

## ABSTRAK

### PRARANCANGAN PABRIK METIL METAKRILAT ( $C_5H_8O_2$ ) DARI ASETON SIANOHRIN ( $C_4H_7NO$ ), ASAM SULFAT ( $H_2SO_4$ ) DAN METANOL ( $CH_3OH$ ) KAPASITAS 80.000 TON/TAHUN (Perancangan Menara Distilasi (MD-303))

Oleh

DELLA MEIFI LISANDI

Metil Metakrilat ( $C_5H_8O_2$ ) mempunyai peranan dalam beberapa industri kimia seperti industri pelapis kulit, kosmetik, cat, peralatan rumah tangga, polimer dan lainnya. Untuk memenuhi kebutuhan dalam negeri yang masih harus diimpor dari luar negeri dan adanya peluang ekspor yang masih terbuka, Kapasitas produksi pabrik direncanakan sebesar 80.000 ton/tahun dengan 330 hari kerja dalam 1 tahun dan didirikan di Kota Gresik, Jawa Timur. Bentuk perusahaan adalah badan usaha Perseroan Terbatas (PT) menggunakan struktur organisasi *line and staff* dengan jumlah karyawan sebanyak 163 orang.

Analisa ekonomi Prarancangan Pabrik Metil Metakrilat sebagai berikut:

<i>Fixed Capital Investment</i> (FCI)	= Rp745.085.297.981,21
<i>Working Capital Investment</i> (WCI)	= Rp175.314.187.760,29.
<i>Total Capital Investment</i> (TCI)	= Rp920.399.485.741,50
<i>Break Even Point</i> (BEP)	= 39,35%
<i>Shut Down Point</i> (SDP)	= 29,37%
<i>Pay Out Time after Taxes</i> (POT) <sup>a</sup>	= 1,42 tahun
<i>Return on Investment before Taxes</i> (ROI) <sup>b</sup>	= 61,28 %
<i>Return on Investment after Taxes</i> (ROI) <sup>a</sup>	= 49,02 %
<i>Discounted Cash Flow</i> (DCF)	= 56,32 %

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

Kata kunci: Metil Metakrilat, Aseton Sianohrin, Asam Sulfat, Metanol, Ekonomi

## ABSTRACT

**MANUFACTURING OF METHYL METHACRYLATE (C<sub>5</sub>H<sub>8</sub>O<sub>2</sub>)  
FROM ACETON CYANOHYDRIN (C<sub>4</sub>H<sub>7</sub>NO), SULFURIC ACID(H<sub>2</sub>SO<sub>4</sub>)  
DAN METHANOL (CH<sub>3</sub>OH) CAPACITY 80.000 TON/TAHUN  
(Design of Distillation Coloumn (MD-303))**

By

**DELLA MEIFI LISANDI**

Methyl Methacrylate (C<sub>5</sub>H<sub>8</sub>O<sub>2</sub>) has a role in several chemical industries such as the leather coating industry, cosmetics, paint, household appliances, polymers and others. To meet domestic needs which still have to be imported from abroad and there are still open export opportunities. Production capacity is planned at 80.000 tons/year with 330 working days in a year and will be established in Gresik City, Jawa Timur. The company form is a Limited Liability Company (PT) using a line and staff organizational structure with a total of 163 employees.

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

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<i>Discounted Cash Flow (DCF)</i>	=56,32 %

Based on the above considerations, the establishment of the Methyl Methacrylate factory should be studied further, because it is a profitable factory and has a good prospect.

Key words: Methyl Methacrylate, Acetone Cyanorin, Sulfuric Acid, Methanol, Economics