

FILM STUDY GROUP

SUBJECT INDEX

T.O.M. REEL NO. 14

Prepared by

CALIFORNIA RESEARCH CORPORATION

CALIFORNIA RESEARCH CORPORATION

RICHMOND, CALIFORNIA

INDEX OF TECHNICAL OIL MISSION

MICROFILM

REEL NO. 14

Prepared by California Research Corporation

INDEX OF REEL #14

Frame No.

ALCOHOLS

See also under processes for production as Oxo,  
Synol, etc.  
Cost analysis of production by various methods

608

ADHESIVES

From methylated butadienes, large scale experiments  
on

1297

ALKYLATE

From butane by catalytic dehydrogenation and H<sub>2</sub>SO<sub>4</sub>  
alkylation

1251

By catalytic dehydrogenation of butane, weight  
balance flow diagram

1167

Comparative costs of catalytic dehydrogenation and  
of chlorination-dehydrochlorination

1227

Plant with dehydrochlorination to butenes

1152

ALKYLATION

See also Butene and other C<sub>4</sub> hydrocarbons

n-Butane catalytic dehydrogenation, isomerization  
and, at Leuna

1180

Of butylene

1134

Plant with catalytic dehydrogenation and isomerization

1150

Propylene, from catalytic dehydrogenation of propane

1267

With propylene from propane, conclusions from American  
literature

1173

Of propylene with isobutane for triptane production

1272

Status report of first commission of mineral oil

1194

Sulfuric acid, butene from Fischer plants in

1269

Sulfuric acid, at Leuna

1176

Sulfuric acid consumption

1249

Sulfuric acid requirements

1193

Test run at Leuna

1177

1,3-AMYLENE GLYCOL

From dimethyl dioxane by pressure hydrogenation,  
isoprene from

1291

AROBIN PROCESS

Research in 1943

1412

AROMATIZATION

See also Hydroforming

Of middle oil from coal hydrogenation

990

INDEX OF REEL #14 - Cont'd.

	<u>Frame No.</u>
<u>BAHR PROCESS</u>	
Dehydrochlorination to butadiene	1157
<u>BUTADIENE</u>	
From acetylene hydrogenation	1246
In butene from C <sub>2</sub> H <sub>2</sub> hydrogenation, increase in H <sub>2</sub> SO <sub>4</sub> consumption caused by	1245
From 1,3-butylene glycol	1291
By dehydrochlorination by Bahr process	1157
Methylated, large scale experiments on adhesive rubbers from	1297
Tetramethyl-Butadiene, polymerization experiments	1296
<u>BUTANE</u>	
Alkylate fuel from, cost estimations	1136
Catalytic dehydrogenation	1180
Dehydrogenation, calculated equilibrium figures	1120
catalyst developed for	1124
cost comparison of moving and fixed catalyst bed	1160
large-scale test at Leuna	1170
Dehydrogenation and alkylation	1134
Dehydrogenation for iso-octane production, history of	1130
Dehydrogenation in 5 l. pilot reactor	1122
Dehydrogenation in 4 adiabatic steps	1158
Dehydrogenation plants using T-52 process	1217
Isomerization	1289
mechanical problems	1283
reduction of propane and pentane formation in	1288
Isomerization plant at Leuna	1277
Report on catalytic dehydrogenation and H <sub>2</sub> SO <sub>4</sub> alkylation	1251
Weight balance flow diagram for catalytic dehydrogenation of	1167
<u>n-BUTANE</u>	
Catalytic isomerization	1273
Isomerization, dehydrogenation and alkylation, at Leuna	1180
operation of Roumanian plant	1279
<u>BUTENE</u>	
By acetylene hydrogenation	1244
increase in H <sub>2</sub> SO <sub>4</sub> consumption caused by butadiene in	1245
Concentration with Ag wash	1134
Containing butadiene, increase of H <sub>2</sub> SO <sub>4</sub> consumption due to	1247
Extraction from C <sub>4</sub> cut with AgNO <sub>3</sub> solution	1180
From Fischer plants in H <sub>2</sub> SO <sub>4</sub> alkylation	1269
By dehydrochlorination in alkylate plant	1152

INDEX OF REEL #14 - Cont'd.

	<u>Frame No.</u>
<u>1,3-BUTYLENE GLYCOL</u>	
Butadiene from	1291
<u>CARBONIZATION</u>	
See also kilns	
Of heavy oil containing sand, use of rotating kiln for	1088
Low temperature, energy needed	1084
Low-temperature kiln	1076
Operation of rotating kiln for	1089
<u>CATALYSTS</u>	
Dehydrogenation	1118
Hydrogenation	861
<u>RACKING</u>	
Catalytic, experimental work in 1942 investigations at Moosbierbaum	1393
stock balance flow diagrams for hydroforming and	1310
Gas-phase catalytic; fixed bed, moving catalyst with beads or pellets and dust-form	1370
Moving bed catalytic, calculations and process design for 3 plants at Leuna	1310
"Weltube" process	1414
	1310
<u>DEHYDROGENATION</u>	
Of butane, alkylation and calculated equilibrium figures	1134
catalyst developed for	1120
catalytic alkylation, isomerization and, at Leuna	1124
cost comparison of moving and fixed catalyst bed	1180
large-scale test at Leuna	1160
plants using T-52 process	1170
weight balance from diagram for catalytic	1217
Of butane and isobutane, catalysts and yields	1167
Of butane for iso-octane production, history of	1118
Of n-butane in 5l. pilot reactor	1130
Of butane in 4 adiabatic steps	1122
Catalyst tests with fixed bed	1158
Catalytic, of propane to propylene	1171
Effect of temperature and pressure	1173
Experimental catalyst tubes and testing	1103
Processes	1128
	1314
<u>DEMETHYLATION</u>	
Of xylenes and heavier aromatics to toluene	1302

INDEX OF REEL #14 - Cont'd.

	<u>Frame No.</u>
<u>DEWAXING</u>	
Propane plant Me 944	914
<u>DIESEL FUEL</u>	
Specification, from primary products of Synol process	1313
<u>DIMETHYL DIOXANE</u>	
Isoprene and/or 1,3-amylene glycol from	1291
<u>ESTER OILS</u>	
Obtaining alcohols from Oxo synthesis for	629
<u>FATTY ACIDS</u>	
From Oxo alcohols by caustic fusion	692
<u>FISCHER PLANTS</u>	
Production of C <sub>3</sub> and C <sub>4</sub> hydrocarbons	248
<u>FISCHER SYNTHESIS</u>	
Discussions of I.G. with Ruhrchemie on Oxo Process and	479
<u>FUELS</u>	
Research in 1943	1412
Research program for 1944	1412
<u>GASOLINE</u>	
Alkylate fuel, cost estimations	1136
Aviation, conditions of specifications contract	1406
experimental work in 1942	1393
hydroformation, for Luftwaffe, from Roumanian	
straight-run naphtha	1320
from hydrogenation of residual oils, plant and	
products	1331
for Luftwaffe, suggested changes in specifications	1340
shipping instructions and specifications for VT 401	1407
specification changes of, from hydrogenation	1397
VT 371 from Moosbierbaum plant	1411
High octane, from hydrogenation gas fractions	1314
Hydroforming of, from Zeitz	1395
Research in 1943	1412
Research program for 1944	1412
Specification, from primary products of Synol process	1313
<u>1,5-HEXADIENE, 2,5-DIMETHYL</u>	
Polymerization experiments	1296
<u>HOSTOPON PROCESS (SULF-OXIDATION)</u>	
Synol and Oxo processes and	787

INDEX OF REEL #14 - Cont'd.

	<u>Frame No.</u>
<u>HYDROFORMING</u>	
Effect of temperature and pressure	1103
Experimental work in 1942	1393
Gases produced	1102
Of gasoline from Zeitz	1395
Operating troubles	1107
Plant at Moosbierbaum, air raid damage	1436
changes desired	1351
detailed history of experimental work and construction	1357
monthly operation report	1376, 1381, 1398, 1430, 1436
research in 1943	1412
starting of	1343
starting operations and product	1362
Of Roumanian naphtha, conditions for	1360
Stock balance flow diagrams for catalytic cracking and	1370
Use of fraction boiling above 500°C.	1112
Yields and gas composition	1113
Yields for various type naphthas	1115
<u>HYDROFORMING PROCESSES</u>	
Status of DHD, in pilot plant scale at Luena and and Moosbierbaum	1311
<u>HYDROGENATION</u>	
Of acetylene, composition of olefins from	1246
Brown coal, filtration of sludge from	890
Catalysts	861
Coal, aromatization of middle oil from	990
Of coal slurry residue, plant expansion for	1065
Economics of Linde and Garelach units for C <sub>2</sub> - C <sub>4</sub> gas recovery	1051
Expansion of coal drying plant	1092
Experimental work for design of plant at Lutzendorf	861
Of gasoline-free and gasoline-containing middle oils	1015
Of lignin and brown coal for phenol production	1042
Of methyl ester of methyl adipic acid to methyl-1, 6-hexanediol	655
Of middle oil in gas phase at 300 and 700 atmospheres	1003
Plant at Leuna, control of interphase level between gasoline and water	952
Of residual oils from Roumanian crude, plant and products	1331
Rotating kiln at Scholwen	1066

INDEX OF REEL #14 - Cont'd.

	<u>Frame No.</u>
<u>ISOBUTANE</u> See also Alkylation	
Catalytic dehydrogenation	1118
<u>ISOMERIZATION</u>	
Of butane	1289
catalytic dehydrogenation, alkylation and, at Leuna	1180
mechanical problems	1283
operation of Roumanian plant	1279
plant at Leuna	1277
reduction of propane and pentane formation in	1288
Catalytic, of butane	1273
<u>ISO-OCTANE</u>	
Flow diagrams for production	1155
History of butane dehydrogenation for	1130
<u>ISOPRENE</u>	
From dimethyl dioxane and/or 1,3-amylene glycol	1291
From olefin and HCHO	1297
Research report for 1943	1412
<u>KILNS</u> See also Carbonization	
Low temperature carbonization	1076
Rotating, experiences with	1080
general operation of	1084
installation and operation of	1083
installation of new	1093
mechanical operation of	1087
at Sholven	1066
use for heavy oil containing sand	1088
<u>LUBRICANTS</u>	
Esters from Oxo alcohols in	691
<u>LUBRICATING OILS</u>	
Ester type, alcohols from Oxo process for	635
<u>METAL CARBONYLS</u>	
Isomerization in oxo process by	636
Preparation and physiological effects	493
<u>MICHAEL PROCESS</u>	
Potential supply of C <sub>8</sub> - C <sub>12</sub> alcohols by	710



INDEX OF REELS, 14 - Cont'd.

	<u>Frame No.</u>
<u>OLEFINS</u>	
By acetylene hydrogenation, composition of	1246
Higher, by dehydrogenating or cracking paraffinic raffinates	1312
<u>OXO PROCESS</u>	
Alcohols, comparison of textile agents from, with other soaps	696
Alcohol samples	628, 690
Alcohols and sulfonates from, difficulties in detergent preparation from	518
Alcohols for ester type lubricating oils from	635
Alcohols to fatty acids by caustic fusion	692
Allocation of cracked oil for experimental purposes in	703
Analysis for hydrocarbon soluble in H <sub>2</sub> SO <sub>4</sub> - H <sub>3</sub> PO <sub>4</sub>	819
Analysis of C <sub>11</sub> - C <sub>12</sub> and C <sub>12</sub> - C <sub>13</sub> alcohols, cooperative results	854
Analysis of C <sub>16</sub> alcohol, cooperative results	845
Analytical data on olefins for information exchange	627 626
methods and necessary inspections for starting material and product	813
methods for charge stock and finished product	805
results and methods from different laboratories	834
results on hydrocarbons and alcohols from	784
results on olefins and alcohols from	782
techniques	820 803
Catalyst composition	803
Comparison of sulfonating crude and separated Oxo alcohol-paraffin mixture	724
Conversion of neutral oil sample from ester plant by	622
Cooperative analytical work	625
Cost analysis of alcohol production by various methods	608
Cost comparisons on production of wetting agents	503
Cracked oil for use in	675
Cracked oil for use in, supply of	676
Data on alcohols made from olefins from low temperature carbonization of tar	804
Design and construction costs of 20,000 ton/year plant	605
Design and operation of large scale batch plant at Oberhausen-Holteln	532
Design details and distillation equipment at Oberhausen	557
Detailed memo by Ruhrchemie	484
Discussion of continuous operation of, and catalysts for	631
Discussion of design of commercial plant	529
Discussions of I.G. with Ruhrchemie on Fischer synthesis and	179

INDEX OF REEL #14 - Cont'd.

	<u>Frame No.</u>
<u>OXO PROCESS - Cont'd.</u>	
Discussion of use of continuous process	596
Economic problems from continuous process and excessively high capacity	598
Economics of alcohol production from F.T. synthesis products by	564
Economics of using Synol reaction products as starting materials	562
Estimate of yield of various products	601
Evaluation of Oxo alcohol sulfates as wetting and washing agents	659
Evaluation of various olefin products for use in Flow diagram	740
Flow diagram and material balance	489
Flow sheet of Ludwigshaven continuous process	478
Information exchange on pilot plant studies	698
Inspection of Ruhrchemie plant	507
Isomerization in	698
Leuna type products	636
Ludwigshaven-continuous, details	677
Mechanism of reaction and description of product	683
Obtaining alcohols for ester oils from	636
Olefins for alcohol synthesis and sulfonation to detergents and wetting agents	629
Olefins of C <sub>12</sub> - C <sub>20</sub> by dehydrogenating or cracking paraffinic raffinates	494
Physical and chemical constants of products from	1312
Physical and chemical data on 3 aldehyde samples from	623
Physical data on alcohol fractions from	790
Plant at Holten, increase of alcohol concentration improduct	791
Plant conversion to continuous operation, proposal, flow sheet and product balance	794
Plant expansion fund requests	713
Plasticizers from C <sub>7</sub> - C <sub>10</sub> alcohols by esterification with phthalic acid	711
Potential supply of C <sub>8</sub> - C <sub>12</sub> alcohols by Michael reaction in	651
Preparation and properties of oxo detergents for patent purposes	710
Preparation of metal carbonyls and their physiological effects	666
Production of C <sub>7</sub> to C <sub>10</sub> alcohols, proposed batch plant operation at Leuna	493
Products with isononylene	668
Properties of Oxo alcohols and their products	792
Properties of Oxo alcohol sulfates as textile agents	678
Proposed continuous operation of plant at Holte	695
Proposed conversion of Norseburg pilot plant into production plant	591
Reaction products from, work at Luena	602
	539

INDEX OF REEL #14 - Cont'd.

	<u>Frame No.</u>
<u>OXO PROCESS - Cont'd.</u>	
Request for allocation of materials to expand plant with reasons	691, 694
Request for experimentation on conversion of Fischer neutral oils to alcohols	621
Ruhrchemie experimental operation on	500
Status and pilot plant operation	520
Status of, and necessary future developments	707
Sulfonation of alcohols and extraction procedure	687
Supply of cracked oil	709, 718
Supply of cracked oil for experimentation in	705
Supply of olefins by Ruhrchemie	685
Synol and Hostapon (sulf-oxidation) processes and	787
Temperature control difficulties in pilot plant	514
Testing <del>oxo</del> alcohol sulfates as textile agents	674
(Possible) tuberculosis caused by branched chain fatty acids from	778
Using low olefin content feed stocks for	510, 512
Utilization and market possibilities for products	585
Utilization of C <sub>7</sub> to C <sub>12</sub> alcohols from Synol	
reaction products in	562
Water absorption by C <sub>18</sub> Oxo alcohols	654
<u>OXIDATION INHIBITOR</u>	
Tricresol, for gasoline	1313
<u>PLASTICIZERS</u>	
From Oxo process alcohols of 7-10 C atoms by esterification with phthalic acid	651
<u>PHENOL</u>	
From hydrogenation of lignin and brown coal	1042
<u>POLYMERIZATION</u>	
Experiments with 2,5-dimethylhexadiene-1,5 and tetramethylbutadiene	1296
<u>PROPANE</u>	
Catalytic dehydrogenation	1173
<u>PROPYLENE</u>	
From propane for alkylation, conclusions from American literature	1173
<u>REACTORS</u>	
Adiabatic and tubular heated, in DED and HF processes	1107

INDEX OF REEL #14 - Cont'd.

	<u>Frame No.</u>
<u>REFINING PROCESSES</u>	
For Duerag crude at Moosbierbaum	1385
Fuel research in 1943	1412
Fuel research program for 1944	1412
Fuels, experimental work in 1942	1393
<u>RUBBERS</u>	
Adhesive, from methylated butadienes, large scale experiments	1297
<u>SULFONATION</u>	
Of hydrocarbons and alcohols to detergents and wetting agents	494
Of Oxo alcohol	687
Of Oxo Alcohol-paraffin mixture, comparison of economics using crude and separated	724
Of Oxo process alcohols, comparison with other sulfonate detergents	539
<u>SYNOL LABORATORY</u>	
Hostapon (sulf-oxidation), Synol processes and Secrecy in use of term	787
Specification gasoline and Diesel oil from primary products of	624
	1313
<u>SYNOL SYNTHESIS</u>	
Cost analysis of alcohol production by various methods	608
<u>TEXTILE AGENTS</u>	
See under Oxo process, Sulfonation	
From Oxo alcohols, properties and comparison with other soaps	696
Properties of Oxo alcohol sulfates as	695
<u>TOLUENE</u>	
From demethylation of xylenes and heavier aromatics	1302
From xylenes and heavier aromatics, economic problems	1307
<u>TRIPTANE</u>	
From propylene and isobutane with HF and F compounds	1272
<u>XANTHATES</u>	
From Oxo and Synol alcohols for rayon manufacture	773
<u>XYLENES</u>	
Toluene from, economic problems in	1307
Toluene from demethylation	1302