

ABSTRAK

Glyoxal ($C_2H_2O_2$) merupakan senyawa organik yang memiliki nama IUPAC oxaldehyde atau Ethanedial. Glyoxal adalah senyawa organik yang memiliki peranan penting dalam berbagai bidang, termasuk kimia, industri tekstil, dan biologi. Pabrik direncanakan memproduksi Glyoxal sebanyak 35.000 ton/tahun, dengan waktu operasi 24 jam/hari, 330 hari/tahun. Bahan baku yang digunakan adalah Etilen Glikol dan Oksigen. Penyediaan kebutuhan utilitas pabrik Glyoxal berupa pengadaan air, dowtherm, pengadaan listrik, kebutuhan bahan bakar, dan pengadaan udara. Bentuk perusahaan adalah Perseroan Terbatas (PT) menggunakan struktur organisasi line dan staff dengan jumlah karyawan sebanyak 195 orang. Dari analisis ekonomi diperoleh: *Fixed Capital Investment (FCI)* = Rp 10.547.043.426.898, *Working Capital Investment (WCI)* = Rp 1.861.242.957.688 *Total Capital Investment (TCI)* = Rp 12.408.286.384.586 *Break Even Point (BEP)* = 50 %, *Pay Out Time (POT)* = 3,5 tahun *Return on Investment before taxes (ROI)* = 19 %, *Interest Rate of Return (IRR)* = 28,50%. Mempertimbangkan paparan di atas, sudah selayaknya pendirian pabrik Glyoxal ini dikaji lebih lanjut, karena merupakan pabrik yang menguntungkan dan mempunyai masa depan yang baik.

Kata Kunci : *Glyoxal, Etilen Glikol, Break Event Point, Pay Out Time*

ABSTRACT

Glyoxal (C₂H₂O₂) is an organic compound that has the name IUPAC oxaldehyde or Ethanedial. Glyoxal is an organic compound that has an important role in various fields, including chemistry, the textile industry, and biology. The factory is planned to produce 35,000 tons/year of Glyoxal, with an operating time of 24 hours/day, 330 days/year. The raw materials used are Ethylene Glycol and Oxygen. The provision of Glyoxal factory utility needs in the form of water procurement, dowerm, electricity procurement, fuel needs, and air procurement. The form of the company is a Limited Liability Company (PT) using a line and staff organizational structure with a total of 195 employees. From the economic analysis, it was obtained: Fixed Capital Investment (FCI) = IDR 10,547,043,426,898, Working Capital Investment (WCI) = IDR 1,861,242,957,688 Total Capital Investment (TCI) = IDR 12,408,286,384,586 Break Even Point (BEP) = 50%, Pay Out Time (POT) = 3.5 years Return on Investment before taxes (ROI) = 19%, Interest Rate of Return (IRR) = 28.50%. Considering the above explanation, it is appropriate for the establishment of the Glyoxal factory to be studied further, because it is a profitable factory and has a good future.

Keywords : Glyoxal, Ethylene Glycol, Break Event Point, Pay Out Time,