

ABSTRAK

PRARANCANGAN PABRIK DIETHYL PHTHALATE DARI PHTHALIC ANHYDRIDE DAN ETANOL KAPASITAS 20.000 TON/TAHUN (Perancangan Menara Distilasi (MD-301))

Oleh
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Pabrik Diethyl Phthalate ini berbahan baku Phthalic Anhydride dan Etanol, yang rencananya akan didirikan di Kecamatan Drieorejo, Kabupaten Gresik, Jawa Timur. Pabrik ini berdiri dengan mempertimbangkan ketersediaan bahan baku, sarana transportasi yang memadai, tenaga kerja, perizinan dan kondisi sosial masyarakat sekitar.

Pabrik ini direncanakan dapat memproduksi Diethyl Phthalate sebanyak 20.000 ton/tahun, dengan waktu operasi selama 24 jam/hari serta 330 hari/tahun. Banyaknya bahan baku yang digunakan adalah Phthalic Anhydride sebanyak 1.686,24 kg/jam dan Etanol sebanyak 1.077,75 kg/jam.

Penyediaan kebutuhan utilitas pabrik diethyl phthalate ini berupa unit penyedia dan pengolahan air, unit penyedia *steam*, unit penyedia udara instrument dan unit penyedia bahan bakar.

Jumlah karyawan sebanyak 171 orang dengan bentuk perusahaan adalah Perseroan Terbatas (PT) dengan struktur organisasi jenis *line* dan *staff*.

Dari analisis ekonomi, maka diperoleh hasil sebagai berikut :

<i>Fixed Capital Investment</i> (FCI)	= Rp.330.395.604.614,035,-
<i>Working Capital Investment</i> (WCI)	= Rp.58.305.106.696,595,-
<i>Total Capital Investment</i> (TCI)	= Rp. 187.172.869.312,-
<i>Break Even Point</i> (BEP)	= 50%
<i>Shut Down Point</i> (SDP)	= 26%
<i>Pay Out Time after Taxes</i> (POT) _a	= 2,45 tahun
<i>Return on Investment after Taxes</i> (ROI) _a	= 20,93%
<i>Interest Rate Return</i> (IRR)	= 18,72%
<i>Annual Net Profit</i> (Pa)	= Rp. 65.751.626.963,61,-/tahun

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

ABSTRACT

PRADESIGN OF DIETHYL PHTHALATE PLANT FROM PHTHALIC ANHYDRIDE AND ETHANOL CAPACITY 20.000 TONS/YEAR (Distillation Coloumn Design(MD-301))

By
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Diethyl Phthalate plant produced by reacting phthalic anhydride and ethanol, is planned to be located in Gresik, East Java Province. The plant is established by considering availability of raw materials, transportation facilities, readily available labor and environmental conditions.

This Plant is planned to production diethyl phthalate with production capacity is 20.000 tons/year, with operating time of 24 hours/day and 330 working days in a year. The raw materials used in this plant are much 1.686,24 kg/hours of *Phthalic Anhydride* and Ethanol as 1.077,75 kg/hours.

Provision of utility plant needs a treatment system and water supply, steam supply systems, and instrument air supply systems.

Labor needed in this plant as many as 171 people with a business entity form Limited Liability Company (PT) with line and staff organizational structure.

From the economic analysis is obtained :

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