

**Mineral-based adsorbents for wastewater treatment – the kinetics
study of Cr(VI) and Se(VI) adsorption in the presence of sulphates and
nitrates by Mg/Al and Mg/Fe Layered Double Hydroxides**

K. Rybka⁽¹⁾, J. Matusik⁽¹⁾, K. Dziewiątka⁽¹⁾, A. Giera⁽¹⁾

⁽¹⁾ *AGH University of Science and Technology, al. Mickiewicza 30, 30059 Kraków, Poland
+48 617 45 42, krybka@agh.edu.pl*

Layered Double Hydroxides (LDH) are mineral-like materials which due to their layered structure containing weakly-bounded interlayer anions are promising candidates for the removal of anionic forms from industrial wastewaters. In this work, LDH of different chemical composition were synthesized via transformation of magnesite, to substantially lower the price of the final material in comparison to conventionally obtained LDH. Materials were tested for the removal of Cr(VI) and Se(VI) in the presence of competitive anions – nitrates and sulphates. LDH obtained from magnesite were effective, however, the presence of sulphates can influence their efficiency. The kinetics of the process, as well as the selectivity of the materials, give a substantial basic knowledge about the potential of the materials in the treatment of industrial wastewaters.

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