

BOOK REVIEW

Thermochemistry of Organic and Organometallic Compounds; by J. D. Cox and G. Pilcher, Academic Press, London and New York, 1970, 12 + 644 pages, 170s (\$26.00)

This book presents the first modern comprehensive review of heats of formation and vapourisation of organic and organometallic compounds. Data for approximately 3000 such compounds, published in the period 1930–1969 are included.

The first four chapters described the fundamental thermodynamics and the experimental techniques involved, but the most important part of the book for the non-specialist is Chapter 5, which represents more than half of the book. This chapter contains a systematic tabulation of heats of formation and vapourisation with some details of the method used and estimates of error. Prior to the publication of this book there were some limited compilations on specific types of compounds, but the vast bulk of the data was scattered throughout the literature, the derived heats of formation very often being incompatible with each other. In this book all available data on compounds containing carbon have been up-dated and made mutually self-consistent.

The final section gives some applications and theoretical interpretations of heats of formation, and includes tables of parameters which can be used to calculate unknown values to a reasonable accuracy via the Allen scheme.

This book will be invaluable to many chemists. It is unfortunate that reliable data on organometallic compounds are still rather scarce, so that information is given for only 250 such compounds, but the thermochemical studies in this field are increasing each year, and the sound framework of data on organic compounds which this book provides will be essential to full use of the new results.

I have only one minor criticism, namely that the account of fundamental thermodynamic principles in Chapter 2 is very condensed, and anyone who is not well versed in thermodynamics may find considerable difficulty with it. Some of the equations could either have been quoted without proof, or the proof expanded slightly to provide further explanations of the basic principles involved. However, this is a minor defect, and should not deter anyone from making use of this excellent book.

The authors are to be congratulated on the monumental task which they have performed so admirably.

J. B. Pedley