

## ABSTRAK

### PRARANCANGAN PABRIK ASAM PERASETAT DENGAN PROSES OKSIDASI ASETALDEHID KAPASITAS 30.000 TON/TAHUN

Oleh

ELIZAN TIKA

Asam Perasetat (PAA) merupakan senyawa kimia organik yang sering dikenal sebagai oxidizing Agent. Asam Perasetat diproduksi dengan cara mereaksikan campuran Asetaldehid-solvent dan katalis direaksikan dengan oksigen pada suatu reaktor. Untuk membentuk Asam Perasetat menggunakan perbandingan Asetaldehid dengan Oksigen 1:2. Kapasitas produksi pabrik direncanakan 30.000 ton/tahun dengan 330 hari kerja dalam 1 tahun. Lokasi pabrik direncanakan didirikan di daerah solo, Jawa Tengah. Tenaga kerja yang dibutuhkan sebanyak 141 orang dengan bentuk badan usaha Perseroan Terbatas (PT).

Analisa ekonomi Prarancangan Pabrik Asam Perasetat sebagai berikut:

<i>Fixed Capital Investment</i>	(FCI)	= Rp409.701.828.024,92
<i>Working Capital Investment</i>	(WCI)	= Rp72.300.322.592,63
<i>Total Capital Investment</i>	(TCI)	= Rp482.002.150.617,55
<i>Break Even Point</i>	(BEP)	= 41,5 %
<i>Shut Down Point</i>	(SDP)	= 24,67 %
<i>Pay Out Time after taxes</i>	(POT) <sub>a</sub>	= 2 tahun
<i>Return on Investment before taxes</i>	(ROI) <sub>b</sub>	= 41,47 %
<i>Return on Investment after taxes</i>	(ROI) <sub>a</sub>	= 34,9 %
<i>Discounted cash flow</i>	(DCF)	= 42,99 %

Mempertimbangkan rangkuman di atas, sudah selayaknya pendirian pabrik Asam Perasetat ini dikaji lebih lanjut, karena merupakan pabrik yang menguntungkan dan mempunyai prospek yang baik.

Kata kunci : Asam Perasetat, Aseton, Oksigen, Ekonomi

## ABSTRACT

### PRE-DESIGN OF A PERACETIC ACID FACTORY WITH ACETHALDEHYDE OXIDATION PROCESS CAPACITY 30,000 TON/YEAR

By

ELIZAN TIKA

Peracetic Acid (PAA) is an organic chemical compound which is often known as an oxidizing agent. Peracetic acid is produced by reacting a mixture of acetaldehyde solvent and a catalyst which is reacted with oxygen in a reactor. To form Peracetic Acid, use a ratio of Acetaldehyde to Oxygen of 1:2. The factory's production capacity is planned to be 30,000 tons/year with 330 working days in 1 year. The factory location is planned to be established in the Solo area, Central Java. The workforce required is 141 people in the form of a Limited Liability Company (PT).

Economic analysis of Peracetic Acid Factory Design as follows:

<i>Fixed Capital Investment</i>	(FCI)	= Rp409.701.828.024,92
<i>Working Capital Investment</i>	(WCI)	= Rp72.300.322.592,63
<i>Total Capital Investment</i>	(TCI)	= Rp482.002.150.617,55
<i>Break Even Point</i>	(BEP)	= 41,5 %
<i>Shut Down Point</i>	(SDP)	= 24,67 %
<i>Pay Out Time before taxes</i>	(POT) <sub>b</sub>	= 1,7 years
<i>Pay Out Time after taxes</i>	(POT) <sub>a</sub>	= 2 years
<i>Return on Investment before taxes</i>	(ROI) <sub>b</sub>	= 41,47 %
<i>Return on Investment after taxes</i>	(ROI) <sub>a</sub>	= 34,9 %
<i>Discounted cash flow</i>	(DCF)	= 42,99 %

Considering the summary above, it is appropriate to study the establishment of this Peracetic Acid factory further, because it is a profitable factory and has good prospects.

Keywords: Peracetic Acid, Acetone, Oxygen, Economy