

## ABSTRACT

### MANUFACTURING OF METHYL SALICYLATE FROM SALICYLIC ACID AND METHANOL WITH ESTERIFICATION METHOD CAPACITY 23.000 TONS/YEAR

(Design of Distillation Column (DC-301))

By

THALYA MIRANDA

Methyl salicylate plant with materials, salicylic acid and methanol is planned to be built in Cadas, Tangerang, Banten. Establishment of this plant is based on some consideration due to the raw material resources, the transportation, the labors availability and also the environmental condition.

This plant is mean to produce 23.000 tons/year methyl salicylate with operation time 24 hours/day, 330 days/year. Raw materials used consist of methanol 1.851,362 kg/hour and 998 kg/hour of salicylic acid.

The utility units consist of water supply system, steam supply system, instrument air and electricity supply system, and waste treatment system. The bussines entitiy form is Limited Liability Company (Ltd) Using line and staff organizational structure with 168 labors.

Form the economics analysis, it is obtained that:

Fixed Capital Investment (FCI)	= Rp893.134.833.440,054
Working Capital Investment (WCI)	= Rp157.612.029.430,598
Total Capital Investment (TCI)	= Rp1.050.746.862.870,650
Break Even Point (BEP)	= Rp296.577.287.909
Shut Down Point (SDP)	= Rp169.054.919.863,60
Pay Out Time after taxes (POT) <sup>a</sup>	= 2,473 years
Return on Investment after taxes (ROI) <sup>a</sup>	= 25,87%

Considering the summary above, it is proper to study the establishment of methyl salicylate plant further, because the plant is profitable and has good prospects.

## ABSTRAK

### PRARANCANGAN METIL SALISILAT DARI ASAM SALISILAT DAN METHANOL DENGAN METODE ESTERIFIKASI KAPASITAS 23.000 TON/TAHUN

(Tugas Khusus *Distillation Column* (DC-301))

Oleh

THALYA MIRANDA

Pabrik metil salisilat dengan bahan baku asam salisilat dan metanol rencananya akan dibangun di Cadas, Tangerang, Banten. Pendirian pabrik ini didasarkan pada pertimbangan sumber daya bahan baku, transportasi, ketersediaan tenaga kerja serta kondisi lingkungan.

Pabrik ini direncanakan memproduksi metil salisilat sebanyak 23.000 ton/tahun dengan waktu operasi 24 jam/hari, 330 hari/tahun. Bahan baku yang digunakan terdiri dari metanol 1.851,362 kg/jam dan asam salisilat 998 kg/jam.

Unit utilitas terdiri dari sistem penyediaan air, sistem penyediaan uap, sistem penyediaan udara dan listrik instrumen, dan sistem pengolahan limbah. Bentuk badan usahanya adalah Perseroan Terbatas (PT) dengan menggunakan struktur organisasi lini dan staf dengan jumlah pekerja sebanyak 168 orang.

Dari analisis ilmu ekonomi diperoleh:

<i>Fixed Capital Investment</i> (FCI)	= Rp893.134.833.440,054
<i>Working Capital Investment</i> (WCI)	= Rp157.612.029.430,598
<i>Total Capital Investment</i> (TCI)	= Rp1.050.746.862.870,650
<i>Break Even Point</i> (BEP)	= Rp296.577.287.909
<i>Shut Down Point</i> (SDP)	= Rp169.054.919.863,60
<i>Pay Out Time after taxes</i> (POT) <sub>a</sub>	= 2,473 tahun
<i>Return on Investment after taxes</i> (ROI) <sub>a</sub>	= 25,87%

Mempertimbangkan rangkuman di atas, maka pendirian pabrik metil salisilat ini patut dikaji lebih lanjut, karena pabrik tersebut menguntungkan dan mempunyai prospek yang baik.