C626342 : MAJOR INDUSTRIAL MICROBIOLOGY
KEY WORD: Biosurfactant / *Bacillus* / Emulsion index (E_{24})

TANAKWAN BUDSABUN : SURFACE TENSION REDUCTION OF *Bacillus subtilis* 3/38 CULTURE BROTH OBTAINED FROM DIFFERENT CONDITIONS
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100 pp. ISBN 974-636-513-4

Bacillus subtilis 3/38 when cultivated in chemical define medium was found capable of reducing surface tension of the culture fluid as well as emulsion froming. The present study provided a modified culture medium by substituted the original medium with 2% glucose as carbon source , 0.2% ammonium nitrate as nitrogen source and manganese sulfate at 3.42 mg.per liter with the addition of 75 mM Tris-HCl as controlled buffer. When cultivated in such medium with initial pH of 8.5 at room temperature (30 ± 2^{0}C) , 200 rpm agitation for 24 hours the supernate could lowering surface tension of culture fluid from 72 mN/m down to 27 mN/m with an emulsion index (E_{24}) of 74 and oil displacement value of 38 units and 33 mN/m when diluted by 20 folds. Furthermore, an emulsion index (E_{24}) of 74. and oil displacement value of 38 units were also obtained from the same medium. The supernate was proved stable to pH in the range of 6-12 when refrigerated at 4^{0}C for 12 hours and displayed its stability at room temperature upto 80 day and 180 minutes at 100^{0}C for its emulsion index and even longer period for its surface tention reduction capability.

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