REDUCTION OF H2S WITH ABSORBENT FERRY CLORIDE ($FeCl_3$) BIOGAS PALM OIL WASTE PT INTI INDOSAWIT SUBUR

Ir. Michael Joko Wibowo, MT (*Thesis Advisor*)

Yudha Pratama Angestu

Renewable Energy Engineering Study Program

Engineering Department

ABSTRACT

or also often called POME (Palm Oil Mill Effluent) is a problem because of the high COD and BOD content. POME which is a Organic waste also has considerable potential if it is converted into biogas, besides that the conversion also has an impact on the degradation of the COD and BOD content in POME. Biogas can be converted into electrical energy by being a source of generator fuel. However, biogas also contains impurity gas in the form of chemical compounds hydrogen sulfide (H_2S) which is corrosive to metal objects, the standardH2Sallowed to enter the engine combustion chamber is 100 ppm. Based on this, biogas must be purified first from(ion compound Ferric chloride ($FeCl_3$) is capable of being an absorbent that absorbs or binds H_2S content.This study aims to determine the best variables for the use of FeCl3and the amount of. H_2S that each variable can derive. This study uses a ratio of 1:250 and 1:500.:250 can reduce1 H_2S by 85% and a ratio of 1:500 can reduce H_2S by 56% in 5 hours. Comparison of the use of FeCl3 in this study is a ratio of 1:250.

Keywords: $FeCl_3$, H2S, Biogas, POME.