

## ABSTRAK

### PRARANCANGAN PABRIK ALPHA-TERPINEOL DARI ALPHA-PINENE DAN AIR DENGAN KAPASITAS 36.000 TON/TAHUN (Perancangan *Distillation Column* (MD-401))

Oleh

RIFKI AMIRUL HAKIM

Pabrik Alpa-Terpineol akan didirikan di Pernalang, Jawa Tengah. Kapasitas produksi pabrik ini direncanakan sebanyak 36.000 ton/tahun, dengan waktu operasi 24 jam/hari, 330 hari/tahun. Kebutuhan bahan baku untuk menghasilkan produk sebanyak 36.000 ton sebanyak 7.098,677 kg/jam, air sebanyak 2.369,542 kg/jam, dan katalis asam kloroasetat sebanyak 677,710 kg/jam. Pabrik Alpa-Terpineol berbentuk Perseroan Terbatas (PT) dengan jumlah karyawan sebanyak 170 orang.

Berdasarkan analisis ekonomi diperoleh:

<b><i>Fixed Capital Investment</i></b> (FCI)	= Rp 968.234.696.497
<b><i>Working Capital Investment</i></b> (WCI)	= Rp 170.864.946.440
<b><i>Total Capital Investment</i></b> (TCI)	= Rp 1.139.099.642.938
<b><i>Break Even Point</i></b> (BEP)	= 42 %
<b><i>Shut Down Point</i></b> (SDP)	= 29 %
<b><i>Pay Out Time after taxes</i></b> (POT) <sup>a</sup>	= 1,51 tahun
<b><i>Return on Investment before taxes</i></b> (ROI) <sup>b</sup>	= 59,65 %
<b><i>Return on Investment after taxes</i></b> (ROI) <sup>a</sup>	= 47,72 %
<b><i>Interest Rate of Return</i></b> (IRR)	= 14,03 %

Berdasarkan paparan diatas, pabrik Alpa-Terpineol ini dikaji lebih lanjut karena pendirian pabrik ini menguntungkan dan memiliki prospek yang baik.

Kata Kunci: Alpa-Pinene, Air, Asam Kloroasetat, Alpa-Terpineol, Ekonomi

## ABSTRACT

### MANUFACTURING OF ALPHA-TERPINEOL FROM ALPHA-PINENE AND WATER CAPACITY 36.000 TONS/YEAR (Design of *Distillation Column* (MD-401))

By

RIFKI AMIRUL HAKIM

The company of Alpa-Terpineol will be established in Pemalang, Central Java. Production capacity is planned at 36.000 tons/year with operation 24 hour/day, 330 days/year. Requirement of raw material to produce 36.000 ton/tahun is 7.098,677 kg/hour alpa-pinene, 2.369,542 kg/hour water and 677,710 kg/hour choloacetic acid catalyst. The company form is a Limited Liability Company (PT) with a total of 179 employees.

An economic analysis of preliminary plant design of Alpa-terpineol are:

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Based on the above considerations, the establishment of the Amyl Acetate factory should be studied further, because it is a profitable factory and has a good prospect.

Kata Kunci: Alpa-Pinene, Water, Chloroacetic Acid, Alpa-Terpineol, Economic