

## Theoretical confirmation and experimental investigation of the process of the thermozone crystallization-synthesis in the obtaining high-purity silver and thallium(I) halides

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### Abstract

The solubility of silver halides and monovalent thallium in water and water solutions of halogen acids was explored, as well as theoretical calculations of these processes were carried out on the basis of published data. It has been established that the theoretical solubility differs significantly from the experimental area at higher temperatures. It has been revealed that the calculation of solubility only on the basis of complexation significantly overstates the results of experimental data, as the activity coefficient was not taken into account. A basic method for the synthesis and purification of high-purity sparingly soluble metal halides from water environments was developed during the carried out investigations.