

INDEX - MICROFILM REEL 251
(Original designation BM-37)

Index to microfilm of Dr. Pier's files.

I. Airplane engine.

<u>ITEM NO.</u>		<u>FRAMES</u>
1	J2 specification fuel.	1-9
2	Knock testing with aromatic mixtures.	10-14
3	Action of isopropylbenzene in the engine.	15-18
4	"R-Stoffe".	19-20
5	Heat balance of an aviation engine.	21-24
6	Safety fuels.	25-26
7	Research with high load fuels	27-29
8	Motor test of P20 oil.	30-31
9	Special aviation fuels.	32-33
10	Possibilities of preventing exhaust gas condensation.	34-44
11	Supercharge and regulation thereof in aviation engines.	45-61
12	Detonation in engine.	62-71
13	Ignition of air-fuel mixtures by an ignition cap.	72-78

II. Alkylation, etc.

1	Alkylation of Rumanian shale gasoline and several unsaturated gasolines from other sources.	79-87
2	Outlook for higher octane number gasolines.	88-120

T.O.M. Reel 251

<u>ITEM NO.</u>		<u>FRAMES</u>
3	Military specification for aviation gasoline.	121-125
4	Butane dehydrogenation.	126-129
5	Catalyst discussion: Butane dehydrogenation, etc.	130-133
6	Hydrogenation of octane over diluted catalyst and at lower pressures.	134-139
7	Process for dehydrogenation of saturated gaseous hydrocarbons.	140-144
8	<u>Butane isomerization</u> research.	145-156
9	Butane dehydrogenation with gas recirculation.	157
III. Analysis		
1	Mixing properties of tars and pitches.	158-159
2	Sieve analysis.	160
3	Iodine number.	161-162
4	Determination of aromatic content by the aniline point method, March 31, 1941.	163-182
6	Phenol determination in middle oils.	183
5	Research on copper brine.	184-212
7	An exact potentiometric rapid determination of basic nitrogen in oils.	213-229
8	Nitrogen determination in middle oils.	230-250
9	Asphalt determination with the aid of chromatographic adsorption analysis.	251-253
10	Storage and chemical properties of fuels.	254-256

<u>ITEM NO.</u>		<u>FRAMES</u>
11	Methods of testing aviation gasoline.	257-261
12	Literature survey and abstract concerning molybdenum sulfide.	262-273
13	Colorimetric analysis of fluid fuels.	274-275
14	Experience exchange on analytical methods.	276-294
17	Determination of settling of coal paste.	295
IV. Asphalt and wax separation.		
1	Paraffin removal according to the dichloroethane process.	296-314
2	Paraffin removal with Schwitzkammern.	315-326
3	On the oxidation of hydrogenated petroleum crude wax.	327-329
4	Refining Zeitz TTH paraffin through hydrogenation over K7846W.	330-336
5	Asphalt removal in Misburg.	337-341
6	Oil content of crude wax from neutral oil.	342-351
7	Investigation of wax separation in dichloroethylene.	352-355
8	Photomicrographs of wax crystals in propane solution.	356-375
9	Dewaxing of paraffin wax residue in Lutzkendorf.	376-382
10	Remarks on Dr. Feherbach's report.	383-385
11	Small scale work on propane dewaxing.	386-403
12	Dewaxing work on residue oil of Niegenhagen.	404-418

T.O.M. Reel 251

<u>ITEM NO.</u>		<u>FRAMES</u>
13	Filter aids in wax filtering. Report on discussion in Länderbank, Nov. 6, 1942.	419-422
14	Zeits wax production situation in 1942.	423-425
	V. Coke and carbonization.	
1	Electrode coke from tar and petroleum asphalts.	426-429
2	Research to recover primary bitumen for production of electrode-coke.	430-433
3	Primary bitumen from the large scale research at Ludwigshafen compared with Welheim bitumen.	434-436
	VI. Corrosion and metallurgy.	
2	"Ersatz": materials for hydrogenation.	437-443
4	Talk on test-melts of N10 with titanium and other additions.	444-460
5	On N10 steel.	461-462
6	N10 in 700 atm. preheaters.	463-466
7	Creep limit at higher loads than those corresponding to normal creep tests ("Zeitstandfestigkeit") on N9 and N10.	467-469
8	H ₂ S corrosion in DHD plants.	470
9	Experience with use of new compositions for special high pressure steels.	471-473
10	Iron sulfide corrosion in liquid phase preheater.	474
11	Tube material considerations for 700 atm. preheater.	475-477

<u>ITEM NO</u>		<u>FRAMES</u>
14	The N8 tube which leaked. Investigation.	478-486
16	Microscopic and analytical investigation of a hairpin deposit from Gelsenberg.	487-490
17	Intercrystalline corrosion by cold catchpot liquor.	491-495
VII. Cracking.		
1	Catalytic cracking of intermediate materials of the lube-oil synthesis.	496-498
2	WS ₂ in low pressure cracking.	499-507
3	Basis for semi-technical catalytic-cracking with powdered catalyst.	508-513
4	Catalytic cracking in 40 liter converter.	514-535
5	Catalytic cracking of synthesis products.	536-540
6	1943 I.G. experiments on catalytic cracking.	541-578
7	Catalytic cracking of middle oil with AlCl ₃ .	579-594
8	Rumanian crude residue treatment by catalytic cracking.	595-618
9	Catalytic cracking in 50 liter sliuce converter.	619-626
10	Cracking of gasoline and gas oil under H ₂ pressure.	627-643
11	Cracking and hydrogenation. Results to 1942.	644-649
13	Development of cracking (literature survey).	650-671

T.O.M. Reel 251

<u>ITEM NO.</u>		<u>FRAMES</u>
12	Catalytic cracking of previously hydrogenated bituminous middle oil.	672-674
14	Production of unsaturated cracked gas from hydrogen rich middle oil.	689-695
15	Processing of gasolines over silica-containing catalysts with and without pressure.	675-688
17	Comparison of thermal cracking processes with pressure distillation.	696-700
	VIII. D.H.D. toluol, hydroforming, etc.	
1	Dehydrogenation of CV ₂ B gasoline over catalyst 7360 in 100 liter converter.	701-707
2	Research in 100 cc. converters toward recovery of pure aromatics, especially toluol, from xylol and D.H.D. residues.	708-714
3	Treatment of phenosolvan extract and residue therefrom for production of pure aromatics.	715-727
4	Technical scale research in toluol recovery through dehydrogenation of the product of the D.H.D. product separator.	728-731
5	Corrosion research with ammonium sulphate solution.	732-733
6	D.H.D. preheater.	734-735
7	D.H.D. tests in 100 cc. converter.	736-749
8	Activity test on technical D.H.D.	750-752
9	Dehydrogenation and splitting over catalyst 7935.	753-772

T.O.M. Reel 251

<u>ITEM NO.</u>		<u>FRAMES</u>
10	Highest converter temperature in the Pölitz D.H.D. plant.	773-774
11	D.H.D. tests in 100 cc. converter.	775-800
12	Further D.H.D. developments (1942).	801-803
13	D.H.D. catalyst testing (from technical alumina).	804-817
14	D.H.D. tests in 100 cc. converter.	818-867
15	D.H.D. lab tests in 1 liter converter.	868-893
16	Technical state of the D.H.D. process.	894-898
19	Additives for improvement in stability of leaded D.H.D. gasoline.	899-902
20	D.H.D. tests in 100 liter converter.	903-906
21	Report on semi-technical work at Pölitz	907-908
22	Data for the report "Production of high performance fuels according to the D.H.D. process of July 25, 1941, 19034 i".	909
23	Dehydrogenation of Rumanian gasoline.	910-918
24	Properties of D.H.D. gasoline from petroleum gasoline.	919-926
25	D.H.D. and HF processes in 1942.	927-937
26	Refining and dehydrogenation of catalytically cracked gasoline over catalyst 7360.	938-947
29	D.H.D. research in 40 liter converters.	948-963
30	Testing of D.H.D. catalysts in 1-liter converter.	964-978

T.O.M. Reel 251

<u>ITEM NO.</u>		<u>FRAMES</u>
31	Status of large scale work.	979-994
32	D.H.D. work in 40 liter converter.	995-1029
33	Testing of D.H.D. catalysts composed of active alumina + 8% MoO ₃ + addition of 1-2% ZnO+MgO.	1030-1047
34	Inspection (physical) of D.H.D. catalyst.	1048-1052
35	D.H.D. heat of reaction.	1053
36	D.H.D. treatment of saturation gasoline from Rhenish brown coal.	1054-1060
37	D.H.D. research in 1-liter converter with catalysts of large and moderate activity.	1061-1079
38	Testing D.H.D. catalysts.	1080-1087
39	Report on D.H.D. discussion at Politz, Nov. 24-25, 1942.	1088-1094
40	Use of electric-heated parallel tube bundles in intermediate preheater in one m ³ D.H.D. research stall 504.	1095-1100
41	Production of high capacity fuels according to the D.H.D. process.	1101-1106
42	Comparison of the results of D.H.D. treatment of various saturation gasoline products originating from brown coal.	1107-1117
43	Research on splitting hexahydroxyl oil.	1118-1119
44	Xylol alkylation research.	1120-1126
45	Toluol from D.H.D. treatment of gasoline and middle oil fractions and concluding fine distillation of the product.	1127-1162

T.O.M. Reel 251

ITEM NO.

46

Research on 100 cc. converters toward
recovery of pure aromatics, especially
toluol, from xylol.

FRAMES

1163-1165