

ABSTRACT

PRELIMINARY PLANT DESIGN OF TRISODIUM PHOSPHATE FROM DISODIUM PHOSPHATE AND SODIUM HYDROXIDE CAPACITY 35.000 TON/YEAR (PRE-DESIGN OF REACTOR (RE-201))

By

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Trisodium phosphate is one of chemical industry products which are used as raw material of detergent industry, water softener and boiler compound, acid reducer and emulsifier in food industry.

Trisodium phosphate is made from disodium phosphate is supplied from Xiamen Vastland Chemical Co., China and sodium hydroxide is supplied from PT. Pindo Deli Pulp and Paper Mill, Jawa Barat. Trisodium phosphate's plant will be located in Jababeka Industrial Area, Cikarang, West Java. A Business entity of this company is a joint-stock company (Perusahaan Terbatas). The company is managed by managing director and assisted by production and financial director. The structure of this organization is line and staff.

An economic analysis of preliminary plant design of trisodium phosphate are:

Fixed Capital Investment (FCI)	= Rp 225.389.312.259,-
Working Capital Investment (WCI)	= Rp 39.774.584.516,-
Total Capital Investment (TCI)	= Rp 265.163.896.775,-
Break Even Point (BEP)	= 39,46%
Pay Out Time before Taxes (POT) ^b	= 3,3046 years
Pay Out Time after Taxes (POT) ^a	= 3,8156 years
Return on Investment before Taxes (ROI) ^b	= 17,22%
Return on Investment after Taxes (ROI) ^a	= 13,78%
Discounted Cash Flow (DCF)	= 35,88%
Shut Down Point (SDP)	= 25,96%

Based on economic analysis and data above, it could be concluded that Trisodium Phosphate's Plant could be studied further.