

Chapter IV

Conclusion

The phosphorus nuclear magnetic resonance technique could be used to determine the amount of Codeine phosphate in preparation by detecting in the phosphate form. The effect of concentration was examined. The suitable concentration for making standard curve is 5 mg/ml to 15 mg/ml. For studying the Codeine phosphate injection, the effect of pH on the NMR peak was examined. It was shown that the suitable pH range for determining codeine phosphate by ^{31}P -NMR technique was 3.55 to 6.60. The percent label amount of Codeine phosphate in injection which obtained from ^{31}P -NMR technique was reliable when compared to the official method of U.S.P. For studying the codeine phosphate syrup, the effect of viscosity on the NMR peak was examined. The suitable viscosity range that had no effect on determining the codeine phosphate by ^{31}P -NMR technique was 24 to 65 centipoises. The results of assay of codeine phosphate syrup using ^{31}P -NMR and HPLC were reliable percentage compared to label amount. But the Actifed compound linctus was composed of phosphate buffer, so the amount of codeine phosphate obtained by ^{31}P -NMR technique was much more than label amount. For the routine assay, the phosphate buffer should be determined in order to used as a correction of the amount of codeine phosphate in linctus.

