

SEPARATION PROCESS

ADSORPTION Part 3

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Adsorption - Equipments



Application:
- sulfur removal
using zinc oxide

Adsorption - Equipments

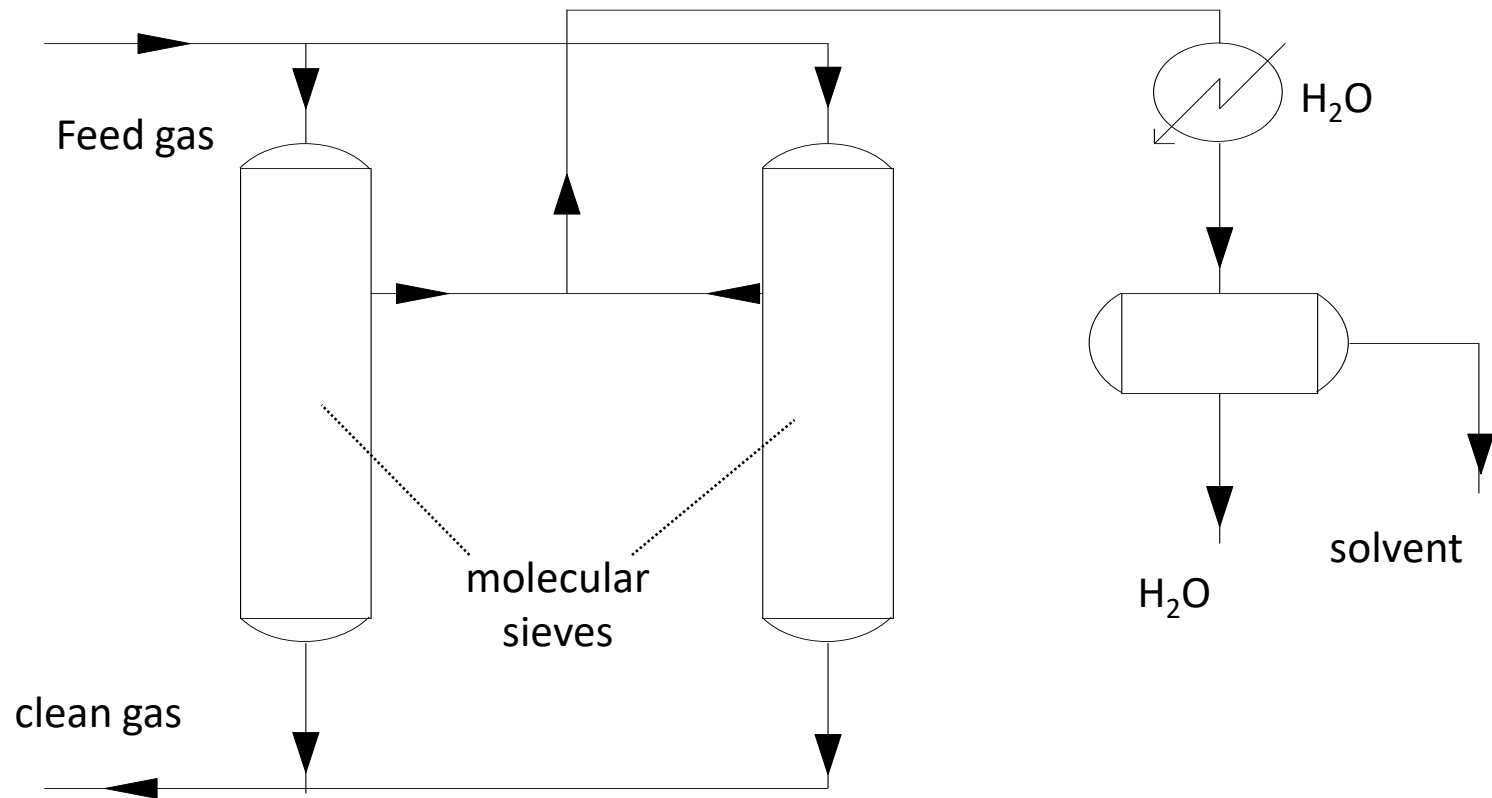


Application:

-Molecular sieves are used as adsorbents to remove contaminant gas such as H_2O , CO_2 and H_2S .

Adsorption - Equipments

Gas phase adsorption system (simplified)



Adsorption - Equipments

PROCESS FLOW DIAGRAM – Crude Palm Oil Processing Plant



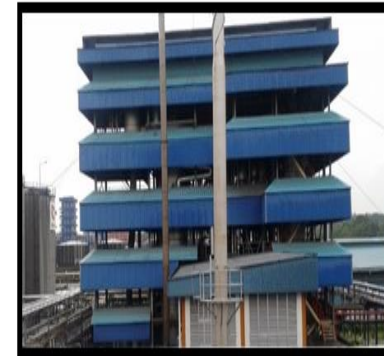
CPO LOADING



CPO STORAGE TANK



PRETREATMENT PLANT



DEODORIZING PLANT



PRODUCT TANK

OLEIN
80.00
%
←
←
20.00
%
STEARIN



FRACTIONATION PLANT

PRODUCT
RBDPO
95.50
%
←
4.00
%
BYPRODUCT
PFAD

Adsorption - Equipments



BLEACHING EARTH



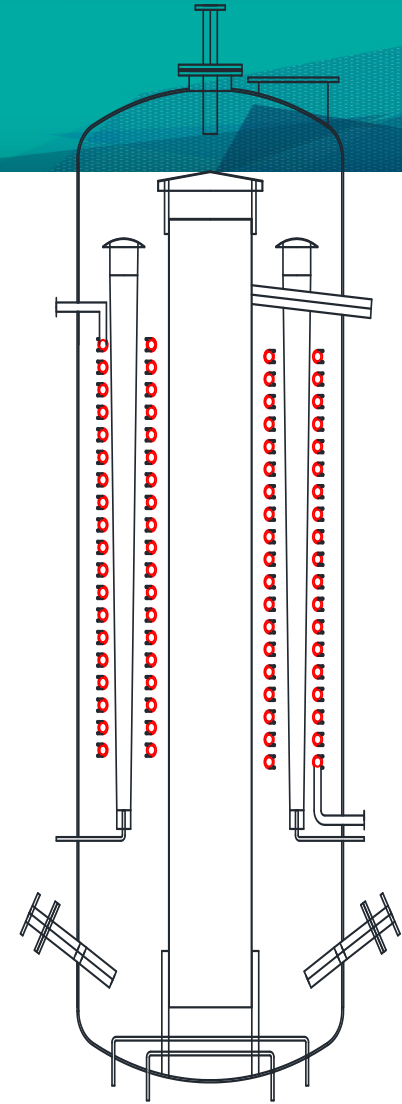
SPENT EARTH

BLEACHING

- DOSE ACTIVATED CLAY INSIDE OIL
- TEMPERATURE 90-110°C
- CLAY CONSUMPTION DEPENDS ON OIL QUALITY
- VACUUM 600-680 mmHG
- TIME 30 – 40 MINUTES

PURPOSE

- **AGGLOMERATE** PHOSPHOLIPIDS AND TRACE METAL
- **ADSORB** COLOUR, SOAP, PHOSPHOLIPIDS, METAL
- REMOVE MOISTURE



Credit to the authors:
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