

## **High performance phenol degrading microorganisms isolated from wastewater and oil-contaminated soil**

### **Abstract**

Four bacteria, two each isolated from wastewater treatment and oil-contaminated soil showed great potential as phenol degraders. RWC-Cr1, the isolate from wastewater was not only demonstrating the highest specific phenol degradation rate at all tested phenol concentrations, but also not affected by the highest phenol concentration employed, namely 1000 mg/l. After a serial transfer of all four isolates into a series of increasing phenol level, all but RWC-Cr1 demonstrated significant improvement on degradation ability. ISC-Tra which was isolated from oil-contaminated soil exhibited greatest improvement (e.g. 750% at 600 mg/l phenol) after adaptation in phenol. Thus, the ISC-Tra was the most acclimatizable isolate while in contrary RWC-Cr1 was not significantly influenced by acclimatization. Outcomes of this study offer a useful guideline in evaluating potential phenol degraders from the environment.