

## B304

### Bioemulsification of Diesel Oil By *Pseudomonas* sp. Y-21

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The petroleum-degrading bacterium possessed the simultaneous abilities of decomposing and emulsifying activities. The isolate belonged to a relative of *Pseudomonas*. The strain evolved a powerful emulsifying agent that can act presumably both as wetting agents and detergents. The maximum activity was exhibited apparently at the stationary phase of growth responses. The result followed by gas chromatographic analysis for diesel oil as the starting substrate, or for that as the emulsified forms revealed no metabolically detectable differences in the components of carbon available to our strain.

Under the optimal conditions designed, the maximum emulsifying activity reached 181 unit/ml at approximately 7 day-cultivation.

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### Degradation Characteristics of Hydrocarbon by Bunker-A Oil Degrading Bacteria

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Microorganisms utilizing bunker-A oil as sole carbon and energy source were isolated from the seawater in Pusan costal area. We investigated on the morphological, cultural, biochemical characteristics and the taxonomical position of fifty isolates in order to show relationships among the species about hydrocarbon degradable activities. Five strains were selected among fifty isolates on the important plays : *Pseudomonas* sp. EL-18, *Acinetobacter* sp. EL-43, *Flavobacterium* sp. EL-27, *Micrococcus* sp. EL-2, *Enterobacter* sp. EL-15. The results of effective environmental conditons were showed high activity in bunker-A oil 1.5~2%, initial pH 8~9, incubation temperature 30°C, Ca mineral salts 0.1~0.15%, K mineral salts 0.05~0.15%, Mg mineral salts 1~1.5%, Na salinity 30‰ and aerative. 30‰ of salinity were showed adaptation of bunker-A oil degrader to marine environment. The results of utilization and degradation characteristics on the various hydrocarbon were showed that n-alkane and petroleum compounds were higher activity than aromatic and branched alkane compounds.