" *PRE DESIGN FORMIC ACID FACTORY WITH METHYL FORMATE HYDROLYSIS WITH A CAPACITY OF 12.000 TONS/YEAR* "

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ABSTRACT

Formic acid is a chemical that can be used in various industries such as rubber, leather, pharmaceuticals, textiles and others. To fulfill the import and export needs, "Preliminary Plant Design of Formic Acid from Methyl Formate and Water" is carried out with a capacity of 12.000 tons/year. The plant will be planned to be established in Tambak Wonorejo, East Java with a land area of 30.000 m^2 and operate in 2032 with working hours about 24 hours a day for 330 days / year.

The reaction of Formic Acid occurs in Plug Flow Reactor in liquid-liquid phase. The reaction processis adiabatic. The reactor works at a temperature of 92°C and a pressure of 20 atm. The process need 1515,15 kg/hour of Methyl Format and 1800 kg/hour of Water. To support the production process, a water, steam, electricity and fuel supply unit is needed. The results obtained through calculation of the economic feasibility show that the number of Fixed Capital Investment (FCI) is Rp. 191.542.215.982,5, profit is obtained Rp. 10.320.377.554.837 it can be concluded that the Format Acid Plant of Methyl format and Water with a capacity of 12,000 tons / year is very feasible to be established.

Keywords: ***Formic acid, Methyl Formate***