ABSTRACT

MANUFACTURE OF 2-HYDROXYADIPALDEHYDE FROM ACROLEIN AND WATER
BY DIMERIZATION AND HYDROLYSIS
CAPACITY 40,000 TONS/YEAR
(Design Reactor (RE-201))

By

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A plant producing 2-hydroxyadipaldehyde by dimerization and hydrolysis of acrolein and water is planned to be in industrial plant in the region of Tangerang in Banten Province. The plant was established by considering the availability of raw materials, transportation facilities, readily available labor and environmental condition.

Plants production capacity is planned for 40,000 tons/year, with operating time of 24 hours/day and 330 working days in year. The raw materials used are acrolein as 5,550,006 kg/hr and water 1,070,358 kg/hr.

Provision of utility plant needs a treatment system and water supply, steam supply systems, instrument air supply systems, and power generation systems.

The total amount of labor needed is as much as 131 people with a business entity form Limited Liability Company (PT) which is headed by a Director who is assisted by the Director of Production and Director of Finance with line and staff organizational structure.

**Fixed Capital Investment (FCI)** = Rp 192,033,284,113,-
**Working Capital Investment (WCI)** = Rp 36,140,906,935,-
**Total Capital Investment (TCI)** = Rp 240,939,379,564,-

**Break Even Point (BEP)** = 55,534%
**Pay Out Time before Taxes (POT)_b** = 2,939 tahun
**Pay Out Time after Taxes (POT)_a** = 3,423 tahun

**Return on Investment before Taxes (ROI)_b** = 20,418 %
**Return on Investment after Taxes (ROI)_a** = 16,334%
**Discounted Cash Flow (DCF)** = 63,93 %
**Shut Down Point (SDP)** = 42,575%

By consider all the summaries, it is proper to do a further about the establishment of this 2-hydroxyadipaldehyde plant, because the plant could be profitable with good prospects.