

MANUFACTURE OF C-11 COMPOUNDS FROM CASTOR OIL

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SYNOPSIS

Castor oil is obtained from seeds of Castor plant (*Ricinus communis*) scientifically classified under the family, Euphorbiaceae. Many castor oil derivatives are used as surface coating materials, textile auxiliaries, perfumery chemicals, polymeric compounds and surfactants. India is one of the leading manufacturers of natural flavors and fragrances in the world. But in developing synthetic flavors and fragrances from castor oil derivatives like Undecylenic acid and Heptaldehyde, India is lagging behind.

In this project, a laboratory set up is made to process Castor oil to make C-11 compounds. Experiments were conducted to pyrolyze the castor oil to obtain C-11 compound (Undecylenic acid). We also get C-7 compound (Heptaldehyde) in the process as a by-product. The mixture of the two is separated. A distillation setup was used for the purpose. The remaining oil in the distillation still is evaluated for using as bio-fuel. The products of the distillation are subjected to tests for conformity. The overall process temperature and quantity of catalyst have been optimized and reported.