TEQIP SUMMER INTERNSHIP 2018

भारतीय प्रौद्योगिकी संस्थान हैदराबाद

Indian Institute of Technology Hyderabad

SUBMITTED BY :
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MITH GWALIOR , M.P.

NAME : SARAS AJAY SHRIVASTAVA

BRANCH : CHEMICAL ENGINEERING

YEAR : 3rd YEAR

COLLEGE :MADHAV INSTITUTE OF TECHNOLOGY AND SCIENCES, GWALIOR , M.P.

FACULTY ADVISOR AT IITH : Dr. SUNIL KUMAR MAITY

RESEARCH SUBJECT : PRODUCTION OF ETHYL LEVULINATE
CORE SUBJECT RELATED TO THE RESEARCH : BIOMASS AND BIOREFINERY

DURATION OF INTERNSHIP : 1 MONTH

FINAL OUTCOME : 1)DETAILED STUDY ON PRODUCTION OF ETHYL LEVULINATE

ETHYL LEVULINATE AND IT USES

- Ethyl levulinate is obtained by the esterification of levulinic aid in the presence of ethanol.
- The acid catalyzed ethanolysis of to produce EL is done on a variety of biomass such as FAL, chloromethyl furfural, monosaccharide, polysaccharide, and lignocellulosic biomass.
- The reactivity of LA esterification to yield EL, primarily depends on the acidity, acid sites density and accessibility of the acid sites.
- On the contrary, FAL conversion to LA involves multiple pathways and selectivity depends upon the stability of the intermediates formed in a specific reaction.
- Glucose was observed to react slower as compared to fructose under ethanolysis condition.
- Ethyl levulinate is blended with diesel because of their reduced sulfur content , high flash point and good lubrication properties these are blende with diesel to lessen the green house gases in the environment and to reduce the harm that is caused by them in the environment.

Thank you