

INDEX TO

REEL 2

R E S T R I C T E D

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U.S. GOVERNMENT TECHNICAL OIL MISSION
INDEX - MICROFILM - REEL-2
BAG 2168(4.03) - I.G., LUDWIGSHAFEN-OPPAU

SECTION 9 Isopropyl ether 2168-30/4.03

Identification of equipment shown in accompanying chart.

Letter of September 29, 1942, relating to composition of aviation gasoline.

Short note dated May 11, 1943, relating to action of diisopropyl ether in aviation gasoline.

Letter dated May 26, 1943, relating to isopropyl ether production.

Letter dated May 26, 1943, relating to production of diisopropyl ether.

Long-hand notes on calculations relating to diisopropyl ether.

Letter dated June 1, 1943, relating to same subject.

Estimate of the cost of construction of diisopropyl ether plant.

Letter dated June 17, 1943, on same subject.

Letter dated 6/17/43, discussing available chlorine supplies.

Letter dated 6/17/1943, on same subject.

Letter dated 6/17/43, on same subject.

Note of 6/23/43, relating to telephone conversation on diisopropyl ether.

Discussion with Dr. List on 7/8/1943 on the subject of diisopropyl ether.

Letter of transmittal dated 11/2/43.

Letter dated 9/24/43 relating to confiscation of French plant equipment for hydrocarbon synthesis plant in Heydebrock.

Letter dated 7/9/1943 on same subject.

October 20, 1945. Dr. List on Diisopropyl et

SECTION 10

Isbutyl Alcohol

October 2, 1935

Compares cost of production of M and isobutylol and Fischer Benzene (5 pg.)

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Page 2

- October 11, 1935
Same subject (7 pg.)
- October 18, 1935
Flow sheet - isobutyl alkylate and isobutylol to iso octane at Oppau
- June 5, 1936
Letter re. production iC_4 (3 pg.)
- November 29, 1943
Memorandum conforming CO content in C_4 circulation. (4 pg. and 5 charts)
- November 1, 1943
Formation of C_1 in butyl synthesis 7 pg. and 6 charts.
- May 14, 1943
Resistance measurements on C_4 catalyst at low pressures. (5 pg. and 2 dia.)
- September 18, 1943
Large scale experiment on alloy steel in butyl synthesis 4 pages.
- September 1, 1943
Influence of pressure on butyl synthesis. (5 pgs. and 3 charts)
- July 3, 1941
Determination and elimination of non-alcohol oxygen containing substance of isobutyl oil. 6 pages, 2 charts.
- January 31, 1938
~~Fatty acid plant and tanol plant at Oppau.~~
- January 25, 1938
Memo. on tank farm at Oppau Tanol plant.
- November 18, 1937
Cost of compression of gas.
- (?)
Chart showing construction progress of Oppau Tanol plant.
- August 11, 1938
Letter concerning construction of plant for iso octane, 2 pages.
- (?)
Memorandum re. Tanol
- (?)
Description of operation of isobutylol Distillation plant, 3 pages.

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Page 3

September 5, 1938
Letter re. construction of plant, including cost of estimates.

February 4, 1939
Tanol project 50 M. yr. tons.

February 1, 1939
Letter re. isooctane plant

March 22, 1939
Memorandum re production of Tanol reference to cooling H₂O required.

March 9, 1939
Letter re. iso octane

February 4, 1939
Letter re. Tanol project.

December 11, 1939
Letter re. enlarge Oppau Tanol plant, 3 pages.

December 13, 1939
Letter re. by products of Oppau Tanol plant.

December 11, 1939
Letter re. same above, 3 pages.

March 14, 1939
Letter re. same above.

September 26, 1935
Memo re. Methanol at Waldenburg, 4 pages.

(?)
Chart P-153 of Oppau - Tanol plant re. yields of iso octane
from iso-butyol. Chart and 2 graphs.

December 13, 1935
Memo. Re. iso-octane plant.

December 8, 1942
Memo. re. starting of Waldenburg Methanol plant. 9 pages.

March 1, 1943
Memo. re. inspection of enlarged butyl and methanol generators.

June 18, 1942
Memo. re. heat balance data of Methane converter
C₄ from tail gases of methanol plant: and six charts.

March 1, 1943
Report of Conference re. Cu Mg. alloys. 3 pages

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February 24, 1943

Conference re. catalytic plant for C_4 synthesis.

March 1, 1943

Report - same subject. 2 pages.

Dist. chart #557

Flow sheet of distillation plant for isobutylol.

16 flow diagrams giving additional steps to produce isobutyl alcohol.

*June 2, 1937

Re. distillation of isobutylol

Yield data chart of main and by products of the isobutylol plant.

Total of 17 pages.

Quite detailed with charts and discussions.

March 28, 1937

Isobutylalcohol discussion 2 pages.

June 10, 1937

Memo. Relates to high pressure jackets.

*February 10, 1937

Memo re. removal NH_3 from synthesis gas for isobutylalcohol
plant using silica gel. 2 pages.

September 23, 1936

Memo re. visit to isobutylalcohol plant and discusses catalysts.
3 pages.

July 6, 1936

Diagramatic form

Material balance re. isobutylalcohol production.

July 2, 1936

Data concerning thruput capacities for cracking and hydro. furnaces
of pilot plant.

June 11, 1936

Letter - discussing plant capacity.

June 27, 1936

Memo. Fractionation of coke oven gas for separation of H_2 .
5 pages and 2 charts plus 2 pages and 6 charts.

November 12, 1937

Discusses production capacity of Oppanol.

November 3, 1937

Memo. re. labor required for Oppan Tanol plant.

November 2, 1937 - Telegram concerning same subject.

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September 11, 1937 - Letter

I. G. authorized to build iso-octane plant.

October 6, 1937

Questionnaire re. labor required for new iso octane plant at Oppau.

(ET-100 - Oppau plant)

October 20, 1937

Propose to drop ET-100 name and use "Bauvorhaben Tanol Oppau".

(?)

Someone's notes re. calculations for ET-100.

July 24, 1937

Letter re. authorization of construction of ET-100 plant.

July 24, 1937

Same subject.

July 14, 1937

Letter re. labor for ET-100.

July 28, 1937

Letter re. labor for ET-100

September 27 and October 2, 1937

Re-isobutylalcohol distillation

Pages 17 to 24 only. -- Pages 1 to 16 are missing.

August 28, 1935

Gen. letter re. Methanol sales monopoly. 2 pages.

July 18, 1935

Letter re. iso octane production schedule in Waldenburg.

5 pages.

June 7, 1935

Memo. re.

1. Production of isobutylalcohol in Waldenburg and Leuna.

2. Preliminary estimate of cost of production for iso octane at Leuna.

13 pages and 6 detailed charts.

February 4, 1938

Chart on gas requires for 4 M tons per yr. of Tanol. (Material balance chart)

September 3, 1935

Report on starting of Waldenburg plant for production of methanol or iso octane. Discussed from 5 points of view.

7 pages and flow chart.

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February 10, 1943

Official letter re. production intermediates for ester alcohol
at Heydebreck
4 pages.

April 2, 1943

Official letter re. Oppau Tanol distillation.

March 22, 1943

Same subject

March 22, 1943

Official Letter - same subject

September 24, 1942

Removal of bottleneck in isobutane synthesis (Deficiency of gas)
2 pages

August 20, 1942

Official letter - same subject
2 pages

August 19, 1942

Letter re. isobutynol

August 12, 1942

Memo re. gas required for butyl syntheses.

August 7, 1942

Concerning enlarging Oppau plant 2 pages.

July 24, 1942

Letter re. material required for Oppau methanol. 2 pages.

July 17, 1942

~~Memo. re. increase production of methanol.~~

July 13, 1942

Memo. on cost and materials for 14 M. yr. ton methan plant.

July 10, 1942

Conference re. methanol and formamid at Oppau. 2 pages.

(?)

7 pages from someone's notebook.

July 2, 1942

Re. isobutynol from Oppau.

July 1, 1942

Telegram re. methanol requirements.

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Page 7

- July 1, 1942
Letter re. Butyl distillation plant at Oppau.
- July 1, 1942
Letter re. removal of bottlenecks from isobutylalcohol plant
2 pages.
- June 30, 1942
Note re. correction to letter. 2 pages.
- June 25, 1942
Report re. production of isobutyl alcohol
- June 25, 1942
Memo. re. Iso Butyl alcohol distillation plant and removal of
bottlenecks. 2 pages.
- June 24, 1942
Memo. re. same subject. 2 pages
- June 26, 1942
Telegram re. enlarge butylalcohol distillation plant at Oppau.
- June 24, 1942
Memo. re. enlarge Oppau plant.
- February 17, 1941
Pencil note on production estimates on Tanol
- November 5, 1941
Letter re. priority for construction of plant for separate C₄ hcs.
- June 22, 1942
Letter re. removal of bottlenecks in Tanol plant (additional
equipment.) 3 pages.
- June 22, 1942
Letter re. Butylalcohol at Oppau. 2 pages.
- June 20, 1942
Re. isobutylalcohol production at Oppau.
- June 19, 1942
Memo. Re. enlargement of Oppau plant #557
- June 17, 1942
Letter re. CL - 100 distillation plant.
- June 16, 1942
Memo. re. discussion on Oppau plant. 2 pages.
- June 18, 1942
Flowsheet of Butyl - Distillation at Oppau.

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June 15, 1942

Memo. with comments on above flow sheet. 2 pages.

June 9, 1942

Telegram re. priority for plant.

Production figs. for 1st Quarter of 1942 for Oppau plant for isobutylalcohol, n-propylalcohol, methanol and yellow oil. 2 pages.

(?)

Flowsheet of Butyl Distillation. - Oppau

December 3, 1942

Memo re.

Addition of water to Vinyl-Acetylen

Vinyl - Methyl - Keton

and to production of Dimol from Vinyl-Acetylen and acetone

2 pages.

September 11, 1941

Diagrammatic flowsheet for production of 3 T/dy. Dimol plant.

January 16, 1942

Report re. Hydrocarbon synthesis plant OP-648

Also operation for 1941

3 pages and 3 charts

December 22, 1944

Memo. re. shipments of isobutyl alcohol.

December 14, 1944

Letter re. isobutyl alcohol

December 12, 1944

Letter re. Allotment of available isobutyl alcohol supply.

December 11, 1944

Telegram re. shipments of alcohol.

December 7, 1944

Letter re. available supplies of Oppanol and Karesin.

November 30, 1944

Memo. re. allotments of isobutanol supplies.

November 21, 1944

Letter re. personal matter
"Passing the Buck"

November 14, 1944

Memo re. isobutyl alcohol supply.

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November 13, 1944
Letter re. storage facilities for sodium.

November 9, 1944
Memo. re. processing isobutynol to give isobutylene and Karesin.

November 9, 1944
Letter re. allocation isobutanol.

November 8, 1944
Re. isobutanol allocation

November 8, 1944
Re. isobutyl alcohol allocation

November 3, 1944
Re. isobutanol storage tanks

November 3, 1944
Re. Isobutylalcohol

November 3, 1944
Re. Oppanol 2 pages

November 1, 1944
Memo re. J. C. 4-alcohol to be used to make Oppanol and Isobutylene.

November 1, 1944
Memo re. pressure tank cars for iC_4 .

November 1, 1944
Memo. re. pressure tank cars.

*October 31, 1944
Memo re. allocation of isobutanol for production of various chemical
derivitives.

(?)
Note dated October 27, 1944, re. Oppanol and 2 telegrams same subject.

October 24, 1944
Letter re. safety measures for production of butaphenol plant.
2 pages.

October 10, 1944
Allocation of isopropyl alcohol for October, 1944.

October 3, 1944
Telegram re. isobutanol shipment.

October 4, 1944
Letter re. Tanol from Butyl alcohol.

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- September 30, 1944
Re. production and allocation schedule for isobutanol for
October, 1944.
- September 22, 1944
Letter re. processing butyl alcohol for production of Tanol.
- September 22, 1944
Letter re. isobutyl alcohol shipments.
- September 22, 1944
Note re. isobutyl alcohol supplies at Heydebreck.
- September 15, 1944
Letter re. isobutanol shipments.
- September 14, 1944
Note re. ethylchloride plants.
- September 14, 1944
Letter re. isobutyl alcohol shipments from Heydebreck to Oppau.
2 pages.
- July 7, 1944
Letter re. isobutyl alcohol allocation.
- June 20, 1944
Note re. labor required for Oppanol plant.
- June 20, 1944
Telegram, same subject.
- July 6, 1944
Letter re. Oppanol plant at Heydebreck. 2 pages.
- June 30, 1944
Letter re. same subject.
- June 23, 1944
Letter re. same subject.
- October 18, 1943
Letter re. discussion of labor required for Oppanol plant.
- March 30, 1944
Letter re. same subject.
- June 30, 1944
Re. estimated isobutanol production schedule for July, 1944.
2 pages.
- (?)
Note re. allocation of isobutyl alcohol for plastics.

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June 7, 1944
Letter re. isobutanol production for June, 1944.

June 1, 1944
Note re. same subject.

May 30, 1944
Note - re. Oppanol plant at Heydebreck

May 30, 1944
Re. same subject.

May 27, 1944
Re. Isobutanol production estimate for June, 1944.
1 page and 1 page tabulation of figures.

May 25, 1944.
Letter re. isobutyl alcohol. 2 pages.

May 22, 1944
Re. Butanol plant at Heydebreck.

May 19, 1944
Note re. isobutyl alcohol for Oppanol production.

May 15, 1944
Letter re. isobutanol
2 pages and 1 page tabulation

May 11, 1944
Note re. isobutyl alcohol supply for Oppanol production.

May 9, 1944
Same subject.

April 26, 1944
Re. same subject.

April 4, 1944
Letter re. isobutanol project.
2 pages and 1 page of comments dated April 4, 1944.

February 19, 1944
Memo. re. preliminary estimates for isobutylalcohol products.

January 15, 1944.
Memo. re. same subject and pencil note tabulation

January 31, 1944
Re. isobutanol project and 4 tables of figures.

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- February 9, 1944
Note re. Heydebreck - Tanol plant
- January 31, 1944
Re. isobutyl alcohol and Oppanol
- January 15, 1944
Memo. re. preliminary estimate of isobutylalcohol requirements.
1 page and 5 tables.
- January 15, 1944
Re. steel tape.
- January 15, 1944
Re. Austenitic chrome nickel steel tape. 2 pages.
- January 8, 1944
Letter re. completion of Heydebreck - Oppanol plant.
- January 7, 1944
Re. isobutyl alcohol supplies for Oppanol
plus next document of 2 pages.
- January 6, 1944
Memo. re. labor requirements for Heydebreck Oppanol plant. 2 pages.
- January 5, 1944
Memo. re. report of conference related to isobutyl alcohol
supplies. 2 pages.
- December 16, 1943
Re. concerning Army discharges for work in Oppanol plant.
- December 8, 1943
Re. conference Heydebreck-Oppanol plant urgency of completion.
3 pages.
-
- December 8, 1943
Re. Oppanol production.
- December 7, 1943
Re. Labor requirements and tabulated figures on sheet.
- December 6, 1943
Letter re. Oppanol "B" - production possibilities and also
comments on letter (4 pages of comments)
- November 25, 1943
Re. Isobutyl alcohol shipments - 2 pages.
- November 24, 1943
Re. Tanol production in September and October, 1943.

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November 13, 1943

Letter re. isobutanol for production of Oppanol.

October 31, 1943

Memo. re. steel tape.

October 16, 1943

Same subject.

October 13, 1943

Same subject.

October 6, 1943

48 Cr. 8 Ni. steel tape

September 29, 1943

Same subject.

September 28, 1943

Steel tape for production of Oppanol "B" - specification data.
2 pages.

September 20, 1943

Re. Isobutyl alcohol consumption for production of Oppanol.

September 17, 1943

Re. labor requirements for Frose plant.

September 16, 1943

Re. conference report on Oppanol project. 2 pages

July 1, 1943

Memo. re. Heydebreck Oppanol plant reference to Boron Fluoride
plant.

June 7, 1943

Note re. production of gasoline containing Oppanol B emulsion.

Oppanol B can either be in an emulsion or a paste form.

February 8, 1943

Biener and Co. plant at Rheydt. Memo. giving method of preparation
of gasolines containing Oppanol B emulsions or paste.
3 pages.

December 19, 1942

Letter re. labor requirements for Oppanol plant.

December 17, 1942

Same subject.

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- December 15, 1942
Re. conference report on production of synthetic plastics from Vinyl chloride, acronal emulsion, Morili emulsion, Polystyrol
3 pages.
- December 14, 1942
Memo. re. Oppanol OK-film with silica gel.
2 pages and 2 sheets of tabulations of physical data.
- December 11, 1942
Note - re. synthetic S. S. oil from ethylene.
- December 3, 1942
Inter office memo. re. Oppanol B dispersion
1 page and 1 page comments and some data.
- November 25, 1942
Interoffice memo. re. Oppanol B dispersion.
- October 20, 1942
Re. priority request for steel for Oppanol experiment project.
- October 9, 1942
Interoffice memo. re. experimental plant for production of Copolymers from butadiene and dimol.
Discussion of priority of building materials.
- October 7, 1942
Re. Estimates of iron tonnage required for polymerization experiments for 1942.
- (?)
Lab. notebook sheet on emulsions from Oppanol B1
- July 21, 1942
Memo. re. Oppanol dispersions.
- July 10, 1942
Re. Oppanol dispersions production.
- July 8, 1942
Re. same subject.
- July 6, 1942
Re. same subject. 2 pages.
- July 3, 1942
Re. Oppanol emulsions for making water proof fabrics. 3 pages.
- June 25, 1942
Re. Additional railroad siding to plant.
- June 19, 1942
Same subject.

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June 16, 1942
Same subject.

February 15, 1940
Memo. new buildings Oppanol Plant.

January 8, 1945
Note - Oppanol production.

December 22, 1944
Note, same subject.

November 11, 1939
Memo - Utilization of expansion gases recovered in Butyl Synthesis
2 pages and flow sheet.

August 26, 1939
Letter on iso-octane plant at Brinx.

September 9, 1939
Letter - iso-octane plant at Ladowitz (Sudeten)

September 14, 1939
Memo - Ost. Tanol plant - Utilization of Waste Gases and utilities
6 pages and flow sheet.

December 5, 1942
Report on cooler-saturator system of the N-Plant at Op 63
14 pages and tables.

Flow sheets of Saar Gas Cracking Plant Op 631-14

SECTION 11 - Tanolon

June 30, 1943
Report of production of tanolon 1939 - 1942
(re German pat. 582,682
630,525)
Method of preparation

April 2, 1940
Report of production of tanolon 1939. 3 pages

July 31, 1939
Report on Tanolon H for impregnation waterproofing of fabrics.
2 pages.
Report - Tanolon H - properties, industrial (advertising pamphlet)

Misc. sheet on production of Tanolon

Flow sheet - Tanolon manufacture.

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April 30, 1940

Report of absorption of ethylene oxide by $AL\ Cl_3$ Solution
6 pages - flowsheets.

August 27, 1943

Report - production of aluminum information from aluminum
chloride solutions with particular reference to utilization
of waste $AL\ Cl_3$ liquor.
11 pages.

March 4, 1941

Memo - production of activated alumina - 4 pages.

March 4, 1941

Production Schedule activated alumina.

SECTION 12 - SYNTHETIC RUBBER

March 13, 1942

Letter production of synthetic Rubber patent application.

February 1, 1944

Report Lebedew process SK - 3
6 pages.

SECTION 13 - MISCELLANEOUS

May 6, 1944

Letter - production of Liquid Fuels in April, 1944.

April 4, 1944

Same - March, 1944.

Daily Report - July 1-4, 1943

Chart showing production figures of Lutzkendorf plant,
broken down by various processes.

November 3, 1943

Monthly production report Lutzkendorf October, 1943
July, 1943 - Same.

Lutzkendorf - actual and estimated production - 1941 - 1946

Flow sheets - January 1, 1941-

Synthesis Gas Plant at Lutzkendorf.

Flow Sheet - Lutzkendorf - Fischer-Tropsch Lube Oil Hydrogenation plants.

Flow sheet - deasphalting and dewaxing (8/23/38)

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Diagram - Methanization Plant

June 5, 1940

Lutzkendorf

Flow diagrams - gas phase
Catalyst
Sumphase
Distillation
Tank farm
Storage plant

Diagram - Synthesis Gas Flow Sheet Rough sketches.

December 28, 1940

Letter re. Tar Oil Columns.

Flow sheet - Catalyst Plant Lutzkendorf

Flow Sheet - Gas flow - Lutzkendorf
Benzin Plant - May 11, 1940

Flow sheets.

June 5, 1940 - CO₂ Scrubber.

Tanks and piping layout - Lutzkendorf

Tar Oil Distillation 5/31/39

Oil Distillation - May, 1938

Phenol extraction May 17, 1940

100,000 tons/yr. crude oil Distillation.

(2) Synthesis Gas Production February 7, 1940

January 12, 1944

Biography of Engineer Osthaus.

Producer Gas - January 15, 1941

1943 Production - Lutzkendorf

November, 1943 Production Report, Lutzkendorf

December, 1943 " "

May, 1944 " "

March, 1944 " "

April, 1944 " "

May, 1944 Operations Report

April, 1944 " (2)

March, 1944 " "

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July 4, 1945