swierzko, R., Kiwacz, T., Sobota, J. Analyses of Linear Pressure Losses in Pipeline Carrying Two-Phase Mixture in the Example of an Ash-Water Mixture. *Ochrona Srodowiska* 2013, Vol. 35, No. 2, pp. 69–72.**

**Abstract:** Results of experimental studies presented enable determination of pressure losses in the flow of ash-water mixture at solid to water ratios ranging from 0.7:1.0 to 1.3:1.0. Two-phase mixtures analyzed demonstrated properties of Newtonian fluids. Only in a few cases, at low velocities for high solid content mixture flow, non-Newtonian fluid properties were established. The ash-water mixtures were shown to possess thixotropic characteristics. Furthermore, it was demonstrated that viscometric study results could serve as a bases for linear pressure loss calculations for circular cross-section pipeline flow of the discussed mixtures. Finally, the linear hydraulic losses for the two-phase mixture flow, calculated based on different rheological models, were compared to the values received in the semi-technical scale experiments.

**Keywords:** Hydrotransport, rheology, viscosity, shear stress.