

Student Project Paper for Final Class

University of Baghdad	Al-Khwarizmi college of Engineering	Biochemical Engineering Dept.	Project index: ٧	Date 25-6-2012
Project Name	Production of Castor Oil			
Student Name	Hawazen K. Mustafa	Marwa A. Ibrahim		
Supervisor Name	Dr. Malik M. Mustafa			

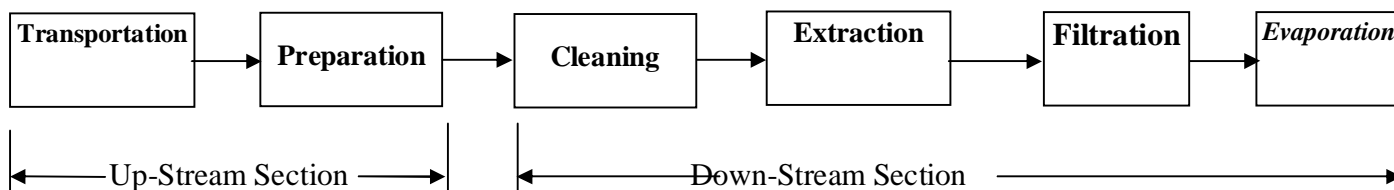
Aim of the work

Plant Design of Production of Castor Oil, Including: Material balance, Energy balance, layout of plant and design of some equipment in the plant.

Summary

Castor oil is a vegetable oil obtained from the castor bean. It is a very pale yellow liquid. Castor oil and its derivatives have many applications in the production of soaps, lubricants, hydraulic and brake fluids, paints, dyes, coatings, inks, nylon, pharmaceuticals and perfumes. The production capacity of plant is to process 1000 kg seeds. The plant consists of many units, cleaning the seeds, extraction of oil from seeds by hexane solvent, filtration then separation the excess solvent by evaporation. Other units needed to get high grade oil, like settling and degumming, bleaching, neutralization and deodorization.

The plant can be represented by the following block diagram:



Discussion

There is no doubt that castor oil is an important oil. Many chemicals can be synthesized from castor oil. There are many medicinal uses of castor oil. Economically it is a very valuable oil.

Future Work

- Construct the foundation and piping system of the plant.
- Design the remaining of the equipments which not considered in this project.
- Suggest treatment the waste of the plant.