



## CHAPTER V

### CONCLUSION AND SUGGESTION

In the syntheses of organotin compounds especially tetraorganotin compounds by direct reaction from tin metal and alkyl halide using zinc as an auxiliary metal and a quaternary ammonium salt or a tertiary amine as a catalyst, it was found that a mixture of di-, tri- and tetraorganotin compounds was obtained in less than 50% yield. It was assumed that the dilution of the alkyl halide by the solvent in the reaction mixture played an important role on the distribution of the products. To overcome this problem, a pressure reactor with continuous feed line for controlling the addition amount of alkyl halide should be used. The Grignard methods with certain modification using proper equipments and procedure gave higher yield (more than 80%) of selected organotin compounds.

The determination of antiknock property of organotin compounds showed that tetrabutyltin and diallyldibutyltin increased the octane number of blended gasoline by 3-4 units and dibenzylidibutyltin and tetraoctyltin gave the addition of 1-2 octane number to

the base gasoline. Other readily decomposable and more soluble organotin compounds, as well as mixtures of organotin compounds with certain promoters, e.g., ethanol, isopropanol, etc., should be tried.



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