

## Arsenite Remediation by Green Nano Zero Valent Iron

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**Abstract :** The optimal conditions for green synthesis of zero-valent (G-NZVI) synthesis are investigated in this study using a Box Behnken design. The factors that were used in the study consisted of 3 factors as follows: the iron solution to mango peel extract ratio (1:1-1:3), feeding rate of mango peel extracts (1-5 mL/min), and agitation speed (300-30 rpm). The results showed that the optimization of conditions using the regression model was appropriate. The optimal conditions of the synthesis of G-NZVI for arsenate removal are the iron solution to mango peel extract ratio of 1:1, the feeding rate of mango peel extract 5 mL/min, and the agitation speed rate of 300 rpm which was able to arsenate removal 100%.

**Keywords :** Box Behnken design, arsenate removal, green nano zero valent iron, arsenic

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