
Remediation Method for a Mercury-polluted Soil with a *Acidithiobacillus ferrooxidans*

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A mercury resistant *Acidithiobacillus ferrooxidans* can reduce mercuric ions (Hg^{2+}) with ferrous iron as an electron donor under acidic conditions to give volatilized metallic mercury (Hg^0). The mechanism of volatilization exists in cytochrome c oxygenase. Large-scale remediation of mercury-polluted soil was conducted, and leached mercury concentration from the soil was less than criteria in 12 hours. This method indicates that under room temperature, the soil polluted mercury compounds can be remedied by using the ability of the *Acidithiobacillus ferrooxidans* MON-1 strain to reduce and volatilize.