

ABSTRAK

PRARANCANGAN PABRIK *PROPYLENE GLYCOL* DARI *GLYCEROL* DENGAN KAPASITAS 50.000 TON/TAHUN (PERANCANGAN REAKTOR (RE-301))

Oleh

Serly Putri Feryani

Propylene Glycol merupakan salah satu produk industri kimia yang dimanfaatkan dalam industri *wetting agent*, formula obat di industry farmasi, *coolant* pendingin mesin, bahan pengawet dan pelarut, penstabil viskositas di industri cat, serta bahan pelembut dan pelembab dalam industri kosmetik.

Pembuatan *Propylene Glycol* dalam skala besar, dilakukan pada perancangan pabrik *Propylene Glycol* dengan kapasitas 50.000 Ton/Tahun dengan bahan baku *Glycerol* dan hidrogen diperoleh dari PT. Cemerlang Energi Perkasa. Lokasi pabrik direncanakan didirikan di Kawasan Industri Tanjung Buton Riau, Provinsi Riau. Bentuk perusahaan adalah Perseroan Terbatas (PT) yang dipimpin oleh seorang Direktur Utama dibantu oleh Direktur Produksi dan Direktur Keuangan menggunakan struktur organisasi *line* dan *staff* dengan jumlah karyawan sebanyak 144 orang.

Analisa kelayakan Perancangan Pabrik *Propylene Glycol* sebagai berikut :

| | |
|---|------------------------|
| <i>Fixed Capital Investment</i> (FCI) | = Rp 397.075.333.003,- |
| <i>Working Capital Investment</i> (WCI) | = Rp 74.452.624.938,- |
| <i>Total Capital Investment</i> (TCI) | = Rp 496.344.166.253,- |
| <i>Break Even Point</i> (BEP) | = 34,53 % |
| <i>Pay Out Time after Taxes</i> (POT) ^a | = 2,08 years |
| <i>Return on Investment before Taxes</i> (ROI) ^b | = 30,39 % |
| <i>Return on Investment after Taxes</i> (ROI) ^a | = 24,32 % |
| <i>Discounted Cash Flow</i> (DCF) | = 29,92 % |
| <i>Shut Down Point</i> (SDP) | = 25,03 % |

Mempertimbangkan paparan di atas, sudah selayaknya pendirian pabrik *Propylene Glycol* ini dikaji lebih lanjut, karena merupakan pabrik yang menguntungkan dan mempunyai masa depan yang baik.

ABSTRACT

MANUFACTURE OF PROPYLENE GLYCOL FROM GLYCEROL CAPACITY 50.000 TON / YEAR (DESIGN OF REACTOR (RE-301))

By

Serly Putri Feryani

Propylene Glycol is one of the chemical industry products that is used in the wetting agent industry, drug formulas in the pharmaceutical industry, engine cooling coolant, preservatives and solvents, viscosity stabilizers in the paint industry, as well as softeners and moisturizers in the cosmetic industry.

Propylene Glycol is made from glycerol and hydrogen are supplied from PT. Cemerlang Energi Perkasa. A Business entity of this company is a joint-stock company (Perusahaan Terbatas). The company is managed by managing director and assisted by production and financial director. The structure of this organization is line and staff with 144 labors.

An economic analysis of preliminary plant design of Propylene Glycol are:

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Consider the summary above, it is proper establishment of Propylene Glycol's Plant is studied further, because the plant is profitable and has good prospects.