1. KAPITOLA

* 1. Podkapitola

Obsah podkapitoly….

1.2 Aims of the dissertation

Další text další podkapitoly….

Paper 1 Text

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**Tab. 1** Popisek tabulky

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ÚVOD

Chromium is stable in two forms in the environment, hexavalent and trivalent. Nearly all naturally occurring chromium is in the trivalent state. This form has very low solubility, mobility in the environment and low toxicity in living organism. On the other hand, Cr(VI) is highly soluble and mobile, associated with higher toxicity and it is a potential carcinogen (Kortenkamp et al., 1996).

Cr(VI) compounds are widely used in metallurgical industry (chrome alloys and metal production), chrome plating or in the chemical industry as an oxidizing agent. Cr(III) salts are used less frequently, being employed in textile dyeing, ceramics and glass industry or in photography (Dhal et al., 2013). Industrial wastewaters are the main pollution sources of Cr in natural waters and soils.

Besides conventional processes used to remove Cr(VI) (precipitation as chromium hydroxide, ion exchange removal or adsorption), alternative sorbents have been investigated by many authors in order to find effective low cost technology for the treatment of metal-contaminated water. Many biomaterials have been tested for Cr(VI) removal and include: natural materials such as wood, coal, peat, chitin and chitosan, biomass, and various other materials and industrial/agriculture/domestic wastes or by-products such as husks and hulls, shells, stalks, lignin, sawdust, corncob waste, wool waste etc. (Miretzky and Cirelli, 2010; Gupta et al., 2009). Most of the biosorbents are well described in terms of their Cr(VI) sorption capacity but the biosorption mechanism is still not perfectly clear.