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A REVIEW OF STORAGE STABILITY CHARACTERISTICS OF HYDROCARBON FUELS, 1952-1982

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FOREWORD

The subject of the storage stability of liquid hydrocarbons has become increasingly important as the eventual need for the use of coal and shale oil as substitutes for petroleum becomes more apparent. Since the degree of stability required for commercial viability may determine the severity of hydrotreatment necessary and directly affect the processing cost of the product, stability data are of continuing interest to the industry. Fortunately, much work has already been done which can serve as a foundation on which to build. Unfortunately, much of these data are difficult, if not impossible, to obtain today, having never been published in the more permanent literature.

As a result of long involvement in the area of stability research at the Bartlesville Energy Technology Center, a comprehensive library of related reports has been compiled. As a service to those working in the field, most of these raw data are included in this report in what we hope is an easily usable format.

Some of the data have been screened to eliminate experiments with obvious serious mistakes, but individual results could not be screened for accuracy. Experiments involving the use of soft or flint glass and irradiation of various types are included, since for many comparative studies this may not matter. Thermal stability data are not included, as a recent Coordinating Research Council report entitled "CRC Literature Survey on the Thermal Oxidation Stability of Jet Fuel" has provided a review of that field.

Limitations of space have dictated brevity and conciseness in both the data presentations and the annotated bibliography. Thus, we encourage those who base future work on these data to pursue obtaining full copies of the relevant individual publications. The abstracts are meant to help readers determine the relevance of specific articles. To the extent possible, complete references are provided, including the number for ordering government reports from the National Technical Information Center.

The government reports for which an NTIS number is included in the reference are available from National Technical Information Service, U.S. Department of Commerce, 5285 Port Royal Road, Springfield, VA 22161. Other government reports listed are, in general, out of print and are not available.

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