

# **DISTILLATE FUEL**

**Contamination, Storage and Handling**

**Chesneau/Dorris** EDITORS

**ASTM** STP 1005

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# ***Distillate Fuel: Contamination, Storage, and Handling***

*Howard L. Chesneau and Michele M. Dorris*



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## Foreword

The symposium on Distillate Fuel System Contamination was presented at Cincinnati, OH, on 24–25 June 1987. The symposium was sponsored by ASTM Committee D-2 on Petroleum Products and Lubricants. Howard L. Chesneau, Fuel Quality Services, Inc., and Michele M. Dorris, Rohm and Haas, served as chairmen of the symposium and are editors of the resulting publication.

### Dedication

This book is dedicated to the memory of Harvey von E. Doering, the chairman of Subcommittee D02.E on Burner, Diesel and Gas Turbine Fuel Oils of D-2 Petroleum Products and Lubricants. Doering retired from the General Electric Co. in 1986 where he specialized in the study and abatement of corrosion and deposits in gas turbines. In 1987 he was named a fellow of ASTM. His tireless efforts on behalf of ASTM and his wit and wisdom were instrumental in bringing about the symposium upon which this Special Technical Publication (STP) is based.

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# Overview

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Changes in middle distillate fuel quality over the past two decades have created a situation that requires fuel users to be more diligent in checking both the quality of received fuel and the storage facilities into which the fuel is placed. These changes have come about as a result of lower quality crudes, increased demand for distilled product from those crudes, and more severe refinery processing.

While today's middle distillate fuel still meets ASTM Specifications for Diesel Fuel Oils (D975), problems arising from the fuels susceptibility to both outside contaminants and inherent deficiencies, call for examination of fueling systems.

This symposium is a result of ASTM's continuing efforts to address problems and enlighten both producers and users to the value of this closer examination and some of the possible practical solutions. The symposium was held in June 1987 to present some problems that have occurred in the field and the solutions that were applied. Laboratory techniques were also discussed to provide a balance of technical and practical experiences.

With the advent of smaller more fuel quality sensitive diesel engines and more restrictive Federal emission standards expected by the mid 1990's, the subjects covered in this symposium take on even greater importance. To compound the issue, are the ever increasing regulations on fuel storage.

The 1984 Underground Storage Tank program adopted by the U.S. Congress as part of the Resource Recovery Act is just another facet that complicates fuel usage. In addition, recent reports by the Institute of Petroleum of increasing microbial susceptibility of middle distillate fuels, while creating no cause for alarm, are raising questions about the adequacy of current housekeeping practices especially as it relates to tank corrosion.

In June 1980 a symposium on *Distillate Fuel Stability and Cleanliness* (STP 751) was presented in Chicago, IL. The symposium was held to assess the current and future needs for tests to predict and monitor the stability and cleanliness of distillate fuels. This symposium extends that process to deal with the practical side. It does not attempt to answer all the questions; it does however suggest some solutions to problems that have been experienced in both the laboratory and the field.

*Howard L. Chesneau*  
Fuel Quality Services, Inc.  
Buford, GA 30518: symposium  
chairman and editor.