

ABSTRACT

MANUFACTURING OF *METHYL ACETATE* FROM *ACETIC ACID* (AND *METANOL* WITH CAPACITY 22.500 TONS/YEAR

Design of *Distillation Column* (DC-301)

By

BUNGA VERANIKA

Methyl Acetate is one of the chemical industry products used in industrial as a solvent in paint, lacquer, resin, thinner, perfume, cosmetics and nail polish remover. Methyl Acetate is produced by an Esterification process using solid catalyst or liquid catalyst. In the methyl acetate plant design, the Esterification process using a solid catalyst, namely the amberlist-15 catalyst, was chosen because it is more profitable from economic and environmental aspects.

The plant's production capacity is planned at 22.500 tons/year with 330 working days in 1 year. The factory location is planned to be established in Lippo Cikarang Industrial Estate. The required workforce of 147 people with the form of a Limited Liability Company (PT) business entity led by a President Director assisted by the Director of Production and Director of Marketing and Finance with the organizational structure of line and staff.

From the economic analysis, it is obtained that :

<i>Fixed Capital Investment</i>	(FCI)	= Rp 371.735.868.968,73,-
<i>Working Capital Investment</i>	(WCI)	= Rp 66.600.447.465,-
<i>Total Capital Investment</i>	(TCI)	= Rp 437.336.316.434,-
<i>Break Even Point</i>	(BEP)	= 34,37%
<i>Shut Down Point</i>	(SDP)	= 13,73%
<i>Pay Out Time after taxes</i>	(POT)	= 1,79 tahun
<i>Return on Investment after taxes</i>	(ROI)	= 38,75%
<i>Discounted cash flow</i>	(DCF)	= 40,02%

Considering the summary above, it is appropriate that the establishment of this Methyl Acetate plant is further reviewed, because it is a profitable factory and has good prospects.

ABSTRAK

PRARANCANGAN PABRIK *METHYL ACETATE* DARI *ACETIC ACID* DAN *METHANOL* KAPASITAS 22.500 TON/TAHUN Perancangan *Distillation Column* (DC-301)

Oleh

BUNGA VERANIKA

Methyl Acetate merupakan salah satu produk industri kimia yang digunakan sebagai pelarut pada industri cat, lak, resin, *thinner*, parfum, kosmetik dan penghapus cat kuku. *Methyl Acetate* di produksi dengan Proses Esterifikasi menggunakan katalis padat maupun katalis cair. Dalam Prarancangan Pabrik *Methyl Acetate* ini dipilih proses Esterifikasi menggunakan katalis padat yaitu katalis Amberlist-15 karena lebih menguntungkan dari aspek ekonomi dan aspek lingkungan.

Kapasitas produksi pabrik direncanakan 22.500 ton/tahun dengan 330 hari kerja dalam 1 tahun. Lokasi pabrik direncanakan didirikan di Kawasan Industri Lippo Cikarang. Tenaga kerja yang dibutuhkan sebanyak 147 orang dengan bentuk badan usaha Perseroan Terbatas (PT) yang dipimpin oleh seorang Direktur Utama yang dibantu oleh Direktur Produksi dan Direktur Pemasaran dan Keuangan dengan struktur organisasi *line and staff*.

Dari analisis ekonomi diperoleh:

<i>Fixed Capital Investment</i>	(FCI)	= Rp 371.735.868.968,73,-
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Mempertimbangkan rangkuman di atas, sudah selayaknya pendirian pabrik *Methyl Acetate* ini dikaji lebih lanjut, karena merupakan pabrik yang menguntungkan dan mempunyai prospek yang baik.