# ABSTRAK

## PRARANCANGAN PABRIK ETIL ETANOAT DARI ETANOL DAN ASAM ASETAT DENGAN KAPASITAS 35.000 TON/TAHUN (Perancangan *Reactor* (RE-201))

**Oleh**
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Etil etanoat merupakan produk yang digunakan sebagai peralut cat, perekat, tinta, kosmetik dan basis film yang permintaannya terus meningkat. Pembangunan pabrik Etil etanoat dari etanol dan asam asetat akan dibagun di daerah Gresik, Jawa Timur. Pabrik ini direncanakan akan memproduksi etil etanoat sebanyak 35.000 ton/tahun yang akan beroperasi secara kontinyu dengan waktu operasi 24 jam/hari, dan 330 hari/tahun. Bentuk perusahaan adalah Perseroan Terbatas (PT) dengan struktur organisasi *line and staff* dengan jumlah karyawan 122 orang.

Penyediaan kebutuhan utilitas pabrik berupa pengadaan air, unit *hot oil*, udara instrumentasi dan listrik. Dari analisis ekonomi pabrik etil etanoat diperoleh:

| | | |
|---|---|---|
| *Fixed Capital Investment* | (FCI) | = Rp. 621.106.846.700 |
| *Working Capital Investment* | (WCI) | = Rp. 109.607.090.594 |
| *Total Capital Investment* | (TCI) | = Rp. 730.713.937.294 |
| *Break Even Point* | (BEP) | = 32 % |
| *Shut Down Point* | (SDP) | = 27 % |
| *Pay Out Time before taxes* | $(POT)_b$ | = 2,430 tahun |
| *Pay Out Time after taxes* | $(POT)_a$ | = 2,864 tahun |
| *Return on Investment before taxes* | $(ROI)_b$ | = 26 % |
| *Return on Investment after taxes* | $(ROI)_a$ | = 21 % |
| *Discounted Cash Flow* | (DCF) | = 21,67 % |

Berdasarkan paparan diatas, sudah selayaknya pendirian pabrik etil etanoat dari etanol dan asam asetat dapat dikaji lebih lanjut dari segi proses maupun ekonominya.



**Kata Kunci** : etanol, asam asetat, etil etanoat

## ABSTRACT

**PREDESIGN OF ETHYL ETHANOATE PLANT FROM ETHANOL AND ACETIC ACID CAPACITY 35.000 TONS/YEAR**
**(Design of Reactor (RE-201))**

**By**
**Dewi Fatmawati**

Ethyl ethanoate are products used as solvent for paints, adhesives, ink, cosmetics, and film base whose increasing demannd. The construction of ethyl athanoate plant from ethanol and acetic acid will be built in The Gresik, East Java. The Plant is planned to produce ethyl ethanote 35.000 tons/year, with time operation 24 hours/day, and 330 days on year. The bussines entity from of this plant is Limited Liability Company (Ltd) using line and staff organizational structure with 122 labors.

Provision of utility plant needs are water supply, hot oil, air instrumentation and power generation. From the economic analysis of ethyl ethanoate plant is obtained :

| | | |
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Consider the summary above, it is prover establishment of ethyl ethanoate plant from ethanol and acetic acid can be studied futher from the process and economics.



**Keyword** : ethanol, acetic acid, ethyl ethanoate