



Water-based strippable coatings containing bentonite clay for heavy metal surface decontamination

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Auteur	Toader, Gabriela [1], Stănescu, Paul-Octavian [2], Zecheru, Teodora [3], Rotariu, Traian [4], El-Ghayoury, Abdelkrim [5], Teodorescu, Mircea [6]
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Mots-clés	Bentonite [7], Mercury [8], Polyvinyl Alcohol [9], Strippable coating [10], Surface decontamination [11]
Résumé en anglais	<p>In this paper, a novel approach for water-based strippable coatings for surface decontamination is reported. The novelty of this work consists in the development of a new method of removing heavy metals from contaminated surfaces by using polyvinyl alcohol strippable coatings containing bentonite clay. Viscosity measurements, evaporation rate tests, thermal analyses, FT-IR and tensile tests were performed for the optimization of the decontamination solution composition. For the decontamination experiments, copper surfaces were contaminated with mercury and, further, the decontamination water solutions containing polyvinyl alcohol, glycerol, EDTA and bentonite were applied onto these surfaces. After the removal of the polymer films, the copper coupons were subjected to SEM-EDX analysis, which revealed that introduction of bentonite in the polymer solution leads to a significant increase of the decontamination factor.</p>
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- [1] <http://okina.univ-angers.fr/publications?f%5Bauthor%5D=26489>
- [2] <http://okina.univ-angers.fr/publications?f%5Bauthor%5D=26490>
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- [4] <http://okina.univ-angers.fr/publications?f%5Bauthor%5D=26491>

- [5] <http://okina.univ-angers.fr/a.elghayoury/publications>
- [6] <http://okina.univ-angers.fr/publications?f%5Bauthor%5D=26492>
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