

ABSTRAK

PRARANCANGAN PABRIK METIL OLEAT DARI ASAM OLEAT DAN ASAM SULFAT KAPASITAS 70.000 TON/TAHUN

(Perancangan Kolom Distilasi (DC-303))

Oleh

ELISTIA NURSAFITRI

Prarancangan pabrik metil oleat dari asam oleat dan asam sulfat dengan kapasitas 70.000 ton/tahun akan didirikan di Kawasan Industri Bontang, Kalimantan Timur di atas tanah seluas 45.000 m².

Metil Oleat dalam industri kimia digunakan sebagai pelumas, bahan tambahan dalam industri agrokimia, kosmetik dan pembuatan deterjen. Bahan baku berupa asam oleat sebanyak 9.284,353 kg/jam diperoleh secara import China dan Asam Sulfat sebanyak 10.535,436 kg/jam diperoleh dari PT. Kaltim Metanol Industri.

Jumlah karyawan sebanyak 166 orang dengan bentuk perusahaan adalah Perseroan Terbatas (PT) menggunakan struktur organisasi *line* dan *staff*. Dari analisis ekonomi diperoleh:

<i>Fixed Capital Investment</i> (FCI)	= Rp 3.286.663.198.569
<i>Working Capital Investment</i> (WCI)	= Rp 579.999.387.982
<i>Total Capital Investment</i> (TCI)	= Rp 3.866.662.586.552
<i>Break Even Point</i> (BEP)	= 54,01%
<i>Shut Down Point</i> (SDP)	= 23,37%
<i>Pay Out Time after Taxes</i> (POT) _a	= 3,67 tahun
<i>Return on Investment after Taxes</i> (ROI) _a	= 14,64 %
<i>Discounted cash flow</i>	= 35,01%

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

ABSTRACT

***MANUFACTURING OF METHYL OLEATE PLANT FROM OLEIC ACID
AND SULFURIC ACID CAPACITY 70.000 TONS/YEAR***

(Design Distillation Column (DC-303))

By

ELISTIA NURSAFITRI

Manufacturing of a methyl oleate plant from oleic acid and sulfuric acid with a capacity of 70.000 tons/year will be established in Bontang Industrial Estate, East Kalimantan, on a land area of 45.000 m².

Methyl oleate in the chemical industry is used as a lubricant, additive in the agrochemical industry, cosmetics, and detergent manufacturing. Raw materials in the form of oleic acid as much as 9,284.353 kg/hour are obtained by importing China, and sulfuric acid as much as 10,535.436 kg/hour is obtained from PT Kaltim Methanol Industri.

The number of employees is 166, with the company being a Limited Liability Company (PT) using a line-and-staff organizational structure.

From the economic analysis it is obtained:

Fixed Capital Investment (FCI) = Rp 562.168.439.812

Working Capital Investment (WCI) = Rp 99.206.195.261

Total Capital Investment (TCI) = Rp 661.374.635.073

<i>Break Even Point (BEP)</i>	= 54%
<i>Shut Down Point (SDP)</i>	= 38%
<i>Pay Out Time After Taxes (POT)_a</i>	= 2,57 tahun
<i>Return on Investment After Taxes (ROI)_a</i>	= 24 %
<i>Discounted Cash Flow</i>	= 33,29%

Considering the explanation above, it is appropriate to study the establishment of this methyl oleate plant further, because it is a profitable factory and has a good prospect.