APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R001341200043-6

Dyeing cellulose acetate with products of Anilinob'edineie. Cold dyestuffs and intermediate products. N. I. PLANOVSKII AND V. K. LARYUSHKINA. *Anilinokrasochnaya Prom.* 2, No. 2, 37-41(1932).—The colors and methods of dyeing of the textile used in Europe and America are discussed. CHAS. BLANC

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

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Development of methods for dyeing cellulose acetate with dyes of Anilobedinenie. N. I. Planovskii and V. K. Laryushkina. Anilinokrasochnaya Prom. 2, No. 7, 15-18 (1932); cf. C. A. 26, 4721.--In the preliminary communication the discussion of the use of U. S. S.R. made dyes in the dyeing of cellulose acetate is based on the review of foreign practice.

Chas. Blanc

ASM SLA METALLURGICAL LITERATURE CLASSIFICATION

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CIA

25

Properties of water-soluble sulfur dyes. N. I. Planovskii. *Anilinokrasochnaya Prom.* **1931**, No. 2-3, 36-9; *Chem. Zentr.* **1932** I, 1157. S black (Schwefelschwarz Tsch F, cf. D. R. P. 200,850, *C. A.* **3**, 2241) colors *leather* deep black without sulfite in aq. soln., shows no affinity for wool, but dyes raw silk deep black. Water-sol. S dyes obtained by oxidation appear to be suitable only for keratin-free animal fibers.

M. G. Moore

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1ST AND 2ND ORDERS

3RD AND 4TH ORDERS

PROCESSES AND PROPERTIES INDEX

Ca

2.5

Determination of optimum temperature for dyeing with substantive and acid dyes. N. I. Planovskii and B. K. Ruichkova. *Anilinokrasochnaya Prom.* 3, 89-97(1933).—A cotton fabric was dyed at temps. from 30° to the b. p. and a wool fabric at 70° to the b. p. under standard conditions; both the amt. of dye fixed by the fabric and the quality of the color were taken into account. Some substantive dyes (Anil Orange G, Anil Green 2B, etc.) give approx. the same shade at all temps., while others give varying shades (Anil Red F, Anil Violet B, etc.); others again, though giving equal intensity of coloring, give purer shades at higher temps. (Congo Red AT, Anil Fast Scarlet 4BS, etc.) or *vice versa* (Anil Orange R). These differences could not be connected with the purity of the dye. On wool a few dyes (Benzopurpurin AT4B, Anil Orange C and G, Anil Green B) give the best results, at 90°, the rest at the b. p.; the shades obtained with some (Anil Black FF, etc.) vary considerably with the temp. Acid dyes invariably give better results at the b. p. as regards both intensity and purity of color.

B. C. A.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

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APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R001341200043-6

Determination of optimum temperature for dyeing with substantive and acid dyes. N. I. Planovskii and E. K. Ruichkova. *Anilinokrasochnaya Prom.* 3, 88-97(1933).—A cotton fabric was dyed at temps. from 30° to the b. p. and a wool fabric at 70° to the b. p. under standard conditions; both the amt. of dye fixed by the fabric and the quality of the color were taken into account. Some substantive dyes (Anil Orange G, Anil Green 2B, etc.) give approx. the same shade at all temps., while others give varying shades (Anil Red F, Anil Violet B, etc.); others again, though giving equal intensity of coloring, give purer shades at higher temps. (Congo Red AT, Anil Fast Scarlet 4BS, etc.) *et vice versa* (Anil Orange R). These differences could not be connected with the purity of the dye. On wool a few dyes (Benzopurpurin AT4B, Anil Orange C and G, Anil Green B) give the best results, at 90°, the rest at the b. p.; the shades obtained with some (Anil Black FF, etc.) vary considerably with the temp. Acid dyes invariably give better results at the b. p. as regards both intensity and purity of color.

B. C. A.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

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APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R001341200043-6

COUNTRY : CZECHOSLOVAKIA
CATEGORY :

ABS. JOUR. : RZhBiol., No. 1959, No.

AUTHOR :
INST. :
TITLE :

ORIG. PUB. :

ABSTRACT : -0.1165 (error to 1 percent), the variability to -0.0187 to -0.4983. Sheep that mature less rapidly are more profitable for the flock since their wool yield does not decrease until they reach the age of 8 years; in this connection the following composition of the flock is recommended in terms of age: 25.5 percent of 3 years old sheep, 23.3 percent of 4 years old sheep, 18.3 percent of 5 years old sheep, 11.5 percent of 6 years old sheep, 10.1 percent of 7 years old sheep, 5.6 percent of 8 years

Card: 2/3

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APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R001341200043-6

COUNTRY : [illegible]
CATEGORY : [illegible]
[illegible]
[illegible] : [illegible], No. [illegible] 1959, No. [illegible]

[illegible] : [illegible]
[illegible] : [illegible]
TITLE : The Correlation [illegible] Between Live Weight, [illegible] Production in Normally Selected [illegible]

ORIG. SUB. : Polnokospodarstvo, 1957, [illegible], No [illegible], [illegible]

ABSTRACT : [illegible] the productivity of [illegible] [illegible] for the years of [illegible] [illegible] 1,[illegible] [illegible], it was established [illegible]: the correlation coefficient (r) between live weight and wool yield amounts to [illegible] (error to 1 percent); the highest r ([illegible]) was obtained for the age of [illegible] years; the lowest r ([illegible]) for the age of [illegible] years. The correlation between age and wool yield proves to be negative: average r amounts to [illegible]

CARD: 1/3

50

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APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R001341200043-6

PLANOVSKIY, N. I. Prof.

On-Color Laboratory of Scientific Research Institute for Dyes and Semi-Finished Products

Awarded Order of Lenin.

Soviet Source: Krasnaya Aveznda; N: 1 June 47, Moscow Abstracted in USAF "Treasure Island" Report No. TI 24896, on file in Library of Congress, Air Information Division.

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APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R001341200043-6

BELUGIN, V.F.; PLANOVSKIY, A.N.

Reducing multicomponent mixture to a pseudobinary. Diagrams T - Y, X and X -Y. Khim. i tekh. topl. i masel 8 no.7:36-40 Jl '63. (MIRA 16:7)

1. Moskovskiy institut khimicheskogo mashinostroyeniya.
(Distillation, Fractional)
(Phase rule and equilibrium)

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APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R001341200043-6

BOGOSLOVSKIY, V.Ye.; PLANOVSKIY, A.N.

Study of the rectification of a multicomponent mixture in a plate column. Khim. i tekh. topl. i masel 8 no.4:11-16 Ap '63. (MIRA 16:6)

(Distillation, Fractional)
(Plate towers)

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R001341200043-6

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R001341200043-6

PLANOVSKIY, Aleksandr Nikolayevich

Protsessy i apparaty khimicheskoy teknologii, (by) A.N. Planovskiy, V.M. Ramn (I) S.Z. Kagan. izd 2., dop. I perer. Moskva, Goskhimizdat, 1962 847 p. illus. , diagrs., tables. Bibliography: p. (828)-831.

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R001341200043-6

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R001341200043-6

KAVETSKIY, G.D.; PLANOVSKIY, A.N.; AKOPYAN, L.A.

Calculating the longitudinal mixing of gas and solid granular material in a packed tower. Khim. prom. no.6:449-453 Je '63. (MIRA 16:8)

(Packed towers)

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APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R001341200043-6

PLANOVSKIY, A.N.; VERTUZAYEV, Ye.D.

Division of the total coefficient of mass transformer into partial coefficients. Khim.prom. no.9:700-703 S '63. (MIRA 16:12)

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R001341200043-6

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R001341200043-6

BELUGIN, V.F.; PLANOVSKIY, A.N.

Reduction of a multicomponent mixture to a pseudobinary one, taking the reflux-to-product ratio into account. Khim. i tekh. topl. i masel 8 no.9:6-10 S '63. (MIRA 16:11)

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R001341200043-6

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R001341200043-6

PLANOVSKIY, A. N.; ZAKHAROVA, A. A.; SARUKHANOV, A. V.

Kinetic design of plate apparatus taking the mixing of the liquid phase into account. Khim prom no. 3:224-227 Mr '64. (MIRA 17:5)

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R001341200043-6

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R001341200043-6

SAKUKHANOV, A.V.; PLANOVSKIY, A.N.

Hydrodynamics and mass transfer in the liquid phase on sieve plates. Khim. prom. no. 4:289-294 Ap '64. (MIRA 17:7)

1. Moskovskiy institut khimicheskogo mashinostroyeniya.

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APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R001341200043-6

PLYASHKEVICH, N.M.; PLANOVSKIY, A.N.; BULATOV, S.N.; RYABININ, V.A.
ZELINSKAYA, L.G.

Study of caffeine extraction in the column extractor with sieve plates. Med. prom. 17 no.6:32-36 Je'63 (MIRA 17:4)

1. Vsesoyuznyy nauchno-issledovatel'skiy khimiko-farmatsevticheskiy institut imeni S. Ordzhonikidze i Moskovskiy institut khimicheskogo mashinostroyeniya.

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APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R001341200043-6

CHEKHOV, O.S.; PLANOV[illegible], [illegible]; [illegible]EKIY, Yu.A.

Accounting for liquid mixing in the calculation of mass exchange plate columns. Khim. prom. 40 no.10:768-772 O '64.
(MIRA 18:3)

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R001341200043-6

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R001341200043-6

BELOZEROV, P.A., PLANOVSKIY, A.N.; CHEKHOV, O.S.

Study of the spray hydrodynamics in a spray plate column at low pressures of liquids in a cross-flow of gas. Khim. prom. 40 no.10:733-736 O '64. (MIRA 18:2)

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R001341200043-6

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R001341200043-6

IVANOV, V.A.; ILANOVSKIY, A.M.

Kinetic calculations of plant towers with the use of the enthalpy diagram. Khim. prom. 41 no.8:609-611 Ag '65. (MIRA 18:9)

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DANILYCHEV, I.A.; PLANOVSKIY, A.N.; CHEKHOV, O.S.

Study of mixing on sieve trays and methodology for the design of tray mass exchange apparatus. Khim. prom. no.6:461-465 Je '64. (MIRA 18:7)

1. Moskovskiy institut khimicheskogo mashinostroyeniya.

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APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R001341200043-6

GAZANCHIYANTS, M.G.; MARTYUCHIN, I.G.; PLANOVSKIY, A.N.

Mixing of gas in apparatus with a fluidized bed and stepped sieve plates. Khim. i tekh. topl. i masel 10 no.9:38-42 S '65.
(MIRA 18:9)

1. Moskovskiy institut khimicheskogo mashinostroyeniya.

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APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R001341200043-6

BELUGIN, V.F.; PLANOVSKIY, A.N.

Diagram t-x-y for multicomponent mixtures. Khim. i neft. mash. i masel 10 no.2:9-13 F '65. (MIRA 18:3)

1. Moskovskiy institut khimicheskogo mashinostroyeniya.

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R001341200043-6

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R001341200043-6

DANILYCHEV, I.A.; PLANOVSKIY, A.N.; CHEKHOV, O.S.

Studying mass transfer in the liquid phase on sieve plates taking the degree of longitudinal mixing into account. Khim. prom. 41 no.10:766-769 O '65. (MIRA 18:11)

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R001341200043-6

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R001341200043-6

GAZANCHIYANTS, M.G.; LASTOVTSEV, A.M.; MARTYUSHIN, I.G.; PLANOVSKIY, A.N.; KHARAKOZ, V.V.; SHNAYDER, Ye.Ye.

Apparatus for the processing of finely dispersed vegetable materials. Gidroliz. i lesokhim. prom. 18 no.6:5-6 '65. (MIRA 18:9)

1. Moskovskiy institut khimicheskogo mashinostroyeniya (for all except Shnayder). 2. Vsesoyuznyy nauchno-issledovatel'skiy institut biosinteza belkovykh veshchestv (for Shnayder).

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VERTUZAYEV, Ye.D.; PLANOVSKIY, A.N.

Kinetic equations for calculating the efficiency of sieve-plate extraction columns. Zhur.prikl.khim. 36 no.2:295-298 F '63. (MIRA 16:3)

1. Moskovskiy institut khimicheskogo mashinostroyeniya.
(Extraction apparatus)

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APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R001341200043-6

BOGOSLOVSKIY, V.Ye.; PLANOVSKIY, A.N.

On the kinetic calculation of the process of rectification of multicomponent mixtures based on mass transfer equations. Khim. i tekh.topl.i masel 8 no.1:11-15 Ja '63. (MIRA 16:2)

1. Moskovskiy institut khimicheskogo mashinostroyeniya.
(Distillation, Fractional) (Mass transfer)

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KAVETSKIY, G.D.; PLANOVSKIY, A.N.

Flow of a solid granular material in an ascending stream of gas in packed columns. Khim.i tekh.topl. i masel 7 no.11:8-12 N '62.
(MIRA 15:12)

1. Moskovskiy institut khimicheskogo mashinostroyeniya.
(Granular materials) (Packed towers)

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SOLOMAKHA, G.P.; PLANOVSKIY, A.N.

Relationship between mass transfer in the gaseous phase and hydraulic parameters in bubbling (sieve plates). Khim.i tekh.topl.i masel 7 no.6:1-7 Je '62. (MIRA 15:7)

1. Gosudarstvennyy nauchno-issledovatel'skiy institut organicheskikh poluproduktov i krasiteley i Moskovskiy institut khimicheskogo mashinostroyeniya.
(Plate towers)

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USTINOV, B.M.; PLANOVSKIY, A.N.

Conditions for the stabilization of work of gas distribution units in fluid-bed reactors. Khim.prom. no.11:851-854 N '62. (MIRA 16:2)

(Fluidization)

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R001341200043-6

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R001341200043-6

PLANOVSKIY, A.N.; BULATOV, S.N.

Analytical computation of the number of actual plates in a column-type mass transfer apparatus. Khim.prom. no.9: 592-596 Ag '62. (MIRA 15:9)

(Plate towers)

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APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R001341200043-6

PLANOVSKIY, A.N.; BULATOV, S.N.; VERTUZAYEV, Ye.D.

Design of sieve-plate column extractors. Khim.prom. no.5:364-367 My '62. (MIRA 15:7)

(Extraction apparatus)

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APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R001341200043-6

BOYARCHUK, P.G.; PLANOVSKIY, A.N., doktor tekhn.nauk

Kinetics of mass transfer in wetted-wall rectification columns.
Khim.prom. no.3:195-200 Mr '62. (MIRA 15:4)
(Distillation apparatus) (Mass transfer)

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PLANOVSKIY, Aleksandr Nikolayevich; RAMM, Vitaliy Maksimovich; KAGAN, Solomon Zakharovich; AVRAMOVA, N.S., red.; RATMANSKIY, M.N., red.; KOGAN, V.V., tekhn. red.

[Unit operations and equipment of chemical engineering]Protsessy i apparaty khimicheskoi tekhnologii. Izd.2., dop. i perer. Moskva, Goskhimizdat, 1962. 847 p. (MIRA 16:3)
(Chemical engineering--Equipment and supplies)

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R001341200043-6

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R001341200043-6

IVANYUKOV, Demid Vasil'yevich; PLANOVSKIY, A.N., prof., red.; KLEYMENOVA, K.F., ved. red.; STAROSTINA, L.D., tekhn. red.

[Developing and introducing new technical methods and equipment; work experience of a petroleum refinery]Razrabotka i vnedrenie novoi tekhniki; opyt neftepererabatyvaiushchego zavoda. Pod red. A.N.Planovskogo. Moskva, Gostoptekhizdat, 1962. 195 p. (MIRA 16:3)
(Petroleum--Refining)

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R001341200043-6

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R001341200043-6

ORLOV, B.N.; PLANOVSKIY, A.N.

Effect of vapor velocity on the coefficients of mass transfer of the vapor and liquid phases in the course of the rectification process in a plate unit. Khim.i tekh.topl.i masel 6 no.3:7-10 Mr '61. (MIRA 14:3)

1. Moskovskiy institut khimicheskogo mashinostroyeniya.
(Distillation, Fractional)

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APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R001341200043-6

PLANOVSKIY, Aleksandr Nikolayevich; GUREVICH, Daniil Abramovich; MASANOV, ~~N.I., retsenzent; ROMANKOV,~~ P.G., doktor tekhn. nauk, prof., retsenzent; PAVLUSHENKO, I.S., kand. khim. nauk, dots., retsenzent; PASSET, B.V., kand. khim. nauk, retsenzent; AZBEL', D.S., red.; SHPAK, Ye.G., tekhn. red.

[Apparatus for the industry of organic intermediate products and dyes] Apparatura promyshlennosti organicheskikh poluproduktov i krasitelei. Moskva, Goskhimizdat, 1961. 504 p. (MIRA 15:6)
(Dyes and dyeing--Apparatus)
(Chemical apparatus)

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R001341200043-6

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R001341200043-6

BAGATUROV, Sergey Aleksandrovich; PLANOVSKIY, A.N., doktor tekhn. nauk, prof., retsenzent; SKOBLO, A.I., dots. retsenzent; TREGUBOVA, I.A., dots., retsenzent; BABUSHKINA, S.I., vedushchiy red.; POLOSINA, A.S., tekhn. red.

[Theory and calculation of distillation and rectification] Teoriia i raschet peregonki i rektifikatsii. Moskva, Gos. nauchno-tekhn. izd-vo neft. i gorno-toplivnoi lit-ry, 1961. 435 p. (MIRA 14:10)
(Distillation--Tables, calculations, etc.)

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R001341200043-6

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R001341200043-6

KASATKIN, A.G.; PLANOVSKIY, A.N.; CHEKHOV, O.S.; GERTSIK, S., red.; KASHIRIN, A., tekhn. red.

[Calculation of plate distillation and absorption apparatus] Raschet tarel'chatykh rektifikatsionnykh i absorbtsionnykh apparatov. Moskva, Gos. izd-vo standartov, 1961. 80 p. (MIRA 14:8)

(Plate towers)

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R001341200043-6

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R001341200043-6

KOL'TSOV, K.S.; PLANOVSKIY, A.N.

Effect of the concentration and the physicochemical properties of mixtures being separated by rectification on the mass transfer coefficient. Khim. prom. no. 7:573-577 O-N '60. (MIRA 13:12)

(Distillation, Fractional) (Mass transfer)

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APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R001341200043-6

PLANOVSKIY, A.N.; BRAYNES, Ya.M.

"Examples and problems for a course in the processes and equipment of chemical technology" by K.F.Pavlov, P.G. Romankov, A.A.Noskov. Reviewed by A.N.Planovskii, IA.M. Braines. Khim.prom. no.4:348-349 Je '60.
(MIRA 13:8)

(Chemical engineering--Problems, exercises, etc.)
(Pavlov, K.F.) (Romankov, P.G.) (Noskov, A.A.)

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R001341200043-6

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Examples and Tasks for the Course on Processes and Apparatus of Chemical Technology by K. F. Pavlov, P. G. Romankov, A. A. Noskov

S/064/60/000/004/020/021/XX
B013/B060

with adsorption and extraction. The 10th chapter gives examples for the calculation of moderate and low-temperature cooling. It is finally noted that it would be desirable to issue a collection volume with calculation diagrams and nomograms on a suitable scale to be added to the book under discussion. Lyashchenko, M. A. Mikheyev, M. A. Kichigin, G. N. Kostenko, A. G. Kasatkin are mentioned. There is 1 Soviet reference.

Card 3/3

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R001341200043-6

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R001341200043-6

Examples and Tasks for the Course on Processes and Apparatus of Chemical Technology by K. F. Pavlov, P. G. Romankov, A. A. Noskov

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3213/RO

encompasses all the sections of the course and contains [illegible]0 examples and 346 examination tasks. The 1st chapter gives examples for the calculation of specific gravity, density, and viscosity of pure liquids and gases, of mixtures, suspensions, etc. The calculations of hydraulic resistances are conformed to chemical apparatus. The 2nd chapter contains examples for calculations in connection with the type selection and the dimensions of pumps, ventilators, compressors, as well as the power consumed by them. The 3rd chapter offers examples for the calculation of sedimentation processes according to gravitation and centrifugal forces, of filtration, centrifuging, and mixing. The 4th chapter on chemical separation is very thoroughly dealt with in the 5th chapter. The 6th chapter deals with evaporation and crystallization, and the 7th chapter deals with the drying process. The 8th chapter has examples for the calculation of distillation, rectification, [illegible] as well as examples for the construction and application of enthalpy diagrams. The 8th and 9th chapters, which were [illegible] in the earlier editions, [illegible]

Card 2/3

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S/064/60/00 / 04/02 021/XX
B013/B06

AUTHORS: [redacted], Braynes, Ya. L.

TITLE: Examples and Tasks for the Course on Processes and Apparatus of Chemical Technology by V. F. Pavlov, P. G. Romankov, A. A. Noskov

PERIODICAL: Khimicheskaya promyshlennost', 1960, No. 1, pp. 84-85

TEXT: This is a review of the book by V. F. Pavlov, P. G. Romankov, A. A. Noskov: "Primery i zadachi po kursu protsessov i apparatov khimicheskoy tekhnologii", fourth completed and revised edition, published by "Goskhimizdat" in 1959, 374 pages. This collective work whose first edition appeared in 1947, contains 10 chapters in the succession prescribed for educational courses at institutes of chemical technology. The 4th edition has been completed by chapters on "Adsorption" and "Extraction". An appendix contains 61 tables and 34 diagrams and nomograms. The fact is stressed that the book fulfills its purpose. The systematic structure of every chapter is correct. The book

Card 1/3

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ORLOV, B.N., inzh.; PLANOVSKIY, A.N., doktor tekhn.nauk, prof.

Experimental determination of mass transfer coefficients in plate towers. Khim. mash. no. 3:24-25 My-Je '60. (MIRA 14:5)
(Plate towers) (Mass transfer)

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R001341200043-6

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R001341200043-6

PLANOVSKIY, A.N., doktor tekhn.nauk, prof.; BULATOV, S.N., inzh.

Calculation for the separation compartment in column extractors with sieve plates. Khim. mash. no. 3:9-11 My-Je '60. (MIRA 14:5)

(Plate towers)

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R001341200043-6

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R001341200043-6

PIANOVSKIY, A.N., CHEKHOV, O.S., ARTAMONOV, D.S.

Hydraulic resistance of plates of different design.
Khim.prom. 2:151-152 My '60. (MIRA 13:7)
(Plate towers)

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R001341200043-6

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R001341200043-6

PLANOVSKIY, A.N., doktor tekhn.nauk prof.; BULATOV, S.N., inzh.

Calculation for the overflowing system of column extractors equipped with perforated plates. Khim.mash. no.2:10-13 Mr-Ap '60. (MIRA 13:6)

(Plate towers)

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R001341200043-6

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R001341200043-6

FLANOVSKIY, A.N., doktor tekhn.nauk prof.; ARTAMONOV, D.S., inzh.; CHEKHOV, O.S., kand.tekhn.nauk

Mass transfer in the liquid phase in bubble plate columns. Khim.mash. no.1:13-16 Ja '60. (MIRA 13:5)
(Plate towers) (Mass transfer)

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R001341200043-6

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R001341200043-6

FOKIN, A.P.; PLANOVSKIY, A.N.; AKOPYAN, L.A.

Studying mass transfer during the drying of high-moisture content products by means of atomizing in a uniflow apparatus. Plast. massy no.8:43-44 '64. (MIRA 17:12)

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R001341200043-6

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R001341200043-6

PHASE I BOOK EXPLOITATION SOV/4860

Planovskiy, Aleksandr Nikolayevich, and Petr Ivanovich Nikolayev

Protsessy i apparaty khimicheskoy i neftekhimicheskoy tekhnologii (Processes and Apparatus of Chemical and Petrochemical Technology) Moscow, Gostoptekhizdat, 1960. 551 p. 13,000 copies printed.

Reviewer: Kafedra protsessov i apparatov Leningradskogo tekhnologicheskogo instituta imeni Lensoveta and D.I. Orochko, Doctor of Technical Sciences, Professor. Executive Editor: K.F. Kleymenova. Tech. Ed.: I.G. Fedotova.

PURPOSE: This textbook is intended for students in schools of higher education. It may also be used by designers of chemical equipment.

COVERAGE: This is the textbook used in the course "Processes and Apparatus of Chemical Technology" given at chemical machine-building institutes and at chemical technology schools of higher education. The material stresses the kinetics of processes and excludes hydraulics, compressors, and pumps. It incorporates the idea of one kinetic law for chemical and technological processes as advocated by Professor P.G. Romankov. This course is intended

Card 1/2

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APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R001341200043-6

C.0000

AUTHORS: Akopyan, L. A., Pla[illegible], A. [illegible] (Professor), [illegible], A. G. (Professor)

TITLE: Letter to the Editor. Reply to V. V. Kafarov's letter to the Editor

PERIODICAL: Khimicheskaya nauka i promyshlennost', [illegible], Vol. 1, Nr [illegible], p 813 (USSR)

ABSTRACT: This is an answer to V. V. Kafarov's criticism of the authors' article (see Abstract [illegible] for criticism). It is claimed that the term "optimum" was defined as applying to maximum yield per unit volume of column and that the mass transfer equations contained the simplex G/L which does introduce the viscosities of the liquid into the final equation.

Card 1/1

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44

AUTHOR: Vlasenkov, L. A. and Planovskiy, A. N.

TITLE: Investigation of the kinetics of the continuous adsorption process in a pseudoliquefied layer of fine grain adsorbent

PERIODICAL: Referativnyy zhurnal, Khimiya, no. 5, 1963, 325, abstract 5I108, (Tr. Ves. n-i. in-t. po pererabotke nefti i nolucheniyu isskustv. zhiak. topliva, 1959, no. 8, 96-114)

TEXT: The results of a process of continuous adsorption are given, in particular, in the separation of hydrogen from methane-hydrogen mixtures by means of adsorption on activated charcoal. The equations are given for determination of the rate of pseudoliquefication in the presence of laminar and turbulent currents. In the general case, the coefficients of mass transport in seperate sections of a multi-stage apparatus may have different values. G. Lemeshko.

[Abstractor's note: Complete translation]

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14(5)

SOV/92-59-1-26/36

AUTHOR: Planovskiy, A., Member of the Scientific and Technical Committee of the Council of Ministers of USSR

TITLE: The Choice of Selective Solvents Should Be Made Properly (Pravil'no vybirat' selektivnyye rastvoriteli)

PERIODICAL: Neftyanik, 1959, Nr 1, p 31 (USSR)

ABSTRACT: The author expresses his agreement with A. M. Kuliyev et al. who emphasized in Neftyanik, 1955, Nr 9, the importance of choosing the selective solvent with consideration of the properties of the initial crude stock and of the end product. Following recommendations of scientific research institutes, refineries use at present phenol and furfural as selective solvents. The question of additional treatment with sulfuric acid should be examined in every individual case, taking into account the quality of oil which has to be produced and considerations of a technical and economic nature.

Card 1/1

State Sci. Res. & Planning Inst. Petroleum Machine Building

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The Chemical Industry of the USSR SOV/4054

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Birger, G.Ye., and A.A. Konkin. The Chemical Fibers Industry 111

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APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R001341200043-6

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R001341200043-6

The Chemical Industry of the USSR SOV/4054

COVERAGE: This book contains 18 articles on various aspects of the Soviet chemical industry. Among the developments in the production of raw materials for the manufacture of chemical products discussed are: 1) the use of raw materials synthesized from natural gas and petroleum to replace food products in the production of synthetic rubber, alcohol, detergents, etc.; 2) the production of acetylene from natural and petroleum gases for the synthesis of vinyl chloride, acrilonitrile, chloroprene, trichloroprene, 1, 4-butadiene, and other organic substances, based on methods developed by M. G. Kucherov, A.Ye. Favorskiy and others; 3) the production of acetylene from saturated hydrocarbons by cracking methane (and its homologs) at 1450° in an electric arc between two special electrodes in a gas reactor, by pyrolysis (thermal oxidation) of methane in an improved furnace designed by B. S. Grinenko, by high-temperature pyrolysis of propane and butane in tubular furnaces, or by other methods of producing acetylene for the production of synthetic rubber, ethyl alcohol, and other organic substances; 4) the synthesis of halogen derivatives of aliphatic hydrocarbons for the production of solvents, refrigerants, pharmaceutical products, etc., and 5) the production of rubber accelerators from nitrogen-containing aliphatic hydrocarbons. The history of plastics production in the Soviet Union is reviewed, and names, locations, and products of plants as well as the names of outstanding personalities in the field are given. The technical level and prospects of further development of different branches of the plastics industries are also discussed

Card 2/6

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PLANOVSKIY, A. N.

PHASE I BOOK EXPLOITATION SOV/4054

Akademiya nauk SSSR. Institut nauchnoy informatsii

Khimicheskaya promyshlennost' SSSR (The Chemical Industry of the USSR) Moscow, Goskhimizdat, 1959. 457 p. Errata slip inserted. 4,100 copies printed.

Sponsoring Agency: USSR. Gosudarstvennyy nauchno-tekhnicheskiy komitet.

Ed.: R. S. Romm; Tech. Ed.: P. V. Pogudkin; Editorial Board: A. P. Vinogradov, S. I. Vol'fkovich, N. M. Zhavoronkov, M. I. Ivanov, V. S. Kiselev, I. A. Lunacharskaya (Scientific Secretary), S. S. Medvedev, B. D. Mel'nik, A. N. Planovskiy, A. Ya. Ryabenko (Chief Ed.), and A. V. Topchiyev.

PURPOSE: This book is intended for the personnel of the chemical industry. It will be of interest to the general reader interested in the development and structure of the Soviet chemical industry.

Card 1/6

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PLANOVSKIY, A. N., OROCHKO, [illegible] I.

"Principles of Improving Flow Reaction Efficiency in Petrochemical Processes."

Report submitted at the Fifth World Petroleum Congress, 30 May - 5 June 1959. New York.

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R001341200043-6

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R001341200043-6

SOV/65-58-9-2/16

Kinetics of a Continuous Adsorption Process in a Pseudoliquified Layer.

outward diffusion. At very low degrees of saturation the adsorption process is determined by the outward diffusion; this is confirmed by the very high values of the mass transfer coefficients. There are 5 Figures and 5 References: 4 Soviet and 1 English

ASSOCIATION: VNII NP

1. Activated carbon--Adsorptive properties 2. Gases--Separation
3. Refineries--Performance 4. Adsorbents--Performance

Card 3/3

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SOV/65-58-9-2/16

Kinetics of a Continuous Adsorption Process in a Pseudoliquified Layer.

achieve the most characteristic conditions of the process. Equations for calculating these conditions are given. Furthermore, the values of the mass transfer coefficients for each section of the apparatus were defined. Two methods of calculating these coefficients are discussed, and values of the same for sections of a five-stage adsorber under various conditions of work are given (Figs. 3 and 4). The rate of outward diffusion from the current to the surface of the adsorbent grains and of inward diffusion along the macro-pores in the grain to the adsorbing surface are defined and calculated. It was concluded that the degree of saturation of the adsorbent is a decisive factor during the definition of the diffusion resistance. The adsorption takes place in the region of inward diffusion when the degree of saturation of the adsorbent = 0.9 and higher. When the degree of saturation of the adsorbent lies within the limit of 0.8 - 0.9 the rate of the process is determined by inward as well as

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SOV/65-58-9-2/16

AUTHORS: Planovskiy, A. N. and Vlasenkov, L. A.

TITLE: Kinetics of a Continuous Adsorption Process in a Pseudo-Liquified Layer. (Kinetika protsessa nepreryvnoy adsorbtsii v psevdoozhizhennom sloye)

PERIODICAL: Khimiya i Tekhnologiya Topliv i Masel, 1958, Nr 9, pp 7 - 13, (USSR)

ABSTRACT: The authors investigated the kinetics of a continuous adsorption process in a pseudo-liquified layer of finely-grained adsorbent. Investigations were carried out in a continuously working plant with five-stage adsorber and desorber. The internal diameter of the apparatus was 50 mm, the height of the layer in each section = 50 mm. The fraction 104-75 MK of industrial activated carbon grade E. was used as adsorbent. Methane-hydrogen mixtures of varying compositions were subjected to separation. The lay-out of the plant is shown in Fig.1. Isotherm of methane adsorption was taken off by the dynamic method. During the experiments precautions were taken to achieve the minimum circulation of the adsorbent in the system. (Fig. 2). Kinetic investigations were carried out at constant circulation of the adsorbent (73 g/minute) and various gas velocities. The gas consumption was adjusted to

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PLANOVSKIY, A.N. ; SOLOMAKHA, G.P.

Dependence between mass transfer in the gas phase and hydraulic parameters in bubbling. Khim. i tekh. topl. i masel 7 no.10:1-8 O'62 (MIRA 27:2)

1. Nauchno-issledovatel'skiy institut organicheskikh poluproduktov i krasiteley i Moskovskiy institut khimicheskogo mashinostroyeniya.

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APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R001341200043-6

On the Problem of Experimental Determination of the Drop Size During Investigations of Extraction Columns With Filter Plates

successfully employed for the determination of the drop formation in liquid-liquid extractions as well as for further detailed experiments in the processes.

$$d_{equiv.} = 1.240 \sqrt[3]{QT_{mean}} \quad [cm] \qquad (8)$$

There are 4 figures and 7 references, 2 of which are Soviet.

ASSOCIATION: Kafedra protsessov i apparatov khimicheskoy tekhnologii Moskovskogo instituta khimicheskogo mashinostroyeniya (Chair of Processes and Apparatuses of the Chemical Technology of the Moscow Institute for Chemical Machine-Building)

SUBMITTED: May 27, 1958

USCOMM-DC-61130

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APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R001341200043-6

On the Problem of Experimental Determination of the Drop Size During Investigations of Extraction Columns With Filter Plates

$$d_{equivalent} = \sqrt[3]{\frac{6Qt}{\pi n}} = 1.240 \sqrt[3]{\frac{Qt}{n}} \quad [cm]$$

The advantages of the electromechanical method are the great precision in determining the size of drops and the possibility of working on dyed liquids. A disadvantage of this method is the fact that only liquids of different electric conductivities may be used. The oscillograph method permits an exact determination of the drop size, of the period of drop formation, of the equivalent diameter of drops as well as of the frequency of the drop formation. Formula (3) is suggested for measuring the frequency of the drop formation ν [1/sec]:

$$\nu = \frac{m}{t} = \frac{m}{at'} \left[1/sec\right] \quad (3) \qquad T = \frac{t}{m} = \frac{at'}{m} = \frac{1}{\nu} \left[sec\right] \quad (4)$$

The formation period of the drops is calculated according to formula (4) by means of the recorded oscillograms. The equivalent diameter of the drops is calculated according to formula (8). The sliding oscillograph (MPO-2) may be used instead of the cathode oscillograph. The suggested methods are

Card 2/3

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APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R001341200043-6

AUTHORS: Planovskiy, A. N., Bulatov, S. N. SOV/156-58-4-49/49

TITLE: On the Problem of Experimental Determination of the Drop Size During Investigations of Extraction Columns With Filter Plates (K voprosu ob eksperimental'nom opredelenii razmera kapel' pri issledovanii raboty ekstraktsionnykh kolonn s sitchatymi tarelkami)

PERIODICAL: Nauchnyye doklady vysshey shkoly. Khimiya i khimicheskaya tekhnologiya, 1958, Nr 4, pp 804-809 (USSR)

ABSTRACT: For an investigation of the hydrodynamic conditions while working on extraction columns with filter plates and for the determination of the equivalent drop size diameter the following two methods were suggested: the electromechanical and the oscillograph methods. For determining the drop size according to the electromechanical method, a special apparatus was used; the respective scheme is given in table 1. The electric arrangement is schematically indicated (2). The apparatus is suitable for determining the drop size under constant and varying frequency of the drop formation to a frequency range of 20-25 cycles. For the calculation of the equivalent diameter of the drops, the following formula (2) is suggested:

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SOV/[illegible]

The Problem of Calculating Columns With Inserts Operating Under Optimum Conditions

There are 2 graphs, and 16 references, 8 of which are Soviet, 5 English and 3 American.

Card 2/2

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APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R001341200043-6

SOV/63-3-6-7/[illegible]

AUTHORS: Akopyan, [illegible], Candidate of Technical Sciences; Planovskiy, A.N., Professor; Kasatkin, A.G., Professor

TITLE: The Problem of Calculating Columns With Inserts Operating Under Optimum Conditions (K voprosu o raschëte nasadochnykh kolonn, rabotayushchikh na optimal'nom reshime)

PERIODICAL: Khimicheskaya nauka i promyshlennost', 1958, Vol III, Nr 6, pp 745-747 (USSR)

ABSTRACT: For the calculation of the capacity of columns with inserts the relation between the different liquid flows and the kinetic laws of the hydrodynamic condition must be considered. The interaction of the gas and liquid flows makes the introduction of an additional criterium $\frac{G}{L}$ necessary, where G is the weight speed of the gas and L that of the liquid, both measured in $kg/m^2 \cdot h$. In Figure 1 the experimental data of different authors are presented [Ref. 5 - 16] who have investigated the systems gas-liquid and vapor-liquid. Equation (9) gives the optimum speed of the flow, equation (8) the coefficient of mass transmission.

Card 1/2

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APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R001341200043-6

PLANOVSKIY, A.N.; MATROZOV, V.I.; CHEKHOV, O.S.; SOLOMAKHA, G.P.

Relationship between mass transfer and liquid resistance on bubble-cap and sieve plates. Khim. i tekh. topl. i masel 3 no.3:30-33 Mr '58. (MIRA 11:3)

1.Moskovskiy institut khimicheskogo mashinostroyeniya.
(Plate towers)

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R001341200043-6

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R001341200043-6

PLANOVSKIY, A.N.; OROCHKO, D.I.

Discussion opposing K.P. Lavrovskii, A.M. Brodskii, P.I. Lab'iazov, A.N. Planovskii, D.I. Orochko against. Khim. i tekh. topl. i masel 3 no.1:69-71 Ja '58. (MIRA 11:2)

(Cracking process)

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R001341200043-6

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R001341200043-6

PLANOVSKIY, A.N.

GZOVSKIY, S.Ya.; PLANOVSKIY, A.N.

Investigating mass transfer in the solution of the solid phase in a liquid. Khim. prom. no.6:363-365 S '57. (MIRA 11:1)
(Mass transfer) (Solution (Chemistry))

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R001341200043-6

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R001341200043-6

USSR/Chemistry - Chemical engineering, Heat transfer/ FD-2726

Card 1/1 Pub. 50 - 9/26

Authors : Rychkov, A. I., Pinchevskiy, A. N.

Title : An equation for calculations to determine the coefficients of heat transfer in connection with the boiling of liquids

Periodical : Khim. prom. No 5, 287-290, Jul-Aug 1955

Abstract : Equations for the calculation of heat transfer by convection in boiling liquids are derived. Data for various liquids are used in connection with the derivation, including some on oxygen and Freon-12 taken from USSR sources. Four graphs, 2 tables. Seventeen references; 11 USSR, 6 since 1940.

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APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R001341200043-6

USSR/Processes and Equipment for Chemical Industries-- Processes and apparatus of chemical technology. K-1

Abs Jour: Ref Zhur-Khimiya, No 3, 1957, 10615

Abstract: form of the generalization of experimental results by a criterial equation.

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APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R001341200043-6

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R001341200043-6

USSR/Processes and Equipment for Chemical Industries-- Processes and apparatus of chemical technology. K-1

Abs Jour: Ref Zhur-Khimiya, No 3, 1957, 10615

Abstract: m_{xt} and m_{yt} are the units of mass transferred per plate when the driving force is expressed in terms of the concentration of the liquid (x) and of the vapor (y), respectively; K_{xv} and K_{yv} are the coefficients of mass transfer for the liquid and for the vapor, respectively; V_t is the volume of liquid on the plate; G and L are the amounts of vapor and liquid consumed. The application of the above equations is possible when the values of K_{xv} and K_{yv} are known; the determination of the values of these coefficients as functions of the hydrodynamic and diffusion characteristics of the system constitutes the basic task in the investigation of the kinetics of mass transfer in plate columns. The authors demonstrate the application of equations (1) and (2) to the determination of the number of plates required for the achievement of a given degree of separation and indicate the

Card 2/3

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APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R001341200043-6

PLANOVSKIY, A. N.

USSR/Processes and Equipment for Chemical Industries-- K-1
Processes and apparatus for chemical technology.

Abs Jour: Ref Zhur-Khimiya, No 3, 1957, 10615

Author : Planovskiy, A. N. and Kasatkin, A. G.
Inst : Not given
Title : On the Question of the Calculation of Plate Columns

Orig Pub: Khim. prom-st, 1955, No 3, 152-156

Abstract: A method is proposed for the calculation of plate columns which takes into account the kinetic relationships expressed by the basic mass-transfer equations. Depending on the nature of the interacting materials taking part in the process, plate colums may be subdivided into complete displacement, complete substitution, and intermediate types equipment (A. N. Planovskiy, Khim. prom-st, 1944, No 5, 5; No 6, 5). For the general case, the plate is discussed as an intermediate type of equipment; the authors present the equation $m_{xt} = K_{xv}V_t/L$ (I) and the equation $m_{yt} = K_{yv}V_t/G$ (II), where

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PLANOVSKIY, Aleksandr Nikolayevich; RAMM, Vitaliy Maksimovich; KAGAN, Solomon Zakharovich; KUROCHKINA, M.I., redaktor; ERLIKH, Ye.Ya., tekhnicheskiy redaktor

[Processes and equipment in chemical technology] Protsessy i apparaty khimicheskoi tekhnologii. Moskva, Gos.nauchno-tekhn. izd-vo khim.lit-ry, 1955. 580 p. (MIRA 9:3)
(Chemical engineering--Apparatus and supplies)

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APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R001341200043-6

PLANOVSKIY, A.N.

MATROZOV, V.I., kandidat tekhnicheskikh nauk; PLANOVSKIY, A.N., professor, retsenzent; MALYUSOV, V.A., kandidat tekhnicheskikh nauk, redaktor; MODEL', B.I., tekhnicheskiy redaktor

[Apparatus for molecular distillation] Apparatura dlia molekuliarnoi distilliatsii. Moskva, Gos. nauchno-tekhn. izd-vo mashinostroitel'noi lit-ry, 1954. 143 p. (MIRA 8:4)
(Distillation apparatus)

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R001341200043-6

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R001341200043-6

DIN VEY [Ting Wei]; GZOVSKIY, S.Ya.; PLANOVSKIY, A.N.

Study of the kinetics of solution during mixing by mechanical mixers. Khim. prom. no.4:286-292 Ap '63. (MIRA 16:8)

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PLANOVSKIY, A.N.

USSR/Processes and Equipment for Chemical Industries-- K-1
Processes and apparatus for chemical technology.

Abs Jour: Ref Zhur-Khimiya, No 3, 1957, 10613

Author : Planovskiy, A. N. and Kasatkin, A. G.
Inst : Not given
Title : On Methods of Expressing the Driving Force in Diffusion Processes

Orig Pub: Khim. prom-st, 1953, No 9, 32-38

Abstract: On the basis of an analysis of the various methods used for expressing the driving force in diffusion processes, the authors have concluded that the correct methods for expressing that force are those based on the general mass-transfer laws, i. e., the method of the average driving force and the method based on the transfer of unit mass. It is shown that the first method is applicable to the design of apparatus of known interphase contact area, while the second method can be applied to the design of equipment of indeterminate interface. The

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PLANOVSKIY, A. N., Prof

Dec 1947

USSR/Chemistry - Synthesis

"Soviet Organic Synthetics Industry for Thirty Years," Prof A. N. Planovskiy, Dr Tech Sci, 4½ pp

"Khim Prom" No 12

Briefly describes some of more important advances made during past 30 years in organic synthetics industry, one of most important branches of chemical industry in present-day USSR. Said industry possible because of large crude oil and fuel production.

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PROCESSES AND PROPERTIES INDEX

C A

Evaporator calculations. A. N. Planovskii, A. I. Rychkov, and V. M. Lekal. *Khim. Prom.* 1947, No. 3, 11-14.—The accepted Tishchenko overall equation for the heat balance of an evaporator train introduces assumptions and simplifications that are inadmissible for solns. having appreciable b.-p. elevations or heats of soln

More accurate results are obtained by calcg. each evaporating unit separately, starting with the unit of highest concn. The two equations needed for the calcn. of an m-unit evaporator are: $D_m = W_m \frac{i_m - c_{nm} t_{nm}}{\lambda_m - \theta_m} + G_{bm} \frac{c_{bm} t_{bm} - c_{nm} t_{nm} + (x_{bm}/100)\Delta q_m + Q_{nm}}{\lambda_m - \theta_m}$ and $W_{m-1} = D_m$, where D is the steam delivered to a given unit in kg./hr., W is the H_2O evapd. in kg./hr., λ is the heat content of steam in kcal./kg., i heat content of evapd. H_2O in kcal./kg., c_n initial heat capacity of soln. in kcal./kg. °C., c_b heat capacity of concd. soln. kcal./kg. °C., t_n temp. of soln. fed into the unit in °C., t_b b.p. of soln. in given unit in °C., θ temp. of condensate leaving the heating compartment of the unit °C., G_b quantity of concd. soln. in kg./hr., x_b concn. of concd. soln. in %, Δq thermal effect of dewatering the soln. from x_n (initial concn.) to x_b kcal./kg. of solid, Q_n heat losses of the unit kcal./hr. First is detd. the total quantity of evapd. H_2O for the entire train from $W = G_n(1 - x_n/x_b)$, where G_n is the quantity of soln. in kg. delivered per hr. The total quantity of evapd. H_2O is then distributed evenly over the units. Next is detd. the useful temp. range, and it also is evenly divided for all unit. Then there are detd. the consumption of steam and the H_2O evapd. for each unit and the ratio of these quantities

M. Hosch

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CA

Calculation of packed rectification columns. A. N. Planovskii and V. V. Kafarov. *Khimicheskaya Prom.* 1945, No. 3, 16-20.—The equation of Bain and Hougen (*C.A.* 38, 1005[8]) for detn. of flooding velocities in packed columns is adapted to metric units and applied to the detn. of the diam. of a packed rectifying column for the optimum vapor velocity. The height equiv. to a theoretical plate is calcd. from $h = h_0 P_0 w / P w_0$, where h is the height in m., h_0 is the equiv. height known for P_0 and w_0 (known vapor pressure and known vapor velocity), and P and W are the new vapor pressure and velocity. Sample calcns. based on these equations are quoted.

M. Hosek

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PROCESSES AND PROPERTIES INDEX

Continuous process for production of chlorobenzene. A. N. Planovskii and V. S. Khalfov. *Khimicheskaya Prom.* **1945**, No. 1, 15-19. cf. *Khimicheskaya Prom.* **1944**, No. 5, 6, and No. 6, 5.—Successful chlorination of benzene depends on physicochem. and technological factors, e.g., the nature of the catalyst, its concn., the temp., and length of reaction, stirring, and the proper arrangement of app. Of the tested catalysts Fe was found preferable. In the course of the reaction it forms $FeCl_3$ which catalyzes the reaction. Excess $FeCl_3$ tends to promote the formation of polychlorides, especially as the temp. increases. It is therefore preferable to prechlorinate the incoming benzene in the presence of Fe and then continue chlorination in the presence of the dissolved $FeCl_3$ alone, i.e. without Fe. Theoretical calcns. were checked exptly. and on this basis it is concluded that a 4-stage chlorination process is the most effective. A 4-stage exptl. set-up gave the following results on the compn. at the resp. stages: The % of C_6H_6, PhCl, and polychlorides found in the various stages are 1—71.6, 27.0, 1.4; 2—55.8, 41.5, 2.7; 3—36.0, 58.5, 5.5; 4—24.7, 67.1, 8.2. The calcd. amts. agree closely for each stage with those found. A design for a continuous chlorination app. is given. In the preliminary stage the incoming dried benzene is brought into contact with incoming Cl in the presence of Fe. The temp. at this stage is 35-40°. The reaction mixt. leaving this stage contains 5-10% of PhCl and 0.2-0.3% of $FeCl_3$. The reaction mixt. passes 4 successive chlorinators operated at 60-70°, each supplied with fresh Cl. A weak HCl soln. is drawn off from the preliminary reactor. Gaseous HCl is drawn off from each of the 4 chlorinators.

M. Hosch

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Ca

10

Continuous process for the production of benzenesulfonic acid. A. N. Planovskii and S. Z. Kagan. *Khimicheskaya Prom.* 1944, No. 9, 5-10.—In order to devise a continuous sulfonation process for benzene a study was made of the effect of temp., moisture content of the recycle, and surface area of contact. The time required for sulfonation (experimentally detd.) is $t = (1/k) \times 2.3 \log a/(a - x)$, where k is detd. by the H_2O content of the recycled benzene, construction of app., and temp.; a is the initial concn. of H_2SO_4 in mol. %; and x is the content of benzenesulfonic acid and sulfones in the reaction product expressed in mol. %. In an app. where the incoming benzene vapors are passed into the H_2SO_4 through a porous plate, the temp. of the reaction is 180°, the av. concn. of H_2O in the recycle is 3.5%, and the benzene is recirculated 8 times, $k = 3.8$. When the app. is of the bubbling type, while the other conditions remain the same, $k = 2$. In an app. where the 2 phases are brought into direct contact, $k = 0.435$. The preferred conditions for sulfonating benzene are: temp. 180°, no. of recycling times 8, benzene vapor fed through bubbling caps, height of liquid above the inlet of the benzene vapor 100 mm., velocity of vapor in the sulfonator 0.1 m. per sec., velocity of vapor through bubble cap apertures 6.5 m. per sec. Under these conditions $k = 2$ and sulfonation in an intermittent process requires 1.5 hrs. The sulfonation can be made continuous only in a multistage app. Under fixed conditions the time required for sulfonation varies with the no. of stages as follows (no. of stages, efficiency, and time in hrs., resp., given): 1, 0.15, 10.00; 4, 0.455, 3.37; 8, 0.666, 2.25; 16, 0.872, 1.72; 24, 0.955, 1.56. It appears that the app. should consist of 7-8 sections. In a 7-sections app. the concn. of the reaction product in sections 2-7, expressed in mol. %, will be 69.7, 77.7, 83.6, 87.8, 91.0, and 93.3. An industrial-scale sulfonation app. was designed, in which H_2SO_4 is pumped from a reservoir through a pressure regulator and a metering device into a sulfonator. Benzene is pumped from a reservoir of fresh benzene or from a reservoir of benzene condensate through a metering device and a combination vaporizer-superheater. Part of the superheated vapor (approx. 180°) is fed into the sulfonator and the other part is passed through the bottom into a 6-plate column. The reaction product in the sulfonator contg. 30% of free H_2SO_4 flows continuously from the sulfonator into the upper part of the column. Flowing downward, this product reacts with the ascending benzene vapors so that when it reaches the bottom where tech. benzenesulfonic acid is withdrawn it contains only 3-4% of free H_2SO_4. H_2O-contaminated benzene vapors are withdrawn through the top of the sulfonator and the column. The vapors pass through a condenser and cooler into a separator where the layers of H_2O and benzene sep. The H_2O is discarded and the benzene is passed through a drier and neutralizer into the reservoir for benzene condensate. The sulfonation time in such an app. is calcd. to be 1.5 hrs. M. Hoseh

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CA

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Calculation of viscosities of organic liquids. A. N. Planovskii and V. V. Kafarov. *Khimicheskaya Prom.* 1944, No. 8, 19.—The method of calcn. is based on Souders' work (*C.A.* 32, 2404) and his equation $\log \log \mu = K(d/M) - 2.9$, where μ is the viscosity in millipoise, d is sp. gr., M is mol. wt., and K is a const. depending on the substance. $K = \Sigma An + \Sigma p$, where A is the no. of individual atoms in a given mol., n is the numerical value of a const. for a given atom, and p is a correction for certain groupings, and structural characteristics. The n values for H, O, N, Cl, Br, I, and C, and certain values for p are tabulated. The equation is rewritten as $z = K(d/M) - 2.9$. z can be either pos. or neg. Two nomographs are given from which can be read off directly the viscosity (μ) in centipoise from pos. or neg. values of z. M. Hosch

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APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R001341200043-6

Continuous sulfonation of benzene. A. N. Planovskii and S. Z. Kagan. *Ob. Chem. Ind.* U. S. S. R. 7, 296-304 (1940). When gaseous SO_3 can be utilized the most rational method is to sulfonate the benzene with SO_3 and ext. simultaneously the products of reaction. If the SO_3 is obtained by desorption from oleum, then the efficiency of this method comes close to that of vapor-phase sulfonation, which is also highly effective and economical. The methods of vapor-phase sulfonation and sulfonation with SO_3 with the subsequent extn. of the reaction product are the chief directions for the development of the sulfonation technology. B. Z. Kanneh

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Heats of dilution of mixed nitrating acids and heat effects of the nitration processes. A. N. Planovskii. *Org. Chem. Ind.* (U. S. S. R.) **5**, 686-92(1938). A discussion, with math. treatment, based on published data. Cf. Rhodes and Nelson, *C. A.* **32**, 6011[9]. Chas. Blanc.

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PROCESSES AND PROPERTIES INDEX

Calculation of periodic rectifying column. A. N. Planovskii. *Org. Chem. Ind.* (U. S. S. R.) 5, 423-6 (1938).—The method of Dodge and Huffman (*C. A.* 32, 396[1]) is reviewed. Examples are given involving various org. mixts. and different nos. of plates. Chas. Blanc

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BC

B-I-1

Calculation of heat of chemical reactions as a fundamental factor in planning of chemical apparatus. A. G. KARATKIN and A. N. PLANOVSKI (Prom. Org. Chem., 1936, 5, 346—350).—Methods of calculating heats of reaction from a knowledge of the structure of the substrates are described. R. T.

COMMON ELEMENTS

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3RD AND 4TH ORDERS

B C

B II

Separation of β-naphthol. I. M. Kogan, A. N. Planovski, and A. N. Evdokimov (Anilinokras. Prom., 1934, 4, 227—229).—In the prep. of β-$C_{10}H_7OH$ (I) from 2-$C_{10}H_7SO_3H$ the concn. of (I) in the aq. layer (II) varies inversely with concn. of Na_2SO_3, and directly with concn. of NaOH, whilst that of Na_2SO_3 in (I) is const., and approx. = 0·25%. The solubility of (I) in (II) diminishes with fall in temp., but the rate of separation of (I) also diminishes, 3 hr. being required at 90° as compared with 2 hr. at 100°. R. T.

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BC

0-1

Solubility of sulphide in presence of sodium hydroxide and β-naphthol. I. M. Kogan, A. N. Planovski, and A. N. Evdokimov (Anilinokras. Prom., 1934, 4, 34—37).—The solubility of Na_2SO_3 in H_2O falls from 90° to 106°, and is greatly depressed by the presence of NaOH and $Na_2C_{10}H_7$. R. T.

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PLANOVSKIY, A.N.; SOLOMAKHA, G.P.; FLOAREA, O.; SARUKHANOV, A.V.

Structure of criterional equations characterizing mass transfer in plate columns. Khim. prom. no.2:123-125 F '63. (MIRA 16:7)

(Plate towers) (Mass transfer)

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APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R001341200043-6

ILANOVSKIY, A.N.; ARIAMONOV, D.S.; ORLOV, B.N.

Comparative [illegible] of the efficiency of rectification and absorption [illegible]. Khim.prom. 41 no.1:53-57 Ap '65. (MIRA 18:8)

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APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R001341200043-6

FOKIN, A.P.; PLANOVSKIY, A.N.; AKOPYAN, L.A.

Calculation of spray dryers with allowance for stirring. Inzh.-fiz. zhur. 8 no.1:116-118 Ja '65. (MIRA 18:3)

1. Institut khimicheskogo mashinostroyeniya, Moskva.

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AKOPYAN, L.A.; VARYGIN, N.N.; GUTAREV, V.V.; ZYKOV, D.D.; KARAVAYEV, N.M.; KONDUKOV, N.B.; LASTOVTSEV, A.M.; MAKAROV, Yu.I.; MAZUROV, D.Ya.; MARTYUSHIN, I.G.; MASLOVSKIY, M.F.; NIKOLAYEV, P.I.; PLANOVSKIY, A.N.; RYCHKOV, A.I. [deceased]; CHEKHOV, O.S.; KHVAL'NOV, A.M.; SHAKHOVA, N.A.

Theory and practice of heterogeneous processes in a fluidized bed. Trudy MIKHM 26:3-22 '64. (MIRA 18:5)

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PLANOVSKAYA, M. A.; SAZHIN, B. S.; KIRSANOV, O. K.; KHARASH, M. S.

"The use of mechanized dryers as reaction and drying apparatuses."

Sci Res Inst of Organic Intermediate Products & Pigments, Berezhnikov Branch of SRI OI P and P

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PLANOVSKAYA, M.A., kand. tekhn. nauk.

Methods for the manufacture of finely dispersed dyes in the aniline dyes industry. Khim. nauka i prom. 3 no.2:249-256 '58. (MIRA 11:6)
(Dyes and dyeing--Equipment and supplies)
(Aniline)

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USSR/Chemistry - Chem Engineering, Extraction — Dec 51

"Optimum Operating Conditions for Packed Extraction Columns," V. V. Kafarov, M. A. Planovskaya

"Zhur Prik Khim" Vol XXV, No 12, pp 1225-1233

Investigated hydrodynamic conditions in packed extraction column operating with water-acetic acid-benzene, HCl soln-phenol-benzene, and HCl soln-phenol-chlorobenzene systems. Detd optimum emulsification regime leading to most efficient mass exchange, dependence between hydrodynamic regime and operating efficiency of column, and quant ratio

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USSR/Chemistry - Chem Engineering, Extraction (Contd) — Dec 51

between mass exchange and hydrodynamic factors under optimum conditions. Set up scheme for detn of basic dimensions of column operating under optimum conditions.

206T30

PLANOVSKAYA, M. A.

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PLANOVSKAYA, M. A.

Nuclear Sci. Abs. V-8 Jan 15, 1954 Chemistry

THE HYDRODYNAMICS OF PACKED EXTRACTION COLUMNS. V. V. Kafarov and M. A. Planovskaya. Translated from Zhur. Priklad. Khim. 24, 624-33(1951). 10p. (AERE-Trans-11/3/5/361)

Experiments are described in which the hydrodynamics of packed extraction columns was studied in order to establish the limits of loading of the column with the continuous and disperse phases. Colored liquids were used for purpose of visual observation. Discussions are presented regarding the influences of the packing, the physical properties of the liquids, phase velocities and phase changes, and nozzle dimensions. The quantitative relationships of the influence of these various factors are summarized for several liquids. (L.M.T.)

7-26-54

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