

SPECIAL NOTE FOR REEL C - 16

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GENERAL SUBJECT

Miscellaneous Collection of Documents Dealing Mainly  
with the OXO Process and Plastics.

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In the following index, German subtitles are often not possible. The matter comprises a miscellaneous collection of papers dealing with various aspects and problems of the OXO Process; also miscellaneous chemicals.

1. On distillation, with particular reference to new plant projects. Reports of conferences and correspondence with cost estimates; photos of plant items; drawings and graphs referring to distillation and plant matters. May 13, 1944. 1 - 45
2. Documents on:
  - a. The supply of heavy oil.
  - b. o- and p-benzyl chloride mixtures.
  - c. Separation of C11, C12 from C13, C14.
  - d. Hydrocarbon vapour pressure. December 11, 1943. 46 - 49
3. Aktennotiz. OXO-Verfahren.  
Mimtes. OXO Process. September 23, 1941.  
Im Programm der Besprechung:  
On the agenda of the consultation:
  - a. Analytische Probleme.  
Analytical problems.
  - b. Filterung.  
Filtering.
  - c. Gaswirtschaft und Restgasentspannung.  
The handling of gas, the release of waste gases.
  - d. Abführung der Reaktionswärme.  
Evaluation of reaction temperature. 50 - 52
4. Viscositätsverhalten von Oxo Alkoholen.  
On the viscosity of Oxo alcohols. With 13 tables and 1 graph. May 23, 1944. 53 - 68
5. Aktennotiz. Synthese- u. Filterfragen.  
Record of a consultation on synthesis and catalyst filtering problems. February 3, 1942. 69 - 72
6. An interchange of ideas with Leuna on the matter of the cooling of the reaction tubes in the OXO synthesis. February 12, 1942. 73 - 76
7. Btr. Synthese Karbonylauswaschung. Die Herstellung von Fettalkoholen. Monatsbericht Juni 1943.  
The rectification of carbonyl. The production of higher aliphatic alcohols. Nov. 7, 1942. Monthly report Oberhausen-Holtan, June 1943. 77 - 82

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8. Molekulargewichtsbestimmung nach Beckmann. Gefrierpunktserniedrigung.  
Molecular weight determination by the Beckmann method. Lowering of freezing point. 83 - 85
9. Herstellung v. Olefinen durch Dehydration v. Fettalkoholen.  
Production of olefines by dehydration of higher aliphatic alcohols. Aug. 2, 1944. 86 - 91
10. Betr.: Feinfraktionierung v. o- u. p-Chlortoluol.  
Concerning the precision-fractionation of o- and p-chlorotoluenes. April 26, 1944. 92 - 96
11. Dicköl-Untersuchung.  
Investigation of heavy oils. March 18, 1944. 97 - 99
12. Über eine Methode zur Bestimmung des Mol.-gewichtes von Oxo-Alkoholen.  
A method for determining the molecular weights of Oxo alcohols. Feb. 5, 1944. 100 - 103
13. Weiterverarbeitung v. Oxo-Produkten/Synthese höhermolekularer Ketone, sekundärer Alkohole u. dergl.  
Further work on Oxo products/Synthesis of higher molecular weight ketones, secondary alcohols, etc. Feb. 3, 1944. 104 - 106
14. Bericht über die bisherigen Versuche zur Isolierung v. Olefinen aus Primärprodukten.  
Report on experiments to date to isolate olefins out of primary products. Dec. 23, 1943. 107 - 109
15. Über die Synthese von ungesättigten Fettsäuren.  
The synthesis of unsaturated fatty acids (with explanatory chart). Nov. 30, 1943. 110 - 112
16. Über die Isolierung und Reindarstellung höhermolekularer Olefinen aus Primärprodukten.  
The isolation and purification of the higher molecular weight olefins from primary products. Nov. 9, 1943. 113 - 114
17. Vortrag von Geh. Rat Fischer im KWI am 16.4.1943  
Überblick über die Synthesen aus Kohlenoxyd u. Wasserstoff.  
Lecture by Geh. Rat Fischer to KWI on 16.4.1943.  
Survey of the synthesis from carbon monoxide and hydrogen. 115 - 116

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18. Bericht über den Betrieb der Butylöl-Destillier-Kolonnen Oppan.  
Report on the working of the butyl oil distilling column at Oppan. (With two charts). March 23, 1944. 117 - 124
19. Vorkalkulation der Gestehungskosten der Oxo-Anlage in Oberhausen-Holten zur Herstellung v. 15000 Tons Fettalkoholen.  
Estimated production costs of Oberhausen-Holten for a yearly output of 15000 tons per year of higher alcohols. Feb. 26, 1943. 125 - 131
20. Herrn Dr. Landgraf. Betr. Monatsbericht Januar 1944. To Dr. Landgraf. Concerning the Monthly Report, January, 1944. 132 - 133
21. Über Alkohole und Fettsäuren der Ruhrchemie.  
Alcohols and fatty acids of Ruhrchemie (with tabular analysis of characteristics in synthetic washing media). March 16, 1940. 134 - 144
22. Analysen-Protokoll (Vordestillation) Rohprodukt für Oxo-Synthese.  
Records of primary distillation analyses. Raw material for the Oxo-Synthesis 145 - 152
23. Ergebnisse der Fraktionierung des C<sub>16</sub> Alkohols.  
Results of the fractioning of C<sub>16</sub> alcohols. (With tables analyzing qualities as a washing-medium) 153 - 162
24. Ermittlung der olefinischen Bestandteile u. deren Zusammensetzung im Paraffin-Olefin-Gemisch d. Ruhrchemie.  
Determination of the olefin components and their composition in the paraffin-olefin mixture of Ruhrchemie. Jan. 4, 1941. 163 - 171
25. Grasps of boiling points for first distillations and estimates for the cost of equipment for first distillations from the firm of Basag-Meguin, A.G. 172 - 200
26. Bestimmung der theor. Bodenzahl der 8 m-Kolonnen des F.L. Brechungsindex v. o- u. p-Chlorotoluol. Nachtrag z. Schreiben v. 16.5.44.  
Theor. plates of the 8 meter column of the F.L. May 31, 1944. Refractive index of o-and p-chlorotoluene. (Addendum to a letter of the 16.5.44.) 201 - 214

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27. Siedeverhalten von Primärl, 179 - 250°, bei verschiedenen Ausführungen der Destillation. Vergleich zwischen Fryring-Siedeanalyse u. Feinfraktionierung von Primärprodukt.  
The behaviour of primary oil at boiling point, 179 - 250°, with the distillation carried out in different ways. Aug. 10, 1944. Comparison between the Fryring boiling-point analysis, and the precision-fractioning of the primary product. 215 - 233
28. Figures and tables of various first distillations at the Oxo plant. April 18. 1940. 224 - 238
29. Monatsbericht März/April 1944.  
Monthly report March/April, 1944 239
30. Niederschrift über die Besprechung mit Prof. Martin am 8.11.40.  
Record of the consultation with Prof. Martin on the 8.11.40. (About raw materials for distillation) Nov. 9, 1940. 240 - 241
31. Physikalische Konstanten von niedrigmolekularen Paraffinen, Olefinen und Aldehyden.  
Physical constants of paraffins, olefins, and aldehydes of low molecular weight. Nov. 20, 1943. 242 - 244
32. Betr.: Wasseraufbereitung. Berechnung der Härte des Betriebswassers nach Ersatz der Abschlämme und des Verdampfungsverlustes.  
Concerning the preparation of boiler water. Working out the hardness of the water used in the plant after allowing for losses from boiler blow-off, etc. April 8, 1944. 245 - 249
33. Miscellaneous rough technical scribbles, sketones and graphs. On such matters as cooling areas in synthesis tubes, and filter surface and its relationship to various amounts of contact, etc. Feb. 1942. 250 - 267
34. The complete minutes of eight meetings of the board of the Oxo-Company. These minutes are in reversed chronological order. They date from the founding of the company on the 20 Nov, 1940, and carry on up to the 5 March 1943. The names of those present at each meeting are included. Naturally, these documents cover the entire field of the activities of the Company, and range from financial matters to problems of plant and production. The problem of labour deficiency is also brought up, particularly at the last meeting. 268 - 357

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35. Versuche zur Konzentrierung von Äthylen und Acetylen.  
Acetylenkonzentrierung.  
Experiments in concentrating ethylene and acetylene. The concentrating of acetylene. Oct. 11, 1943. 358 - 372
36. Concerning problems of the piping of acetylene. Oct. 14, 1942. 373 - 380
37. Further material on the matter of the concentration of gases - particularly acetylene - and the scrubbing thereof. Material on an increased accident rate is significantly included. 381 - 465
38. Schenherofen.  
Details of the Schenherr Furnace - presumably for prospective purchase. May 2, 1940. 466 - 469
39. Bericht über Entwicklung der Chemischen Werke Hils G.m.b.H. im II. Vierteljahr 1943.  
Report on the development of the Chem. Works Hils, Ltd.
- a. Einleitung.  
Introduction; mostly concerning the bomb damage suffered by the firm.
  - b. Entwicklung der Fabrikation.  
The development of the manufacturing side.
  - c. Stand u. Ausbau des Werkes.  
State and development of the Works.
  - d. Energieversorgung.  
The power supply.
  - e. Betriebs- u. Betriebschaft.  
The personnel absenteeism brought about by the large number of the bombed-out.
  - f. Soziales.  
Social welfare.
  - g. Prozess-, Rechts-, Vertrags- und Steuerfragen.  
Court cases, legal-, contract-, and tax questions.
  - h. Kaufmännisches und Finanzierung.  
Commercial and financial; chiefly about profits and costs.
  - i. Werkversicherung.  
Insurance and minor local services, etc.
  - j. Ärztliche Betreuung.  
Medical care.
  - k. Verschiedenes.  
Miscellaneous; chiefly on how well the firm had done for the party.
- 470 - 484

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40. Monatsbericht November 1943. Fahrweise.  
Monthly reports on manufacturing procedure.  
November 1943.
- Monatsbericht November 1943. Aldol - Fabrik.  
Monthly reports of the aldol factory. Nov. 1943.
- Monatsbericht der Aldolhydrierung. November 1943.  
Monthly reports on the hydrogenation of aldol.  
Nov. 1943.
- Bilans der Aldolhydrierung November 1943.  
Balance sheet on the hydrogenation of aldol.  
Nov. 1943.
- Monatsbilans Oktober 1943. Gesamtausbeute der Aldol-  
Butolstufe.  
Monthly balance sheet of the total yield of the  
aldol butylene glycol phase. October 1943.  
The period March 1937 up to and including June  
1940 is covered by correspondence on production  
details, sources and supply of raw materials, etc.
41. Apart from the first three items in the file, the main  
contents are a continuation of the various types of  
reports on the hydrogenation of aldol, covering the  
period from December 1942, and on up to October 1943.  
The dates in each case are included and need not be  
repeated. The first three items are:  
Wasserstoff-Wechselschaltverdichter für 700 atü.  
Hydrogen valve-closing device for 700 atms.  
(It seems that the original was destroyed in  
a bomb attack, and no replacement had so far  
arrived. This reduced output to trifling  
proportions).  
Lieferung von Hydrierkontakten an die Bunanwerke.  
Delivery of hydrogenation catalysts.  
Die Hydrierung des Reinaldols bei 700 atü.  
The hydrogenation of pure aldol at 700 atms.  
The whole file is, of course, in reverse-chronological  
order.
42. Dr. P. Baumann, Marl, den 12. Mai 1943: Gross-  
technische Destillation im Haus der Technik.  
Lecture given by Dr. P. Baumann on "Large-scale  
Distillation" on May 12, 1943.
- 42a. Betriebsvorschrift für Nokal BX trocken Emulgator  
1000 Pulver.  
Directions for the manufacture of "Nokal BX, dry"  
Emulsifier 1000 powder.  
Ausgangsmaterialien, %/100 kg Ausbeute:  
Raw materials, % per 100 kilograms yield:  
28,6% Butanol rein, wasserfrei.  
28.6% pure, anhydrous, butanol.

485 - 713

714 - 781

782 - 807

C-15	42a.	24.7% Naphthalin. 24.7% naphthalene. 61.7% 98-proz. Schwefelsäure. 61.7% sulphuric acid (98%). 72.9% 24-proz. Oleum. 72.9% fuming sulphuric acid. (24%). 0.1% Sulfoäure D. 0.1% sulpho acid D. 74.3% 34.5-proz. Natronlauge. 74.3% caustic soda solution (34.5%) 10.0% Natriumhypochloritlösung. 10.0% sodium hypochlorite solution. 2.9% Kochsals. 2.9% sodium chloride. 0.7% Kalksteinmehl. 0.7% powdered limestone. 0.3% Maschinenöl, 0.3% lubricating oil.
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808 - 812

- 42b. Patentanspruch. Verfahren und Vorrichtung zur kontinuierlichen Sulfonierung und bzw. oder Neutralisation. Sulfonierung von Fettalkoholen. Verfahren zur Herstellung von Sulfonierungserzeugnissen aus höhermolekularen Alkoholen. Patentanspruch. Verfahren zur Herstellung von Sulfonierungserzeugnissen aus höhermolekularen Alkoholen.

Patent application. Process and equipment for continuous sulphonating and/or neutralization. Sulphonating of fatty alcohols. Process for the manufacture of the products of sulphonation from alcohols of higher-molecular weight. Patent application. Process for the manufacture of the products of sulphonation from the alcohols of higher molecular weight.

813 - 824

- 42c. Patentanspruch. Verfahren zur katalytischen Hydrierung aliphatischer Aldehyde oder Aldole. Patent application. Process for the catalytic hydrogenation of aliphatic aldehydes or aldols.

825 - 830

43. Über die Verwertung der 1,4-Butandioldestillationsrückstände der B III-Anlage. Bericht.  
On the utilization of 1,4-butandiol distillation residues at the B III Plant. A report. Nov. 30, 1944.

831 - 838

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44. Referat zur 26. Kuno-Sitzung. 12-13.2.1943.  
 Über den heutigen Stand des Verbundglases mit  
 Movitalen. Ueber den gegenwärtigen Stand auf dem  
 Vinylester-Gebiet.  
 Survey of the 26th Kuno board meeting. Feb.  
 12-13, 1943. On the position to date of safety  
 glass, with adhesives. On the position to date  
 of the vinyl esters. 839 - 845
45. Aceton-Essigsäure-Abteilung. Propionylchlorid aus  
 Propionsäure und Phosgen. Herstellung von  
 Propionylchlorid aus Propionsäure und Thionylchlorid.  
 Acetone acetic acid section: Propionyl chloride  
 from propionic acid and phosgene. Nov. 11, 1940.  
 Manufacture of propionyl chloride from propionic  
 acid and thionyl chloride. Aug. 26, 1940. 849 - 863A
46. Pharm. Betriebs-Labor. Jahresbericht 1943. Her-  
 stellung v. Lubisan. (Lubisan: Resorcin-mono-n-  
 butylether-kohlensäure-diethylamid).  
 Pharm. Works Lab. Annual report, 1943. Manu-  
 facture of "Lubisan". ("Lubisan" is: Resorcinol  
 mono-n-butyl ether carbonic diethylamide).  
 Nov. 28, 1943. 864 - 871
47. Kunstharze. Verbrauch der wichtigsten Rohmateri-  
 alien.  
 Synthetic resins. The most important raw  
 materials employed in the manufacture thereof.  
 (A tabular arrangement of specified raw  
 materials used in a considerable number of  
 I.G.'s synthetic resins). 872 - 986
48. Survey of I. G. products at Höchst covering 1944  
 and early 1945. The file includes a list of the  
 heads of the various departments, and the name of  
 the chief of the entire Works, who is also the head  
 of the dept. of medicinal remedies (Prof. Dr.  
 Lautenschläger) 987 - 1007
49. Dr. Hagen. Bericht Nr. 20. Versuche mit Butadien-  
 Vinylmethylkautschuk. (Zusammen mit Herrn Dr.  
 Gartner).  
 Dr. Hagen's report No. 20. Experiments with  
 butadiene-vinyl-methyl polymer. Aug. 2, 1939. 1008 - 1025

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50. Dr. Hagen. Bericht Nr. 8. Über lichtechte Buna-Stabilisatoren. Kurze zusammenfassende In teils Butylphenolsulfid wird ein Stabilisator für Buna gefunden, der in gegensatz zum Vulkanisaten keine Lichtverfärbung seit.

Dr. Hagen's report No. 8 on light-fast Buna stabilizers. Short summary: A stabilizer for Buna has been found in tertiary butylphenol sulphide, which, in contrast to phenyl-beta-naphthylamine (which was hitherto in use), shows no light-discoloration in the lighter vulcanizations. Jan. 11, 1937.

1026 - 1041

51. Charakterisierung von Stabilisatoren durch Messung der Sauerstoffaufnahme.

The characterizing of stabilizers by measuring the amount of oxygen they absorb. The account includes a number of graphs and an addendum. Jan. 18, 1940.

1042 - 1047

52. Thioglykolsäure-Äthylester.

Thioglycolic acid ethyl esters.

1048 - 1049

- 53; Technical opinions and reports, memos, and various types of correspondence on the stabilizers used with Buna S, Buna SS, Buna SS Sauer, and Per-bunan.

1050 - 1127

54. XI. Hauptversammlung der Deutschen Kautschuk-Gesellschaft vom 26.-28. Sept. 1938 in Hamburg.

11th Main Assembly of the German Rubber

Association, held on Sept. 26-28, 1938 in Hamburg.

- a. Auszug aus dem Referat von Prof. Dr. Kuhn, Kiel: "Beziehungen zwischen Konstitution und elastischem Zustand hoch-polymerer Verbindungen"

Extract from the survey by Dr. W. Kuhn of Kiel, on: "Relationship of structure to the state of elasticity in high-polymeric compounds".

- b. Auszug aus dem Referat von Dr. H. Hagen, Leverkusen: "Die Plastisierung von Buna".

Extract from the survey by Dr. H. Hagen, Leverkusen: "The plasticizing of Buna".

- c. Auszug aus dem Referat Dr. Ing. P. Nowak, Bln.-Charlottenburg: "Über den Einfluss kautschukähnlicher Hochpolymerer auf die physikalischen Eigenschaften von Buna-Mischungen".

Extract from the survey by Dr. Ing. P. Nowak, Bln.-Charlottenburg: "The influence of high-polymer of a rubber-like character on the physical qualities of Buna compounds".

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- d. Auszug aus dem Referat von Dr. P. Stöcklin, Opladen: "Über die hitzebeständige Buna-Mischungen".

Extract from the survey by Dr. P. Stöcklin, Opladen: "On heat-resisting Buna mixtures".

- e. Auszug aus dem Referat von R. Ecker, München: "Die Wertestreuung als Mass der Reproduzierbarkeit insbesondere bei Kerbsähigkeitsuntersuchungen".

Extract from the survey by R. Ecker, Munich.

1128 - 1136

55. Betreff: Versuchsanlage für synthetischen Kautschuk, Ker-Anlage in Debica, Polen. Bericht über die Besichtigung der Ker-Zahlenbuna-Fabrik in Debica am 7.5.1940. Polnischer Kautschuk "Ker".

Concerning: experimental plant for synthetic rubber, The Ker Plant; Debica, Poland. Report on the survey of the Ker "Zahlenbuna factory", Debica, on May 7, 1940. The Polish rubber "Ker". Three documents on the proposed purchase of Polish Synthetic Rubber Plant at its scrap-value (70-80 000 Reichsmarks), its transport to Leverkusen, and its incorporation in I.G.'s own synthetic rubber works.

1137 - 1149