# ABSTRAK


**PRARANCANGAN PABRIK *GLYPHOSATE* DARI *NEOPHOSPHONOMETHYL IMINODIACETIC ACID* (N-PMIDA) DAN HIDROGEN PEROKSIDA ($H_2O_2$) MENGGUNAKAN KATALIS PD/Al2O3 DENGAN KAPASITAS 40.000 TON/TAHUN (PERANCANGAN *ROTARY DRYER* (RD-401)**

**Oleh**

**DHIYA HALLAUSANIA PUTRI TEREGAK**

*Glyphosate* merupakan bahan campuran pembuatan herbisida yang digunakan untuk memasmi gulma. Bahan baku yang digunakan adalah *Neophosphonomethyl Iminodiacetic Acid* dan Hidrogen Peroksida. Penyediaan kebutuhan utilitas pabrik terdiri dari unit penyediaan air, penyediaan *steam*, penyediaan udara *instrument*,dan pengolahan limbah.

Kapasitas produksi pabrik *Glyphosate* direncanakan sebesar 40.000 ton/tahun dengan 330 hari kerja dalam 1 tahun dan didirikan di Gresik, Jawa Timur. Bentuk perusahaan adalah badan usaha Perseroan Terbatas (PT) dengan struktur organisasi *line* dan *staff* dan jumlah karyawan sebanyak 158 orang.

Dari analisis ekonomi diperoleh sebagai berikut:

| | |
|---|---|
| *Fixed Capital Investment* (FCI) | = Rp732.534.697.324,17,- |
| *Working Capital Investment* (WCI) | = Rp129.270.828.939,56,- |
| *Total Capital Investment* (TCI) | = Rp861.805.526.263,72,- |
| *Break Even Point* (BEP) | = 41% |
| *Pay Out Time after Taxes* (POT)a | = 1,39 tahun |
| *Return on Investment before Taxes* (ROI)b | = 66% |
| *Return on Investment after Taxes* (ROI)a | = 53% |
| *Discounted Cash Flow* (DCF) | = 61,03% |
| *Shut Down Point* (SDP) | = 30% |

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



Kata kunci: *Glyphosate*, N-PMIDA, Hidrogen peroksida, Ekonomi.

# ABSTRACT

## MANUFACTURING OF GLYPHOSATE FROM NEOPHOSPHONOMETHYL IMINODIACETIC ACID (N-PMIDA) AND HYDROGEN PEROXIDE (H2O2) USED CATALYST Pd/Al2O3 WITH CAPACITY 40.000 TONS/YEAR (DESIGN OF ROTARY DRYER (RD-401)

**By**

**DHIYA HALLAUSANIA PUTRI TEREGAK**

Glyphosate is an admixture of herbicides that used to kill weeds. The raw material used are Neophosphonomethyl Iminodiacetic acid and Hydrogen Peroxide. Provision of utility plants needs a treatment system and water supply, steam system, supply air instrument system, and waste treatment system.

The factory's production capacity is planned at 40.000 tons/year with 330 working days in 1 year and will be established in Gresik, East Java. The form of the company is a Limited Liability Company (Ltd) using line and staff organizational structure with 158 labors.

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


Keywords: Glyphosate, N-PMIDA, Hydrogen Peroxide, Economy.