

ABSTRAK

PRARANCANGAN PABRIK DIBUTHYL PHTHALATE DARI PHTHALIC ANHYDRIDE DAN N-BUTANOL KAPASITAS 17.000 TON/TAHUN (Prarancangan Reaktor (RE-201))

Oleh

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Pabrik *Dibuthyl Phthalate* ini berbahan baku *Phthalic Anhydride* dan n-butanol, yang rencananya akan didirikan di Kecamatan Driorejo, Kabupaten Gresik, Jawa Timur. Pabrik ini berdiri dengan mempertimbangkan ketersediaan bahan baku, sarana transportasi yang memadai, tenaga kerja, perizinan dan kondisi masyarakat sekitar.

Pabrik ini direncanakan dapat memproduksi *Dbuthyl Phthalate* sebanyak 17.000 ton/tahun, dengan waktu operasi selama 24 jam/hari serta 330 hari/tahun. Banyaknya bahan baku yang digunakan adalah *Phthalic Anhydride* sebanyak 1.166,043 kg/jam dan n-butanol sebanyak 1.457,554 kg/jam.

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

Jumlah karyawan sebanyak 144 orang dengan bentuk perusahaan adalah Perseroan Terbatas (PT) dengan struktur organisasi jenis *line* dan *staff*.

Dari analisis ekonomi, maka diperoleh hasil sebagai berikut:

<i>Fixeed Capital Investment</i> (FCI)	= Rp 104.717.493.294,-
<i>Working Capital Investment</i> (WCI)	= Rp 61.728.525.529,-
<i>Total Capital Investment</i> (TCI)	= Rp 411.523.503.526,-
<i>Break Even Point</i> (BEP)	= 42,073 %
<i>Shut Down Point</i> (SDP)	= 29,685 %
<i>Pay Out Time After Taxes</i> (POT) _a	= 2,702 tahun
<i>Return on Investment After Taxes</i> (ROI) _a	= 44,544 %

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

Kata kunci: Prarancangan Pabrik *Dibuthyl Phthalate*, *Dibutyl Phthalate*

ABSTRACT

PRE-DESIGN DIBUTHYL PHTHALATE PLANT FROM PHTHALIC ANHYDRIDE AND N-BUTANOL CAPACITY 17,000 TONS/YEAR (Pre-Design Reactor (RE-201))

By

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The Dibuthyl Phthalate *factory* is made of *Phthalic Anhydride* and n-butanol, which is planned to be established in Driecorejo District, Gresik Regency, East Java. This factory was established by considering the availability of raw materials, adequate transportation facilities, labor, licensing and the condition of the surrounding community.

This plant is planned to be able to produce 17,000 tons/year of *Dibuthyl Phthalate*, with an operating time of 24 hours/day and 330 days/year. The amount of raw materials used is *Phthalic Anhydride* as much as 1,166,043 kg/hour and n-butanol as much as 1,457,554 kg/hour.

The provision of utility needs for *the Dibuthyl Phthalate* plant is in the form of a water supply and treatment unit, a *steam* supply unit, an instrument air supply unit and a fuel supply unit.

The number of employees is 144 people with the form of a company is a Limited Liability Company (PT) with a *line and staff type organizational structure*.

From the economic analysis, the following results were obtained:

Fixed Capital Investment (FCI) = Rp 104.717.493.294,-

Working Capital Investment (WCI) = Rp 61.728.525.529,-

Total Capital Investment (TCI) = Rp 411.523.503.526,-

Break Even Point (BEP) = 42.073 %

Shut Down Point (SDP) = 29.685 %

Pay Out Time After Taxes (POT)_a = 2,702 years

Return on Investment After Taxes (ROI)_a = 44.544 %

Based on some of the explanations above, the establishment of *the Dibuthyl Phthalate* factory deserves further study, because it is a factory that leads from an economic point of view and has relatively good prospects.

Keywords: *Dibuthyl Phthalate* Plant Design, *Dibutyl Phthalate*