

## ABSTRAK

### PRARANCANGAN PABRIK ETIL AKRILAT DARI ASAM AKRILAT DAN ETANOL DENGAN KAPASITAS 35.000 TON/TAHUN

(Perancangan Menara Distilasi (MD-303))

Oleh

ANNIZA HASNA PURNAMA

Etil Akrilat merupakan senyawa yang digunakan untuk memproduksi *coating* dan *adhesive*. Sebagai contoh dalam formulasi cat latex akan menghasilkan cat anti air serta tahan terhadap kerusakan akibat hujan, angin dan panas. Etil akrilat dapat diproduksi dengan beberapa cara antara lain: 1.) oksidasi propilena dan 2.) esterifikasi. Penyediaan kebutuhan utilitas pabrik berupa system pengolahan dan penyediaan air, system penyediaan *steam*, *cooling tower*, penyedia udara dan instrumentasi.

Kapasitas produksi pabrik etil akrilat direncanakan sebesar 35.000 ton/tahun dengan 330 hari kerja dalam 1 tahun. Lokasi pabrik direncanakan didirikan di Cilegon, Jawa Barat.

Dari analisis ekonomi diperoleh:

<i>Fixed Capital Investment</i>	(FCI)	= Rp 411.306.358.839
<i>Working Capital Investment</i>	(WCI)	= Rp 72.583.475.089
<i>Total Capital Investment</i>	(TCI)	= Rp 483.889.833.928
<i>Break Even Point</i>	(BEP)	= 42,18%
<i>Shut Down Point</i>	(SDP)	= 16,92%
<i>Pay Out Time before taxes</i>	(POT) <sub>b</sub>	= 2,31 tahun
<i>Pay Out Time after taxes</i>	(POT) <sub>a</sub>	= 3,13 tahun
<i>Return on Investment before taxes</i>	(ROI) <sub>b</sub>	= 43,5%
<i>Return on Investment after taxes</i>	(ROI) <sub>a</sub>	= 28,71%
<i>Discounted cash flow</i>	(DCF)	= 35,71%

Berdasarkan beberapa paparan di atas, maka pendirian pabrik etil akrilat ini layak untuk dikaji lebih lanjut, karena merupakan pabrik yang menguntungkan dari sisi ekonomi dan mempunyai prospek yang relatif baik.

## ABSTRACT

### PREDESIGN OF ETHYL ACRYLATE FROM ACRYLIC ACID AND ETHANOL WITH CAPACITIES 35.000 TONS/YEARS (DISTILATION COLUMN Design (MD-303))

By

**ANNIZA HASNA PURNAMA**

Ethyl acrylate is a compound that used as a coating and adhesive material. For example, latex paints produce water-repellent paints that resist rain, wind and heat. Ethyl acrylate can be produced in several ways, including: 1) Propylene oxidation 2) Esterification. Provision of utility plant needs a treatment system and water supply, steam supply system, cooling water, air and instrumentation providers.

Capacity of the plant is planned to produce ethyl acrylate 35.000 tons/year with 330 working days in a year. The location of plant is planned in Cilegon, West Java.

From the economic analysis are obtained :

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By considering above the summary, it is proper establishment of ethyl acrylate plant for studied further, because the plant is profitable and has good prospects future.