MANUFACTURE OF MENTHOL

Utility

Menthol is used in liquors, confectionery, perfumery, cigarettes, cough drops and inhalers. It is also an ingredient in many pharmaceutical formulations. In India menthol is also used extensively in paw. Peppermint oil in its wholesome form as well as dementholised mint oil find extensive usage in medical preparation and also as a flavouring agent in candies. Sauces, dessert, Salads, Jellies, Vinegar, Tea and particularly in Tooth paste, Mouth wash, chewing gums, inhalants and tobacco processing.

Raw materials:

The Raw materials required for the manufacture of Menthol are “mentha Arvenises” plant leaves, Caustic Soda and Boric Acid. Cultivation of the Plant “Mentha Arvenises” near the proposed unit is required for smooth and efficient operation of the plant.

Manufacturing process & technology:

The leaves of the “Mentha Arvenisis” are subjected to steam distillation, the distillation products are condensed and separated into peppermint oil and water. The crude mint oil then obtained is refined by vacuum filtration and then chilled to about 5-10 degree C to obtain Menthol Crystals. The crystals, thus formed are centrifuged and obtain about 45% yield of menthol. The spent oil is treated with sodium hydroxide and Boric Acid while crystalline borate esters which are formed are separated and decomposed by steam. The Menthol thus released is recovered by crystallization under reduced temperatures and centrifuging. The mother liquor is distilled to obtain dementholised peppermint oil. The overall yield of menthol is about 50% and an equal amount of dementhonised oil (Mint Oil) is as co-product.

Machinery and Equipments

i) Machinery

1. Reactors
2. Steam distillation unit
3. Vacuum distillation unit
4. Crystallization units
5. Centrifuges with 24”s.s. Baskets 1N0.
6. DM Water plant

ii) Equipments

1. Boiler
2. Cooling Tower
3. Refrigeration unit
4. Laboratory testing equipments
5. Office furniture & other items
6. Brine Chilling unit
7. Air compressor
8. Vacuum Pumps
9. Electronics Weighing scale

Project cost

1. Land & Building : 1.6 Lakhs
2. Plant & Machinery : 58.59 Lakhs
3. Preliminary & Preoperative Expenses : 6 Lakhs
4. Working Capital : 18 Lakhs

Total Rs. 84.19 Lakhs