高岭土模拟铜污染土壤电动力学修复

Remediation of kaolin simulated copper contaminated soil by electrodynamics

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中文摘要：

采用电动力学方法修复重金属污染土壤。研究中采用高岭土模拟铜污染土壤,结合电动力学修复理论,考察了不同电压、添加络合剂条件下铜的修复效果。结果表明,当电压强度为0.5 V/cm时,最靠近阴极部分的土壤中Cu^{2+}的C/C_0为1.596,当电压强度为1 V/cm时,C/C_0为2.245,说明适当提高电压强度能够有效的增加Cu^{2+}的迁移效果;土壤中未加入络合剂时,Cu^{2+}大部分集中在第5段土壤中,C/C_0为1.339,在土壤中加入络合剂以后Cu^{2+}大部分集中在靠近阴极部分的土壤中,C/C_0为1.716,说明在污染土壤中加入一定量的络合剂可以与Cu^{2+}结合生成螯合物,提高Cu^{2+}的迁移效果。

英文摘要：

Remediation of the heavy metal contaminated soil was researched by electrokinetic technology. Kaolin was used as copper contaminated soil. Combined with the electrokinetic theory, the remediation effect of copper contaminated soil under different voltages and added complexing agent was tested. The results showed that the C/C_0 of Cu^{2+} closest to the cathode was 1.596 when the voltage strength was 0.5 V/cm, but the C/C_0 of Cu^{2+} was 2.245 when the voltage strength was 1 V/cm. It could be concluded that migration effect of copper was enhanced by increasing voltage strength. Besides, when there was not a certain amount of complexing agent in the copper contaminated soil, most of Cu^{2+} were in the fifth soil and the C/C_0 of Cu^{2+} was 1.339. When a certain amount of complexing agent was added into the copper contaminated soil, most of the Cu^{2+} were in the soil closest to the cathode and C/C_0 was 1.716. It could be seen that adding a certain amount of complexing agent could generate a kind of chelate with copper to enhance migration effect of copper.