

# Physical Constants

## of Hydrocarbon and Non-Hydrocarbon Compounds

DS 4B



# **Physical Constants of Hydrocarbon and Non- Hydrocarbon Compounds**

**2nd Edition**

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**Compiled by  
ASTM COMMITTEE D-2  
ON PETROLEUM PRODUCTS AND  
LUBRICANTS AND THE AMERICAN  
PETROLEUM INSTITUTE'S REFINING  
DEPARTMENT TECHNICAL DATA  
COMMITTEE, WHO WORKED WITH THE  
DEPARTMENT OF CHEMICAL  
ENGINEERING OF THE PENNSYLVANIA  
STATE UNIVERSITY**

ASTM Data Series DS 4B

(Revision of Data Series DS 4A)

ASTM Publication Code Number (PCN): 05-004020-12



1916 Race St., Philadelphia, PA 19103

**Library of Congress Cataloging-in-Publication Data**

Physical constants of hydrocarbon and non-hydrocarbon compounds / compiled by ASTM Committee D-2 on Petroleum Products and Lubricants and the American Petroleum Institute's Refining Department Technical Data Committee, who worked with the Department of Chemical Engineering of the Pennsylvania State University. — 2nd ed. (ASTM data series ; DS 4B)

Rev. ed. of: Physical constants of hydrocarbons  $C_1$  to  $C_{10}$  / prepared by ASTM Committee D-2 on Petroleum Products and Lubricants. 1971.

“ASTM publication code number (PCN): 05-004020-12.”

Includes bibliographical references (p. ).

ISBN 0-8031-1428-1

I. Hydrocarbons—Tables. I. ASTM Committee D-2 on Petroleum Products and Lubricants. II. American Petroleum Institute. Refining Dept. Technical Data Committee. III. Pennsylvania State University. Dept. of Chemical Engineering. IV. ASTM Committee D-2 on Petroleum Products and Lubricants. Physical constants of hydrocarbons  $C_1$  to  $C_{10}$ . V. Series: ASTM data series publication ; DS 4B.

TA401.P48 1991

660'.81—dc20

91-12453

CIP

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# Foreword

This publication updates the 1971 Edition of the ASTM Data Series DS 4A titled *Physical Constants of Hydrocarbons C1 TO C10*. This new edition includes all of Chapter 1 from the American Petroleum Institute's Publication 999, *Technical Data Book—Petroleum Refining*. This edition is broader in scope, and includes Hydrocarbons C1 to C30 as well as Non-hydrocarbons.

This book has been made available through a joint arrangement between ASTM Committee D-2 on Petroleum Products and Lubricants, and The American Petroleum Institute's Refining Department Technical Data Committee, who worked with the Department of Chemical Engineering of The Pennsylvania State University.

## PREFACE

The first major revision of Chapter 1 since 1970 was undertaken during 1985 and 1986. While the previous tables were almost entirely compiled from the work of The Thermodynamics Research Center at Texas A&M University, the new tables were compiled from a variety of sources as discussed in the introduction. Common high molecular weight hydrocarbons and representative nonhydrocarbons were added while excessive numbers of isomers of hydrocarbons were eliminated. With the publication of the metric edition of the *Technical Data Book—Petroleum Refining*, sets of tables in metric units were deleted from this edition. With the concurrent computerization of the *Technical Data Book*, the pure component data are now available in a form for computer retrieval.

A compound index containing synonyms was added to aid in retrieval of information. The constants and conversion factors also were updated to the currently accepted values with complete S.I. unit inclusion and elimination of little used conversion factors.

Major work on this chapter was carried out and directed by Jill Schnitzer, Research Assistant in Chemical Engineering, under the supervision of Dr. Thomas E. Daubert, Principal Investigator. The chapter advisory committee for the Technical Data Committee included Calvin F. Spencer, Chairman, of M. W. Kellogg Company, Carl Sutton of Gas Processors Association, Sheldon J. Kramer of Amoco Oil Company, and Costa Tsionopoulos of Exxon Research and Engineering Company.

Thomas E. Daubert  
Ronald P. Danner  
Department of Chemical Engineering  
The Pennsylvania State University  
University Park, PA 16802  
June 1987

