FILM STUDY GROUP

SUBJECT INDEX AND REPORT

T.O.M. REEL NO. 80

Prepared by

STANDARD OIL DEVELOPMENT COMPANY

STANDARD OIL DEVELOPMENT COMPANY

ABSTRACT AND INDEX OF TECHNICAL OIL MISSION

MICROFILM

REEL NO. 80

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Reel #80, Old #4-E

Pages 2985-2996 - Item 137

This is a continuation of Item #137, Reel #79 and deals with the composition of synthetic lubricating oils. It contains some additional information on the synthesis of individual hydrocarbons on pages 2993-2996.

Pages 2998-3097 - Item 138

1942-1943 Dutch Shell reports in German on "Analysis of Cracked Distillates". These reports deal with the analysis of pure olefins and diolefins, as well as mixtures of olefins present in cracked distillates. Methods for the preparation of pure olefins involved are described and include C_4-C_5-C_6 olefins, and hexadecene. The work deals largely with attempts to differentiate between alpha, beta, and gamma olefins. The method that gave the best results was the peracetic acid method which is described in detail in the report under Item 124, Reel 79. It appears likely that the reports under Item 138 served as the basis for the long report under Item 124. This section should be reviewed to see if there is information of value that is not included in the report under Item 124.

Pages 3099-3121 - Item 139

Dutch Shell report in Dutch on the effect of water content on the properties of lime greases.

Pages 3123-3129 - Item 140

Dutch Shell report in Dutch on the preparation of rust preventive greases.

Pages 3131-3262 - Item 141

1942-1943 Dutch Shell reports in German on the analysis and identification of solid paraffinic hydrocarbons.

This section is divided into monthly reports which deal with the following subjects:

1. Elementary analysis of hydrocarbon mixtures.
2. Analysis and identification of solid hydrocarbons.
3. The decomposition that occurs during complete hydrogenation of crude oil fractions.
4. The determination of mean molecular weight of mixtures of hydrocarbons.
5. The determination of surface tension of hydrocarbons.

6. Deoiling of paraffins and the analysis of the deoiled products.

7. The complete hydrogenation of crude oil fractions and paraffins.

Pages 3264-3304 - Item 142

Dutch Shell report in Dutch summarizing their work on propane peroxides during the second half of 1940. Inasmuch as Item 126, Reel 79 which is in German, gives information on the manufacture of propane peroxides, this report in Dutch is merely listed for reference purposes.

Pages 3307-3588 - Item 143

Dutch Shell report in German of their work on synthetic lube oils from 1933-1937 listed as report #6635 by H. Van Weston. In view of the early date of the work, it is not likely there is much information of value in this report that is not covered in later reports that have been referred to from the reels; however, it may serve as a reference report.

The index of this report is given on pages 3307-3310.

Pages 3590-3756 - Item 144 A

1939 Dutch Shell report in German by Dr. Leendertse on "The Basis and accuracy of the ring number for the analysis of hydrocarbon mixtures". This report deals with hydrocarbons having molecular weight greater than 150. The subject matter covered in the report is given in the index on pages 3591-3593. The results obtained in this work are summarized in tables which appear on pages 3752-3756.

Pages 3757-3768 - Item 144 B

There is an article on "Critical Checking of the Ring Analysis Methods for Lube Oil" which apparently appeared in Oele and Kohle, Aug., 22-1941. Abstract of this article appeared in Bull.I:3241, 3/5/43.

Pages 3770-3817 - Item 145

1938 Dutch Shell report in German on the polymerization of propylene with aluminum chloride. In order to obtain a product having good V.I. and low Conradson carbon, the optimum conditions are:

1. Temperature of polymerization 0°C. or lower.

2. Maintenance of as low a concentration of propylene as possible during polymerization.

3. Carrying out the polymerization in the presence of an inactive medium.

4. Carrying out of the polymerization in a medium containing propylene polymers which have been formed in the reaction.

Pages 3855-3873 - Item 147

1938 Dutch Shell report in English on "Improvement of the Oxidation Stability of Synthetic Bright Stocks and Aviation Oils by Polymerizing Vapor Phase Cracked Distillate or Fractions Rich with Aromatics".

Pages 3875-3887 - Item 148

1934 Dutch Shell report in German on some physical constants of the polymerization product of olefins.

Pages 3889-3960 - Item 149

1936 Dutch Shell report in German on the investigation of the oxidation stability of lube oils including synthetic lubes with and without inhibitors. Pages 3951-3952 list the aromatic inhibitors tested by the Indiana oxidation method. The authors conclude that the best inhibitor they have found is up to 5% of a refined SO_2 extract from lube oil. The index of this report is given on pages 3898-3999.

Pages 3968-4033 - Item 150 (Incomplete on Reel 80)

Dutch Shell, March-April 1944 Bi-Monthly progress report. The index of the subjects covered in this report are given in Reel #81, pages 4046-4049.

Pages 3969-3977

Section II-A

This deals with problems on petroleum production.

Pages 3978-3981

Section II-B-1

Investigations in field of oil refining and working up of crude oil and its products. This section deals with the use of antimony trichloride for the removal of naphthenic acids from crude oils.

Pages 3981-3985

Section II-B-2

This section covers the refining of oils over selective adsorptives.

Pages 3985-3986

Section II-B-4

Constitution of mineral oils by Raman analysis.

Page 3987

Section II-B-5

Hydrocarbon-SO_2 equilibrium studies.

Pages 3987-3989

Section II-B-6

Studies on the preparation of highly valuable greases from the standpoint of the influence of components and preparation methods.

Pages 3989-3990

Section II-B-7

Development of analytical methods for hydrocarbons in the lube oil range.

Pages 3990-3993

Section II-B-9

Laboratory fractionation columns.

Pages 3993-3996

Section II-B-10

Increase of O.N. of fuels by isomerization and dehydrogenation.

Pages 3996-4001

Section II-B-11

Calculations for conversion of laboratory scale data to plant scale data. In this section it is stated that the heat transfer in catalyst filled tubes is about eight times that in an empty tube which confirms the findings of Chilton and King.

Pages 4001-4004

Section II-B-12

Physical chemical studies on catalysis and catalysts.

Pages 4004-4006

Section II-B-13

Photochemical addition of HCl to olefins.

Pages 4006-4009

Section II-B-14

Fundamental studies in the field of induced chain reactions for the preparation of valuable gasolines, greases, and other industrial chemical products.

Pages 4011-4012

Section II-C-1

Identification of sludge formers in Diesel fuels.

Pages 4012-4013

Section II-C-2

Oxidation stability of oils as a function of their constitution.

Pages 4014-4016

Section II-C-4

Development and improvement of laboratory methods for the determination of deterioration and aging of lubricating oils on motor surfaces.

Pages 4017-4018

Section II-C-5

Determination of mechanical properties of paving materials.

Pages 4018-4020

Section II-C-7

Use of asphalt bitumen in industry and building trade.

Pages 4020-4022

Section II-C-8

Improvement of rheological properties of bitumen by the addition of high molecular weight materials.

Pages 4023-4024

Section II-D-2

Preparation of hydrogen peroxide by incomplete oxidation of propane.

Pages 4026-4031

Section II-E-1-4

Insecticides and fungicides.

Pages 4032-4033

Section II-F-1

Lubrication index of absorbing liquids.