

## ABSTRAK

### PRARANCANGAN PABRIK EPIKLOROHIDRIN ( $C_3H_5ClO$ ) DARI DIKLOROHIDRIN ( $C_3H_6Cl_2O$ ) DAN NATRIUM HIDROKSIDA (NaOH) DENGAN KAPASITAS 16.000 TON/TAHUN (PERANCANGAN REAKTOR (RE-201))

Oleh

RIZKIYAA OKTAVIA

Epiklorohidrin merupakan salah satu produk kimia yang digunakan untuk memproduksi resin epoksi, gliserin sintesis, surfaktan, *elastomer*, serta dapat digunakan pada proses *painting and coating*. Epiklorohidrin diproduksi dengan proses dehidroklorinasi dengan bahan baku diklorohidrin dan natrium hidroksida.

Kapasitas produksi pabrik direncanakan sebesar 16.000 ton/tahun dengan 330 hari kerja dalam 1 tahun dan didirikan di Kota Cilegon, Provinsi Banten. Bentuk perusahaan adalah badan usaha Perseroan Terbatas (PT) yang dipimpin oleh seorang Direktur Utama yang dibantu oleh Direktur Teknik dan Produksi serta Direktur Keuangan dan Pemasaran,

Analisa kelayakan Perancangan Pabrik Epiklorohidrin sebagai berikut:

<i>Fixed Capital Investment (FCI)</i>	= Rp562.168.439.812,-
<i>Working Capital Investment (WCI)</i>	= Rp99.206.195.261,-
<i>Total Capital Investment (TCI)</i>	= Rp661.374.635.073,-
<i>Break Even Point (BEP)</i>	= 38,88%
<i>Pay Out Time after Taxes (POT)<sup>a</sup></i>	= 1,64 tahun
<i>Return on Investment before Taxes (ROI)<sup>b</sup></i>	= 51%
<i>Return on Investment after Taxes (ROI)<sup>a</sup></i>	= 43%
<i>Discounted Cash Flow (DCF)</i>	= 51,92%
<i>Shut Down Point (SDP)</i>	= 26,82%

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

Kata kunci: Epiklorohidrin, Diklorohidrin, Natrium Hidroksida, Ekonomi.

## ABSTRACT

### MANUFACTURING OF EPICHLOROHYDRIN (C<sub>3</sub>H<sub>5</sub>ClO) FROM DICHLOROHYDRIN (C<sub>3</sub>H<sub>6</sub>Cl<sub>2</sub>O) AND SODIUM HYDROXIDE (NaOH) WITH CAPACITY 16.000 TONS/YEAR (DESIGN OF REACTOR (RE-201))

By

**RIZKIYAA OKTAVIA**

Epichlorohydrin is a chemical product used to produce epoxy resin, synthetic glycerin, surfactants, elastomers, and can be used in painting and coating processes. Epichlorohydrin is produced by dehydrochlorination process with dichlorohydrin and sodium hydroxide as raw materials.

The factory's production capacity is planned at 16.000 tons/year with 330 working days in 1 year and will be established in Cilegon City, Banten Province. The form of the company is a Limited Liability Company (PT) which is head by a Director who assisted by the Director of Engineering and Production also Director of Finance and Marketing

An economic analysis of preliminary plant design of Epichlorohydrin are:

<i>Fixed Capital Investment (FCI)</i>	= Rp562.168.439.812,-
<i>Working Capital Investment (WCI)</i>	= Rp99.206.195.261,-
<i>Total Capital Investment (TCI)</i>	= Rp661.374.635.073,-
<i>Break Even Point (BEP)</i>	= 38,88%
<i>Pay Out Time after Taxes (POT)<sup>a</sup></i>	= 1,64 tahun
<i>Return on Investment before Taxes (ROI)<sup>b</sup></i>	= 51%
<i>Return on Investment after Taxes (ROI)<sup>a</sup></i>	= 43%
<i>Discounted Cash Flow (DCF)</i>	= 51,92%
<i>Shut Down Point (SDP)</i>	= 26,82%

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

Key words: Epichlorohydrin, Dichlorohydrin, Sodium hydroxide, Economics.