

CHAPTER 5

CONCLUSION

This study involved the purification of petroleum waxes obtained from Fang heavy distillate. The process of purification was MEK deoiling and decolorizing by decolorizing agent i.e. fullers earth, activated carbon and clay.

In decolorizing process the contact time with decolorizing agents at 70 ° C was 1 hour and the decolorizing agent was a mixture of fullers earth (5 grams) and activated carbon (2 grams) per 50 grams of wax. This method gave the best color of wax with 87.08 percentage yield.

After purification, the waxes changed in physical properties, i.e. melting point, congealing point, color, hardness and content of benzene. (Table 4.3 and Fig. 4.18.)

We found that Fang wax from heavy distillate was hard paraffin wax and plate crystalline.

Penetration of a wax was a measure of the hardness of wax - the shallower the penetration the harder the wax. This measure is helpful in some applications where a wax with soft penetration would not be a suitable for example as a coating wax. So Fang refined wax may be used for coating, it was rather hard (penetration = 9).

The carbon distribution of Fang refined wax was C₂₀ to C₃₁ n-alkane and the main composition was C₂₅ n-alkane.

Because of low impurities of Fang crude wax, it was easy to purify and low cost of production in purification.

From this investigation it should be studied further in the following aspect

1. Improve apparatus that use in solvent deoiling process such as chiller, press oil device etc.
2. Use other decolorizing agents in decolorizing and compare with fullers earth and activated carbon.
3. Try using Fang refined wax for industrial application such as for coating, in adhesive etc.
4. Use other purification process such as hydrorefining etc. to compare with this process.
5. Try using this process with slack waxes that Fang produces.