ABSTRAK

PRARANCANGAN PABRIK METIL LAKTAT ($C_4H_8O_3$) DARI ASAM LAKTAT ($C_3H_6O_3$) DAN METANOL (CH_3OH) KAPASITAS 21.000 TON/TAHUN
(Perancangan Reaktor (RE-201))

Oleh:

Jihan Falah Ariqoh

Pabrik Metil Laktat berbahan baku asam laktat dan metanol ini akan didirikan di Bontang, Kalimantan Timur. Pendiriaan pabrik berdasarkan pada pertimbangan ketersediaan bahan baku, sarana transportasi yang memadai, tenaga kerja yang mudah didapatkan dan kondisi lingkungan.

Kapasitas produksi pabrik direncanakan sebesar 21.000 ton/tahun dengan 330 hari kerja dalam 1 tahun. Bahan baku yang digunakan adalah asam laktat sebanyak 2.834,3740 kg/jam dan Metanol sebanyak 4.002,3199 kg/jam. Bentuk perusahaan adalah Perseroan Terbatas (PT) menggunakan struktur organisasi *line* dan *staff* dengan jumlah karyawan sebanyak 174 orang.

Analisa kelayakan Perancangan Pabrik Metil Laktat adalah sebagai berikut:

Fixed Capital Investment	(FCI)	= Rp. 354.231.142.736,78,-
Working Capital Investment	(WCI)	= Rp. 62.511.378.130,02,-
Total Capital Investment	(TCI)	= Rp. 416.742.520.866,80,-
Break Even Point	(BEP)	= 43,65%
Shut Down Point	(SDP)	= 24,70%
Pay Out Time after taxes	$(POT)_a$	= 2,33 tahun
Return on Investment after taxes	$(ROI)_a$	= 27,95%
Discounted Cash Flow	(DCF)	= 35,01%

Berdasarkan pertimbangan diatas, sudah selayaknya pendirian pabrik Metil Laktat ini dikaji lebih lanjut, karena merupakan pabrik yang menguntungkan dan mempunyai prospek yang baik.

Kata kunci: Metil Laktat, Asam Laktat, Metanol, Ekonomi.

ABSTRACT

MANUFACTURING OF METHYL LACTATE ($C_4H_8O_3$) FROM LACTIC ACID ($C_3H_6O_3$) AND METHANOL (CH_3OH) WITH CAPACITY 21.000 TONS/YEAR
(Design Of Reactor (RE-201))

By:

Jihan Falah Ariqoh

Methyl Lactate plant with raw materials lactic acid and methanol is planned to be built in Bontang, East Borneo. Establishment of this plant is based on some consideration due tothe raw material resourcess, the transportation, the labors availability and also the environmental condition.

The factory's production capacity is planned 21.000 tons/year with 330 working days in 1 year. The raw materials used consist of 2.834,3740 kg/hour of lactic acid and 4.002,3199 kg/hour of methanol. The bussines entity form is Limited Liability Company (Ltd) using line and staff organizational structure with 174 labors.

An economic analysis of preliminary plant design of Methyl Lactate are:

Fixed Capital Investment	(FCI)	= Rp. 354.231.142.736,78,-
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Based on the above considerations, it is proper to study the establishment of Methyl Lactate plant further, because the plant is profitable and has good prospects.

Kata kunci: Methyl Lactate, Lactic Acid, Methanol, Economics.