

عنوان مقاله:

Selection of the best method for remediation of soil polluted with 2-methyl 2-propanthiol by modified Analytic Hierarchy Process

محل انتشار:

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خلاصه مقاله:

In simple Analytic Hierarchy Process (AHP) method, pair wise comparison numbers are not dependent on the risk and may cause severe consequences in high risk processes. Seven remediation methods (physical absorption, chemical oxidation, bioremediation, dilution with air, vapor extraction, soil stabilization and soil washing) are investigated for remediation of soil polluted with thiols in Iran's Isfahan province with respect to multi criteria analysis. Economical, technical, social, technological and environmental aspects considered as criteria. In this study AHP method is modified by combination with risk assessment and criteria which have complex chain relation with together and the risk simultaneously, and solved by iteration in loops. AHP method shows that physical absorption is the best selection, while using of modified AHP method which considers health and safety risk as an effective factor, concludes that chemical oxidation is the optimum method. Risk fraction take into account on pair wise comparison numbers in modified AHP method cause alternative weights and therefore overall ranking changes. Expert's opinion believes that modified AHP method is a more reliable technique for high risk pollutants and resulted crisis and remediation agents and can be used for decision making in any process with complex chain relation between criteria and risk quantity

کلمات کلیدی:

Soil remediation, AHP modification, Risk assessment

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