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1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

3RD AND 4TH ORDERS

BC

A-1

Kinetics of decomposition of single crystals of calcite. S. [illegible] (Roc. Chem., 1934, 14, [illegible]).—The velocity, v, of decomp.-% decomp. curves of single crystals of calcite (I) present irregularities not observed with numerous crystals. This effect is ascribed to differences in the no. and distribution of active centres (II) originally present, and in the rate of formation of new (II) during the reaction. The initial v of (I) is increased by scratching the crystals, also as a result of increase in the no. of (II). R. T.

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ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

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3RD AND 4TH ORDERS

2ND LETTER

1ST AND 2ND LETTER

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1ST AND 2ND ORDERS

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B-I-8

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3RD AND 4TH ORDERS

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MATERIALS INDEX

Modern methods of sulfuric acid fabrication. J. Zawadski and S. Bretsznajder. *Przeglad Chem.* 2, 501-4 (1938).—A review. E. Józefowicz

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1ST AND 2ND ORDERS

3RD AND 4TH ORDERS

PROCESSES AND PROPERTIES INDEX

CP

18

Sulfates as raw materials for obtaining sulfuric acid and sulfur. S. Bretsznajder. *Przegląd Chem.* 2, 533–4 (1938). —A review. R. Józefowicz

COMMON ELEMENTS

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METALLURGICAL LITERATURE CLASSIFICATION

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1ST AND 2ND ORDERS

3RD AND 4TH ORDERS

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2

Kinetics of reaction in which solid phases take part. J. Zawadski and [illegible]. *Bull. intern. acad. polon. sci., Classe sci. math. nat., Ser. A, 1940-1946, 60-4 (1946)* (in English).—The decomps. of $CaCO_3$ in vacuum and in the presence of CO_2 was studied to det. the velocity of decomps. of crystals of the same size and compn. Numerous difficulties were encountered and the results were erratic. Likewise, a study of the system $4CaSO_4 \rightleftharpoons CaS + 3CaSO_4$ showed that the transformation is accompanied by increasing mobility of the structural elements, which almost reached the passage through the liquid phase. At 500° and several months no $CaSO_4$ resulted from CaS and $CaSO_4$. No satisfactory math. formulation was possible.

R. E. Dunbar

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CH

2

Józef Zawadzki (1886-1951). Stanisław Bretsznajder. *Roczniki Chem.* 25, 147-61(1951).—An obituary with portrait and bibliography of 111 references. B. H.

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"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000306910010-1

CC

Problems of catalytic reactions. Stanisław Bretsznajder (Polytech., Warsaw). *Konf. Teoret. Chemikow Polskich, I-sza, Bierutowice*, 1952, 269-330(Pub. 1954).—A review with 79 references. Werner Jacobson

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BRETSZNAIDER, S.

POL.

3488

Bretszneider S., Auguston D. Absorption of Sulphur Dioxide in Solutions of Basic Aluminium Sulphate. 66.074.370.1 : 546.623.226-81.09

„Absorpcja dwutlenku siarki w roztworach zasadowego siarczanu glinowego". Przemysł Chemiczny, No. 3, 1954, pp. 135—137, 3 figs.

The quantities of sulphur dioxide absorbed in solution of basic aluminium sulphate were determined by the dynamic method, depending on: concentration of sulphur dioxide in the gaseous phase, on temperature, and on the degree of alkalinity of the absorbing solutions. It was shown that the quantity of sulphur dioxide absorbed is in approximate proportion to the alkalinity of the solution.

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BRETSZNAJDER, S.

POL.

3320

66.074.378.1 : 546.623.226-81.09

Bretsznajder S. Absorption of Sulphur Dioxide in Solutions of Basic Aluminium Sulphate. 2.

„Absorpcja dwutlenku siarki w roztworach zasadowego siarczanu glinowego. 2". Przemysł Chemiczny. No. 4, 1954, pp. 183—186, 9 tabs.

Equilibrium constants of the reaction of absorption were obtained on the basis of determining the solubility of sulphur dioxide in monomolar solutions of aluminium sulphate and basic aluminium sulphate of different degrees of alkalinity. The values of constants make it possible to conclude that compounds with the following summary formula were formed in the process of absorption:

$[Al(SO_4)(OH)]_2 \cdot SO_2$ for $p_{SO_2} < 0.0075$ At

$[Al(SO_4)(OH)]_2 \cdot SO_2$ for p_{SO_2} from 0.0075 to 0.02 At

$[Al(SO_4)(OH)]_2 \cdot (SO_2)_2$ for $p_{SO_2} > 0.002$ At

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3321

Bretsznajder S., Augustyn W. Absorption of Sulphur Dioxide in Solutions of Basic Aluminium Sulphate. 3.

06.084.378.1 : 546.623.226-31.09

„Absorpcja dwutlenku siarki w roztworach zasadowego siarczanu glinowego. 3". Przemysł Chemiczny. No. 8, 1954, pp. 250—256, 4 figs., 9 tabs.

An investigation of the relation of the velocity of reaction of oxidizing (with oxygen) sulphur dioxide absorbed in basic solution of aluminium sulphate to the degree of transformation, to the partial pressure of oxygen in the gas phase, to the concentration of sulphur dioxide and basic aluminium sulphate, and to the degree of alkalinity of the solution. The absolute velocity of reaction expressed as the quantity of sulphur dioxide reacting per time unit: 1) does not depend on the degree of transformation, and on the concentration of sulphur dioxide in the solution; 2) is proportional to the partial pressure of oxygen in the gas phase and to the square of the dilution of the solution. Relative velocity of reaction, expressed as an increase in the degree of transformation per time unit, is in proportion to the concentration of basic aluminium sulphate $Al(SO_4)(OH)$ in the solution.

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BRETSZNAIDER, S.

POL. J

3499

Bretszneider S., Augustyn W. Absorption of Sulphur Dioxide in Solutions of Basic Aluminium Sulphate. 66.074.378.1 : 546.623.226-81.09

"Absorpcja dwutlenku siarki w roztworach zasadowego siarczanu glinowego", Przemysl Chemiczny. No. 6, 1954, pp. 295—299, 3 figs., 3 tabs.

The influence of temperature and of the presence of catalysts on the velocity of reaction between oxygen and sulphur dioxide absorbed in a solution of basic aluminium sulphate. The average values of apparent energy of activation (for the reaction in atmosphere of air: A = 7160 cal/mol, in the atmosphere of 95% of oxygen: A—8750 cal/mol) were calculated. The coefficient of temperature of the reaction investigated is equal, on average, to 1.5 ÷ 1.6; in conditions in which the reaction is very rapid (in a 95% oxygen atmosphere, at high temperature, or in diluted solutions), the value of the coefficient falls to 1.10 ÷ 1.2. It was established that the presence of ions $Fe^{\cdot\cdot\cdot}$, $Mn^{\cdot\cdot}$, or of small quantities of oxidizing substances (as H_2O_2, $NaNO_2$) catalytically accelerates the reaction under investigation. The action of solar light accelerates the reaction in conditions which favour a rapid course of the process.

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BRETSZNAIDER, STANISLAW

4

POL.

Obtaining pure aluminum compounds from clays and kaolins. IV. Stanisław Bretsznajder (Tech. Univ., Warsaw). *Zeszyty Nauk. Politech. Warszaw.*, No. 9, *Chem.* 1, No. 1, 11-59(1954); cf. *C.A.* 31, 8837ᵍ.—B. obtained in a pilot plant pure Al sulfate and oxide from a clay contg. not less than 30% Al_2O_3 and not more than 2% Fe_2O_3. Such clay is first ground and calcined in an oxidizing atm. at 770-820° for 1 hr. The calcined clay is then ground and leached with mother liquor contg. H_2SO_4 and sulfates of Al and Fe; the calcined clay is used in an excess. The leaching is carried out for 10-12 hrs. in the beginning at 85-90° and then at 80°. Thus, 70-80% of Al_2O_3 in the clay is dissolved. At the same time some of the Fe compds. are hydrolyzed and are removed together with the excess of clay and silica by filtration. To the filtrate are added seeds of Al sulfate crystals and also concd. H_2SO_4 while cooling in order to maintain 40-50°. Thus, large and pure crystals of $Al_2(SO_4)_3.18H_2O$ are obtained; they are sepd. on a centrifuge and washed with dild. H_2SO_4. The obtained Al sulfate is dehydrated and calcined at 1200-1300°. SO_2, SO_3, and O are used for making H_2SO_4. The calcined product is further purified by washing with boiling dild. H_2SO_4 and water. The dried product (Al_2O_3) is pure enough to be used for the manuf. of Al metal. 29 references.

F. J. Hendel

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3826 86.094.37 661 566 2

Bretszna'der S. Rate of Ammonia Oxidation. I. Ammonia Oxidation under Normal Pressure.

„O szybkości reakcji utleniania amoniaku. I. Utlenianie amoniaku pod ciśnieniem normalnym". Przemysł Chemiczny. No. 1. 1955. pp. 13-16. 2 tabs.

A calculation for the process of oxidizing ammonia under normal pressure, of the thickness of catalyst layer necessary to enable the diffusion to the catalyst of a determined amount of ammonia corresponding to some assumed feed rate of reactor and to some assumed yield of oxidizing ammonia to nitrogen oxide. It has been found that the real thickness of catalyst layer in the reactor sufficient to maintain the assumed feed rate of the reactor and to obtain the assumed yield of oxidation is 20% lower than the thickness calculated on a theoretical basis

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3127

66 094 37 661 566 2

Bretszneider S. Rate of Ammonia Oxidation. II. Ammonia Oxidation under Increased Pressure.

„O szybkości reakcji utleniania amoniaku. II. Utlenianie amoniaku pod ciśnieniem zwiększonym i dyskusja wyników". Przemysł Chemiczny No. 1, 1955, pp. 17—20, 3 tabs

It has been calculated that, when ammonia is oxidized on the surface of platinum-rhodium net under 8 ata pressure, the amount of ammonia which reacts is much larger than that which is able to diffuse from the gaseous phase to the surface of the catalyst. The supposed causes of these discrepancies are discussed together with the influence on the rate of the process, of such various factors as the growth of the area of the catalyst surface in the process of activation and the possibility of the surface being heterogenous. So far, the results of experiments and calculations seem to indicate that the reaction of ammonia oxidation which occurs on the catalyst surface is of a diffusion character. The slowest process by which the total rate was determined was the diffusion of ammonia from the gaseous phase to the catalyst surface. The course of the process as chain reactions initiated on the catalyst surface and occurring in the gaseous phase is possible but less probable.

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3809

542.938 : 546.623.229

Bretsznajder S., Boczar J., Piskorski J., Porowski J. Hydrolysis of Aluminium Sulphate in Solution at High Temperatures.

„Hydroliza siarczanu glinowego w roztworach w wysokich temperaturach". Przemysł Chemiczny. No. 2, 1955, pp. 89—93, 6 figs., 5 tabs.

The influence has been investigated of various factors on the trend and the yield of the process of hydrolysis of aluminium sulphate solutions in autoclave, at temperatures exceeding the boiling point of the solution at normal pressure. It was found that, when adding a small amount of alkali the increase in yield of precipitate of basic aluminium sulphate is much higher than that resulting from the stoichiometric equation of reaction of hydrolysis. The yield of the reaction also increases when higher pressure and a longer time of reaction are applied. However, the influence on the yield of the process of prolonging the time of reaction beyond 30 min. (at a pressure of 30 atm) and of increasing pressure above 70 atm is almost nil. As was expected, a higher yield of hydrolysis was obtained by applying weaker solutions. Independent of the conditions in which the process was carried out, the product of hydrolysis was a fine crystalline basic aluminium sulphate of approximate composition $3Al_2O_3 \cdot 4SO_3 \cdot 7H_2O$

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Bretsznajder, S.

4007

Bretsznajder S. Absorption of Sulphur Dioxide in Solutions of Basic Aluminium Sulphate. V. Determination of the Range of Reaction of Oxidation of Absorbed Sulphur Dioxide with Oxygen.

„Absorpcja dwutlenku siarki w roztworach zasadowego siarczanu glinowego. V. Określenie obszaru reakcji utleniania zaabsorbowanego dwutlenku siarki tlenem". Przemysł Chemiczny. No. 3, 1955, pp. 115—117.

66.074.378.1 : 546.623.226-81.09

A calculation is given of the rate of diffusion of oxygen from the gaseous phase to the solution of basic aluminium sulphate at 20°C. The amount of oxygen diffused is twice as high as that which reacted simultaneously with the absorbed amount of sulphur dioxide. It is therefore concluded that the reaction occurs in the kinetic range at low temperatures. The reaction probably occurs in the diffusion range when the temperature is above 70°C.

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BREISZNAJDER, S

4141

540.623.226 : 532.73 : 546.226-33

Breiszmajder S., Kotowska W. Solubility of Aluminium-Ammonium Alum In Aqueous Solutions of Sulphuric Acid.

„Rozpuszczalność ałunu glinowo-amonowego w wodnych roztworach kwasu siarkowego". Przemysł Chemiczny, No. 6, 1955, pp. 285—290. 2 figs., 2 tabs.

In the course of investigations on the manufacture of pure aluminium compounds from native clays, determinations were made, at a temperature of 4-30°C, of the solubility of aluminium-ammonium alum in aqueous solutions containing 2.10 — 34.69 per cent of H_2SO_4. Solubility was found to be highest in the case of a solution containing 6.06 per cent of H_2SO_4.

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Catalytic oxidation of sulfur dioxide absorbed in [illegible] aluminum sulfate [illegible]

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Aluminum sulfate hydrolysis in solution at high temperatures. [illegible] Bretszneider and Wiesław Kawecki. Inst. [illegible] Rzeszowski Chem 26, 28[illegible] 90 (1955 English summary). —Hydrolysis of aluminum sulfate soln. at 234.5° and 30 atm. gave a ppt. of H_2O [illegible] studies showed that it had a definite [illegible] that it was similar to alunite. P. [illegible]

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"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000306910010-1

BRETSZNAJDER, S.

Distr: 4E3d 27

The rate of oxidation of ammonia. I. Oxidation of ammonia at atmospheric pressure. S. Bretsznajder. *Przemysl Chem.* 34, 13-16(1955)(English summary).—It has been confirmed by math. calcn. and expts. that the rate of oxidation of NH_3 to NO at atm. pressure exceeds by 20% the rate which would be attained if all reacting mols. had to come in contact with the catalyst. The data of the expts. were as follows: temp. of the gas mixt. entering the reaction chamber 20°, leaving 700°; the catalyst was in form of a Pt net, 1024 meshes/sq. cm., wire diam. 0.006 cm., corresponding to 1.407 sq.m. of Pt surface. The vol. % of the gas was: inlet NH_3 10.0, O 17.9, N 72.1; outlet NO 9.22, H_2O 14.64, O 6.57, N 69.57; amt. of NH_3 = 35 kg./sq.m.hr. = 25 kg./sq.m. of Pt surface. II. Oxidation of ammonia under increased pressure. *Ibid.* 17-20.—The oxidation reaction rate exceeds the theoretical by 20%. Temp. of the gas entering the reaction chamber 20°, leaving 900°, pressure 8 atm. The catalyst was in the form of a Pt-Rd net, 1024 mesh/sq. cm. The vol. % of gas per 1 sq.m. of net (inlet and outlet) was as in the expt. under atm. pressure; amt. of NH_3 introduced = 330 kg./sq.m. of net per hr., i.e. the oxidation rate is 3.5 times higher than it would be if all reacting mols. had to come into contact with the catalyst. L. G. Manitius

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4190 69.974.378.1 : 549.623.226-81 00 : 661 163

[illegible] S. [illegible] W. [illegible] W. Absorption of [illegible] of Basic Aluminium Sulphate [illegible]

[illegible]

The rate of absorption of sulphur dioxide in solution of basic aluminium sulphate was measured in a column filled with Raschig's rings, and approximate values of coefficients of mass transfer [illegible] ted. The rate of absorption in given experimental [illegible]

[illegible] diffusion is offered by the liquid film.

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DREISZNAVDER, S.

POLISH TECHNICAL ABSTRACTS

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Drafting Processes

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Distr: 4E2c

Absorption of sulfur dioxide in solutions of basic aluminum sulfate. IV. Preparation and properties of a technical solution of basic aluminum sulfate applied in absorption. S. Bretsznajder. *Przemysl Chem.* 12(35), 33-5(1950). (English summary); cf. *C.A.* 53, 3841c.—The concn. of SO_2 absorbed in a tech. soln. of the basic sulfate, d_{15} 1.217, d_{15} 1.187, dynamic viscosity coeffs. by Ostwald measured at 15°, 20°, and 25° of 6.9, 5.65, and 4.78, resp., contg. Al_2O_3 98.6 g./l., Fe_2O_3 3.57, and SO_2 206.3, and in equil. with the gas phase contg. 0.8-6.6% SO_2 was measured at 25°. The curve of the log SO_2 concn. (% vol.) in the gas to the concn. (mole/l.) of SO_2 absorbed in the soln. is a straight line approx. parallel to the one obtained with a pure soln. of a basicity ($n_A = SO_3/Al_2O_3$) of 2.5. The tech. soln. was prepd. by dissolving freshly pptd. $Al(OH)_3$ in a soln. of tech. $Al_2(SO_4)_3$ (I). Thus, tech. I (about 14%) was dissolved in 1 l. boiling H_2O to form a soln. contg. 1 mole Al_2O_3. Of this soln. $^1/_4$th was treated with 20% excess NH_3 soln. at 75°, the ppt. filtered, washed with hot H_2O, and added to the remaining $^3/_4$ which was then dild. to 1 l. total vol. Two solns. in one of which $n_A = 2.56$ and $n_S(SO_3/(Al_2O_3 + Fe_2O_3)) = 2.44$ and in the other 2.48 and 2.35, resp., prepd. by lixiviation with an aq. tech. soln. of I of 2 samples of differently calcined fireclay contg. Al_2O_3 82.07 g./l., Fe_2O_3 4.83, and SO_2 187.45 in the first and 75.19, 6.41, and 173.56, resp., in the second, were effectively used in SO_2-absorption expts.

VII. Mass-transfer coefficients. S. Bretsznajder, A. Wojtkowska, W. Bacia, and W. Kawecki. *Ibid.* 35-41.—These were derived in absorption expts. by measuring the amts. of SO_2 diffused from the gas phase into a layer of the soln. that wets the walls of a column 3 m. high and flows countercurrently to the gas. The variables investigated were the flow rates of the gas mixt. and of the soln., and the SO_2 concn. in the gas at 1.2-1.3% SO_2 in the gas, 0-1.33 g./l. SO_2 in the soln. flowing at 0.27-0.308 l./min. at 18-19°; flow rate of the gas and SO_2 concn. in it at soln. flow rate of 0.148 l./min. at 17°; and the soln. flow rate at 16°, 19°, 16°, and 18° with SO_2 concn. in the gas kept const. at 0.465-0.48, 1.18, 1.9, and 2.7%, resp. The results and the calcd. total and partial mass-transfer coeffs. K, k_{gas}, and k_{liquid} as a function of the respective Reynolds nos. are reported. The Henry coeff. H increases directly with increase in SO_2 concn. in the soln. leaving the column and changes within wide limits; this fact verifies the assumption that SO_2 forms complex salts with the basic Al sulfate. K increases as Re_l or Re_g increases and depends on SO_2 concn. in the gas fed; k was max. at <0.5% SO_2 and min. at 2.7, $k_l = f(Re_g)$ is similar to $K = f(Re_l)$. K depends on the flow rates of gas and liquid, i.e., the resistances of the mass-transfer process through the laminar layers of both gas and liquid are of the same order. Three solns. were used. One contg. Al_2O_3 97.7 g./l. and of basicity (SO_3/Al_2O_3) 2.75 (mole ratio) was prepd. by reaction of 5 kg. $Al(OH)_3$ (I) pptd. by CO_2 from an $Al(ONa)_3$ soln. with 6 kg. H_2SO_4 and dil. to 30 l. Fresh I pptd. from $^3/_4$ this soln. by a small excess of NH_3 soln. was filtered, washed with warm H_2O, and added to the remaining $^3/_4$. Another soln. used contg. Al_2O_3 98.6 g./l., Fe_2O_3 3.57, and SO_2 206.3 was prepd. by adding $Al(OH)_3$ pptd. with an excess of NH_3 soln. from 166 ml. of a soln. contg. 342 g. $Al_2(SO_4)_3$ in 1 l. H_2O to the remainder of the latter. The pre-absorption liquid of this soln. contg. Al_2O_3 98.9 g./l., Fe_2O_3 3.5, and SO_2 218.8 was used as the 3rd soln.

Mordecai Medwied

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POLAND/Chemical Technology - Chemical Products and Their H-2

Abs Jour : Ref Zhur - Khimiya, No 8, 1958, 25388

Author : Bretsznajder S., Wojtkowska A., Bacia W., Kawecki W.
Inst : -
Title : Absorption of Sulfur Dioxide in Solutions of Basic Aluminum Sulfate. VII. Mass Transfer Coefficient.

Orig Pub : Przem. chem., 1956, 12, No 1, 35-41

Abstract : Determination of approximate values of overall mass-transfer coefficient k_p, and also of partial mass-transfer coefficients k_g in gas film, and k_c in liquid film, in process of sulfur dioxide absorption in solution of basic aluminum sulfate. It was found that the rate of absorption depends on values of both partial coefficients. It follows therefrom that resistances of gaseous and liquid films are quantities of same order. Communication VI see RZhKhim, 1957, 63039.

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BRETSZNAJDER, S.

POLAND/Processes and Equipment for Chemical Industries K-1
Processes and Apparatus for Chemical Technology

Abs Jour : Referat Zhur - Khimiya, No 4, 1957, 14132

Author : Bretsznajder S., Lesniewicz L.
Title : Determination of Nature of Flow Near the Liquid-Solid Interface

Orig Pub : Przem. chem., 1956, 12, No 6, 315

Abstract : A method has been worked out and subjected to experimental verification, for determining the value of Re, which is based on the correlation between rate of penetration of a substance from a flow of liquid to the solid phase surface, and the nature of flow. Use was made of a photometric method which consists in darkening of light-sensitive paper (for example that utilized for photo-printing of drawings) by a chemical reagent that diffuses from the flow (air + 10% ammonia), followed by determination of the intensity of light reflected by the

Card 1/2

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BRETSZNAJDER, S.

POLAND/ Chemical Technology. Chemical Products and Their Application. Mineral salts. Oxides. Acids. Bases I-5

Abs Jour : Referat Zhur - Khimiya, No 4, 1957, 12340

Author : Lesniewicz L., Bretsznajder S.

Title : Decomposition of Basic Aluminum-Ammonium Alum in Pseudofluidized Bed. Study of Dynamic Characteristics of the Bed and Decomposition Kinetics.

Orig Pub : Rozklad zasadowego siarczanu glinowo-amonowego w zlozu fluidalnym. Badanie dynamicznych wlasnosci zloza i kinetyki rozkladu. Przem. chem., 1956, 12, No 7, 371-377 (Polish; Russian and English summaries)

Abstract : Investigation of decomposition kinetics of basic aluminum-ammonium alum (AAA), produced by hydrolysis of aluminum-ammonium alum, on calcining in a speudofluidized bed (PB), and also of the characteristics of the PB. Calculated and determined were critical velocity of gas in PB within the temperature interval of 20-120C°, rate

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BRETSZNAJDER, S.; KAWECKI, W.; WLODARSKA, A.

BRETSZNAJDER, S.; KAWECKI, W.; WLODARSKA, A. Absorption of sulfur dioxide in solutions of basic aluminum sulfate. IX. Defining the coefficient of permeation in liquids. p. 515.

Vol. 12, no. 9, Sept. 1956
PRZEMYSL CHEMICZNY
PHILOSOPHY & RELIGION
Warszawa, Poland

SO: East European Accession, Vol. 6, March 1957

APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000306910010-1"

"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000306910010-1

BRETSHNAYDER, S.

Poland /Chemical Technology. Chemical Products and Their Application I-6

Mineral salts. Oxides. Acids. Bases.

Abs Jour: Referat Zhur - Khimiya, No 9, 1957, 31244

Author : Lesniewicz L., Bretsznajder S., Lis J., Piskorski J.

Title : Concentration of Aluminum Sulfate Solutions from Local Raw Materials by Means of an Immersed Heater

Orig Pub: Przem. chem., 1956, 12, No 10, 566-568

Abstract: Experiments were carried out on concentration of $Al_2(SO_4)_3$ solutions, containing 20% free H_2SO_4. By using a heater of thermal capacity of about 4000 kcal/hour, evaporation efficiency of 91% is attained, with thermal load of heater chamber of $18.2 \cdot 10^6$ kcal/m^3 hour and evaporation rate of 71 kg water per m^2 hour. Evaporation of solutions

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Poland /Chemical Technology. Chemical Products and Their Application I-6

Mineral salts. Oxides. Acids. Bases.

Abs Jour: Referat Zhur - Khimiya, No 9, 1957, 31244

of technical $Al_2(SO_4)_3$ to a concentration of 47% $Al_2(SO_4)_3$ or to a content of 14% Al_2O_3 in the product, involves no difficulties.

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6
4E3d
4E4d

Bretsznajder S., Kawecki W., Riedl W., Janocliski R. Oxidation of Nitrose with Oxygen under High Pressure.

„Utlenianie nitrozy tlenem pod ciśnieniem wyższym od atmosferycznego". Przemysł Chemiczny. No. 12, 1956, pp. 674—678, 2 figs., 2 tabs.

Tests over the oxidation of nitroses — i.e. solutions containing sulphuric acid, nitrosylsulphuric acid and water — with the aid of gaseous oxygen under high pressure in autoclave. It is shown that under suitably selected conditions almost the entire amount of fixed nitrogen present in the mixture can be transformed into nitric acid. By comparing the results of experiments (Nos. 20 and 25), it may be seen that concentration of water is the most important factor in determining the progress of oxidation of nitroses; mixtures containing little water (less than 20 per cent) almost entirely fail to react with gaseous nitrogen.

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- BRETSHNAYDER, S.

POLAND/Inorganic Chemistry. Complex Compounds. C

Abs Jour: Ref. Zhur-Khimiya, No 1, 1958, 681.

Author : Bretshnayder, Kotovskaya, Piskorskiy
Inst :
Title : The Flow of Reaction Between Ferric Sulfate and Sulfurous Anhydride in Solutions Containing Aluminum Sulfate.

Orig Pub: Roczn. Che. 1956, 30, No 2, 411-430.

Abstract: Reduction of $Fe_2(SO_4)_3$ with SO_2 in solution containing basic Aluminum sulfate proceeds according to the summary equation $2\ Fe^{3+} + HSO_3 + H_2O = 2\ Fe^{2+} + SO_4^{2-} + 3H^+$, and also in part according to the equation $2\ Fe^{3+} + 2HSO_3 = 2\ Fe^{2+} + S_2O_6^{2-} + 2H^+$. In the first stage of the process a small quantity of $S_2O_6^{2-}$ is formed, but the concentration of $S_2O_6^{2-}$ increases afterwards without change in the quantity of reduced Fe(3+). In view of this a supposition was advanced that $S_2O_6^{-2}$ is formed as a result of a side reaction $SO_4^{2-} + HSO_3^- = S_2O_6^{2-} + OH^-$.

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BRETSZNAJDER, STANISLAW

POLAND/Inorganic Chemistry - Complex Compounds. C.

Abs Jour : Ref Zhur - Khimiya, No 11, 1958, 35667

Author : Bretsznajder Stanislaw, Kotowska Wilhemina
Inst : Chair Tech. Designing, Warsaw Polytech.

Title : Compounds of Trivalent Iron Sulfate with Sulfur Dioxide.

Orig Pub : Roczn. Chem. 1956, 30, No 3, 697-708

Abstract : The composition of kinetics of the reduction of complex compounds $FE_2(SO_4)_3$ which are formed in solutions with pH 2.8-3 containing SO_2, and in solutions containing in addition the basic sulfates of Al (I) have been investigated. The existence of complexes with molar ratios $Fe:SO_4$ equal to 2 and 3 has been established. The existence of complexes with $Fe:SO_2$ ratios equal to 1.5 and 6 is also possible. At a constant maintenance of Fe^{3+} and SO_2 in the solution, the concentration of the complexes increases with the growth of the I concentration. Since it has been already demonstrated before (Bretsznajder S., Przem. Chem. 1936,

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BRETSZNAJDER, S

Distr: 4E3d

27

Decomposition of basic aluminum ammonium sulfate in a fluidizing bed. I. L. Leśniewicz and S. Bretsznajder (Inst. Chem. Ogólnej, Politech., Warsaw). *Przemysł Chem.* 35, 371-7(1956)(English and Russian summaries).—The properties of a fluidizing bed, and the kinetics of decompn. at high temps. of Al NH_4 sulfate obtained by hydrolysis of a basic Al NH_4 sulfate (I), were investigated. The speed of fluidization, and the falling velocity of a single crystal of I at 175-1030° was measured, and the decompn. curves were drawn. The water of crystn. evaps. at 460-80°, and the SO_3 at 1100°. The decompn. rate is: at 1000° 90% of Al_2O_3 is produced in 5.5 min., and 95% in 12 min.; the highest concn. of S oxides was 14.5% at a fluidization speed 1.9 cm./sec. The grains of I are not adversely affected during the process. II. Half pilot-scale experiments. L. Leśniewicz, S. Bretsznajder, S. Lutze-litk, and J. Piskorski. *Ibid.* 378-82.—The results described in part I were confirmed in an exptl. furnace in which heat was produced by a flameless combustion of a gas-air mixt. in a diaphragm burner described in detail. The best conditions found were: (a) dehydration 480-520°, feed rate 1620 kg./sq. m. hr.; (b) production of Al_2O_3 (93.6%) 650 kg./sq. m. hr., 1000°. The losses of Al_2O_3 were 0.2%, the grain of the reaction product uniform. L. G. M.

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"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000306910010-1

BRETSZNAJDER

Distr: 4E2c

Absorption of sulfur dioxide in solutions of basic aluminum sulfate. IX. S. Bretsznajder, W. Kawecki, and A. Wlodarski (Polytech. Warsaw). *Przemysl Chem.* 35, 516-19 (1956); cf. *C.A.* 51, 17341*f*.—The method of measuring the coeffs. of mass transfer by absorption of gases in the stream of liquid flowing out of a capillary tube was modified. The partial coeffs. of mass transfer of the liquid film for the absorption of SO_2 in water and in solns. of basic $Al_2(SO_4)_3$ were detd. The values obtained by this method were much higher than those obtained by the wetted-wall tube method. M. Solomiansky.

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"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000306910010-1

Effect of the foam layer on bubble absorption of gases in liquids. S. Bretszneider, W. Kawecki, W. Kotowski, and R. Gantz (Polytechn., Warsaw). *Przemysl Chem.* 35, 564-5(1956).—Solns. of basic Al sulfate were used to absorb SO_2 by bubbling SO_2 through such solns. In certain cases, foam formation was not prevented; in others, it was suppressed by the application of Et_2O. In the presence of foam, 5-10 times as much SO_2 would be absorbed as in the absence of foam. 14 references.

Werner Jacobson

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"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000306910010-1

Oxidation of nitroxyl sulfuric acid with [illegible]
[illegible]

[illegible]

temp. approx. 180°, partial pressure of [illegible]
vigorous agitation of the binary liquid-gas system [illegible]
oxidation reaction takes place in the liquid phase [illegible]
diffused from the gas phase to the soln. and the [illegible]
[illegible] of hydrolysis are oxidized to HNO_3. [illegible]
[illegible] pressures 1-100 atm., temp. [illegible]
[illegible] the soln. 12.65-35.6%, and time of reaction [illegible]
[illegible] min. E. J.

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"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000306910010-1

BRETZNAJDER, S

POLAND / Chemical Technology. Chemical Products. Processes and Apparatuses of Chemical Technology. H

Abs Jour: Ref Zhur-Khimiya, 1958, No 20, 67745.

Author : Bretznajder S.
Inst : Not given.
Title : General Equation of a Chemical Reaction of the $A(solid) \rightleftarrows B(solid) + C(gas)$.

Orig Pub: Chem. stosow., 1957, 1, No 1, 3-11.

Abstract: An equation for the determination of velocity of thermal decomposition as a function of pressure and of vapor pressure of a substance was derived. The equation was verified on the following two reactions: $CaCO_3 \rightleftarrows CaO + CO_2$ and $CdCO_3 \rightleftarrows CdO + CO_2$.

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POLAND / Chemical Technology. Chemical Products. Processes and Apparatuses of Chemical Technology. H

Abs Jour: Ref Zhur-Khimiya, 1958, No 20, 67745

Abstract: Experimental results obtained were found in good agreement with calculated values.

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"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000306910010-1

BRETSZNAJDER, S.; LESNIEWICZ, L.; JASZCZAK, M.

Studies on vibration processes in a layer of loose material. p. 259

CHEMIA STOSOWANA (Polska Akademia Nauk) Wroclaw, Poland. Vol. 2, no. 3, 1958

Monthly List of East European Accessions (EEAI) LC, Vol. 8, no. 9, September 1959.
Uncl.

APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000306910010-1"

"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000306910010-1

BRETSZNAJDER, S.; LESNIEWICZ, L.; PASIUK, W.

Liquid flow and solid dissolution rate in pulsation columns. p. 275

CHEMIA STOSOWANA (polska Akademia Nauk) Wroclaw, Poland. Vol. 2, no. 3, 1958

Monthly List of East European Accessions (EEAI) LC, Vol. 8, no. 9, September 1959.
Uncl.

APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000306910010-1"

"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000306910010-1

BRETSZNAJDER, S.

J. Ciborowski's Fluidyzacja (Fluidization); a book review. p. 383.

WIADOMOSCI CHEMICZNE. (Polskie Towarzystwo Chemiczne) Wroclaw, Poland. Vol. 12, no. 6, June 1958.

Monthly List of East European Accessions (EEAI) LC, Vol. 8, no. 8, August 1959
UNCL

APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000306910010-1"

"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000306910010-1

Speeding-up of processes in the chemical industry. Stanisław Brzozowski. *Przemysł Chem.* 37, 385-91 (1958).—It reviews the factors in chem. processes which increase the output of chem. plants. These are: higher temps., higher pressures, proper catalysts, high diffusion of reagents, turbulent flow of fluids, pulsation, and fluidization technique. 28 references. F. J. Hendel

2

APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000306910010-1"

"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000306910010-1

BRETSHNAYDER, S. [Bretsznajder, S.]

Application of the similitude theory to some chemical engineering processes. Zhur.prikl.khim. 31 no.11:1636-1647 N '58. (MIRA 12:2)

1. Kafedra tekhnologicheskogo proyektirovaniya Varshavskogo politekhnicheskogo instituta.
(Chemical engineering) (Dimensional analysis)

APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000306910010-1"

"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000306910010-1

Hydraulic resistances and heat transfer for a vibrating layer in the solid-gas system. S. Brętsznaider, L. Leśniewicz, and M. Jaszczak-Skorupska (Politechnika, Warsaw). *Bull. acad. polon. sci., Sér. sci., Chim., géol. et géograph.* 7, 573-7(1959)(in English).—Effect of mech. vibrations on hydraulic resistances and heat transfer was examd. for air flowing through Al_2O_3, Zn, or kaolin, grain size 5-51 μ diam. (*CA* 53, 20923*b*). At a given amplitude, hydraulic resistances decreased and heat transfer coeffs. increased with frequency increase. Resistances were increased when a descending air flow was used. J. Stecki

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"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000306910010-1

Effect of pulsating motion on the rate of mass transfer in a solid-liquid two-phase system. S. Bretsznajder, L. Leśniewicz, and W. Pasiuk (Politechnika, Warsaw). *Bull. acad. polon. sci., Sér. sci., Chim., géol. et géograph.* 7, 585-9(1959)(in English).—The pulsating motion of a liquid medium increased the dissoln. rate of Na_2CO_3 or $BaOH$ in flowing H_2O up to 13 times. For extn. of S from a S ore with $(NH_4)_2S$, curves of extn. efficiency against pulse amplitude and frequency showed a max. J. Stecki

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"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000306910010-1

Distr: 4E2c(1)/4E3d

Catalytic decomposition of isopropyl alcohol. Influence of the carrier on the activity of catalysts of low surface concentration of the active substance. S. Bretsznajder, R. Marcinkowski, and Z. Woźniak (Politechnika, Warsaw). *Bull. acad. polon. sci., Sér. sci. Chim., géol. et géograph.* 7, 681–5(1959)(in English).—Catalytic decompn. of iso-PrOH was examd. on Cu catalyst in various concns. carried on ground sand, silica gel, or diatomaceous earths. A parallelism was found between the carrier's usefulness in this and Fischer-Tropsch reactions. J. Stecki

APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000306910010-1"

"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000306910010-1

BRETSZNAJDER, S.; LESNIEWICZ , L.; MOSCICKA, I.

Determination of the mass transfer coeficient in undefined hydrodynamical conditions. Bul Ac Pol chim 7 no.8:559-563 '59. (EEAI 10:4)

1. Department of Fundamental Physico-Chemical Problems in Technology, Institute of Physical Chemistry, Polish Academy of Sciences and Department of Technological Designing, Institute of Technology, Warsaw. Communicated by S.Bretsznajder
(Mass transfer) (Hydrodynamics)

APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000306910010-1"

"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000306910010-1

BRETSZNAJDER, S.; LESNIEWICZ, L.; MOSCICKA, I.

A study of flow patterns in models. Bul Ac Pol chim 7 no.8:565-568 '59. (EEAI 10:4)

(Flow) (Fluid dynamics)

APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000306910010-1"

"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000306910010-1

BRETSZNAJDER, S.; JASZCZAK-SKORUPSKA, M.

Mass transfer in a vibrating layer in the solid-gas system. Bul Ac Pol chim 7 no.8:569-571 '59. (EEAI 10:4)

1. Department of Fundamental Physico-Chemical Problems in Technology, Institute of Physical Chemistry, Polish Academy of Sciences and Department of Technological Disigning, Institute of Technology, Warsaw. Communicated by S.Bretszn~~a~~jder.

(Mass transfer) (Vibration) (Sublimation (Chemistry))
(Naphthalene) (Air) (Gases) (Solids)
(Systems (Chemistry))

APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000306910010-1"

"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000306910010-1

BRETSZNAJDER, S.; LESNIEWICZ, L.; JASZCZAK-SKORUPSKA, M.

Hydraulic resistances and heat transfer in the vibrating layer in the solid-gas system. Bul Ac Pol chim 7 no.8:573-577 '59. (EEAI 10:4)

1. Department of Fundamental Physico-Chemical Problems in Technology, Institute of Physical Chemistry, Polish Academy of Sciences and Department of Technological Designing, Institute of Technology, Warsaw. Communicated by S.Bretsznajder.

(Powders) (Vibration) (Solids) (Gases)
(Aluminum oxide) (Zinc) (Kaolin) (Graphite)

APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000306910010-1"

"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000306910010-1

BRETSZNAJDER, S.; ZIOLKOWSKI, D.

Effective thermal conductivity coefficient of granular catalytic beds. I. Dependence of specific thermal conductivity of granular beds on manner of packing. II. Dependence of the specific heat conductivity of granular bed on the temperature gradient along the bed. Bul Ac Pol chim 7 no.8:579-584 '59.

(EEAI 10:4)

1. Department of Fundamental Physico-Chemical Problems in Technology, Institute of Physical Chemistry, Polish Academy of Sciences and Department of Technological Designing, Institute of Technology, Warsaw. Communicated by S.Bretsznajder.

(Heat) (Catalysis) (Granular substances)

APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000306910010-1"

"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000306910010-1

BRETSZNAJDER, S.; LESNIEWICZ, L.; PASIUK, W.

A study of the influence of pulsating motion on the rate of mass transfer in a solid-liquid two-phase system. Bul Ac Pol chim 7 no.8: 585-589 '59.

(EEAI 10:4)

1. Department of Fundamental Physico-Chemical Problems in Technology, Institute of Physical Chemistry, Polish Academy of Sciences and Department of Technological Designing, Institute of Technology, Warsaw. Communicated by S.Bretsznaider.

(Mass transfer) (Vibration) (Solids) (Liquids)
(Benzoic acid) (Water) (Sodium carbonates)
(Systems (Chemistry))

APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000306910010-1"

"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000306910010-1

BRETSZNAJDER, S.; PASIUK, W.

The influence of pulsation on the absorption of gases in liquids.
Bul Ac Pol chim 7 no.8:591-593 '59.
(EEAI 10:4)

1. Department of Fundamental Physico-Chemical Problems in Technology, Institute of Physical Chemistry, Polish Academy of Sciences and Department of Technological Disigning, Institute of Technology, Warsaw. Communicated by S.Bretsznajder.
(Vibration) (Gases) (Liquids)

APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000306910010-1"

"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000306910010-1

DR EISZNAJDER, S.

reports to be presented at the 2nd Intl Congress on Catalysis, Paris, France, 4-9-Jul '60.

Poland

BARANOWSKI, B., SMIALOWSKI, M., and SZKLANSKA-SKIALOWSKA, Z. - "Properties of nickel layers electrolytically hydrogenated in the presence of poisons" (Section II)

BIELAWSKI, A., DEREN, J., HABEK, J., and SLOCZYNSKI, J. - "Electronic processes accompanying the catalytic dehydrogenation of alcohols on semiconducting oxide catalysts" (Section II)

[illegible], S. - "On the process of catalytic reaction of sulfur dioxide with acids in iron sulfate solution" (Section III)

KRAUSE, A. - "On trace catalysis" (Section II)

LIPKA, B., TRESZCZANOWICZ, E., and BUSZYNSKA, B. - "The gaseous phase transformation of a mixture of 3-picoline and 4-picoline in the presence of ammonia and air in a mixture of corresponding nitriles" (Section III)

MALINOWSKI, S., and KOBYLINSKI, T. - "Hydrogen transfer in gaseous phase between alcohols and compounds containing carbonyl groups" (Section I)

OTWINOWSKA, H., TRESZCZANOWICZ, E., and CIBOROWSKI, St. - "Studies on electric conductivity and catalytic activity of promoted zinc oxide during isopropanol dehydrogenation" (Section III)

SZHAJDER, J. - "Study of selectivity and activity of copper catalyzers in dehydrogenation reaction" (Section III)

SWINARSKI, A., and SIEDLEWSKI, J. - "Influence of dimensions of pores on the catalytic power of active carbon in the oxidation of sulfur hydrogen by oxygen" (Section II)

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"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000306910010-1

P/014/60/039/001/001/003
A221/A026

AUTHOR: Bretsznajder, Stanisław

TITLE: Some Actual Problems of Chemical Technology and Engineering

PERIODICAL: Przemysł Chemiczny, 1960, Vol. 39, No. 1, pp. 4-7

TEXT: This article is a reprint of a report read by the author at the VIth Jubilee Assembly of the Polish Chemical Association in September 1959. In the first part of his report the author discussed four actual and future problems of power supply: 1) The era of solid fuels is passing, making room for high-octane liquid fuels, obtained by oil cracking. By-products obtained at these processes are raw materials for Chemical Industry, which produces enormous quantities of valuable semi-products and products for everyday use. 2) Introduction of jet engines for aviation and gas turbines for motor cars, for which high-octane fuels will not be required, will force the industry to produce new sorts of fuels. Consequently, a separation of the petrochemical industry from the fuel industry will take place. Part of natural gas and oil will become exclusively a chemical raw material. 3) Direct conversion of fuel into electric power like the oxygen-hydrogen electric element is a further step towards future power supply. 4) Rocket propellants. All these problems require an enormous amount of work and fi-

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A221/A026

Some Actual Problems of Chemical Technology and Engineering

nancial means, which are much beyond Polish possibilities. In the second part of his report the author discussed a few actual subjects of research being carried out at the Katedra Projektowania Technologicznego Politechniki Warszawskiej (Warsaw Polytechnical Institute, Department of Technological Planning), The Zakład Fizyko-chemicznych Podstaw Technologii PAN (Polish Academy of Sciences, Institute of Physico-Chemical Bases of Technology), and the Pracownia Specjalna Instytutu Chemii Ogólnej Ministeratwa Przemysłu Chemicznego (Ministry of Chemical Industry, Special Laboratory at the Institute of General Chemistry). They are: 1) Intensification of processes in Chemical Industry, 2) Conversion of technological laboratory findings into industrial-scale projects, 3) Utilization of some Polish raw materials. 4) Utilization of waste. 1) Intensification of processes means increased production without alteration of the existing installations. Industrial process consists of several physico-chemical stages like flow of fluids, diffusion, adsorption, absorption of reagents, heat exchange etc. and chemical reactions. The final speed of a total process depends on this stage, progress of which is the slowest. At present the research is concentrating on diffusion. According to Prandtl's theory a laminar layer is formed on the surface between gas and liquid

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Some Actual Problems of Chemical Technology and Engineering

media, which hinders the diffusion. This process can be intensified by reducing the thickness of this laminar layer or by extending the contact surface. Both phenomena occur when either turbulence or pulsation are applied. These problems are tackled by the author and his co-workers Leśniewicz and Pasiukówna. They include also the dissolving of solids in water and gases in liquids. In this latter case excellent results were observed if frothing conditions were produced. Extensive work on this subject, done by Soviet scientist M.E. Pozin, is described in (Ref. 10). Research on froth absorption is carried out by Kawecki, Kotowska-Raabe and Badowska. Research on flow resistance and heat exchange between gas and a layer of vibrating loose granular solid material is carried out by Leśniewicz and Jaszczak-Skorupska. 2) Conversion of technological laboratory findings into industrial projects and checking their correctness is in the hands of the author and Mościcka. 3) Utilization of local raw materials comprises a) Production of pure aluminum oxide from local clays, containing up to 30 % Al_2O_3 and b) Extraction of sulphur from sulphur ores mined in the Tarnobrzeg basin. a) At first pure aluminum suphate is obtained by treating rough clay with sulphuric acid and after further processing pure Al_2O_3 is obtained. The greatest difficulty was encountered in the purification of same and in the separation from iron and silica com-

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pounds. This was achieved by a double purification: cristallization of pure aluminum salt (aluminum-ammonium alum) and subsequent hydrolysis. Synthetic alunite thus obtained is then thermally decomposed, with simultaneous regeneration of ammonium sulphate and sulphuric acid, which are diverted back into the process. This method was successfully tried out on semi-technical scale and at present it is done in a large pilot plant. Research on these problems was carried out by a team composed of Pawłowski, Kawecki, Lis, Ziółowski, Kotowska, Łukasiewicz, Piskorski and others. b) From sulphur ore, mined in the Tarnobrzeg Basin, sulphur is extracted in form of polysulphide solutions with 97-98 % efficiency. The solvent for this process is also produced on industrial scale. In less than one year the team consisting of W. Kawecki, R. Marcinkowski, J. Piskorski, J. Leykówna, J. Sawa, E. Mroczkówna, J. Ziajka and J. Pysiak solved these problems on laboratory scale, small semi-technical scale and designed and built a large experimental sulphur ore processing station and a plant for solvent production. 3) Utilization of waste - In this case it is extraction of SO_2 from industrial exhaust gases, expecially from metallurgical plants, in which it is present in quantities from a fraction of one per cent to several per cent. As an absorbent for this process

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Some Actual Problems of Chemical Technology and Engineering

a basic aluminum sulphate - $Al(SO_4)OH$ is used. It forms complex compounds with SO_2 in which one molecule of this compound binds 2, 3, or 4 molecules of SO_2. Another method is the catalytic oxidation of SO_2 into sulphuric acid in the presence of Fe and Mn ions as catalyst. This work, carried out by Badowska and Kawecki is not yet solved. There are 20 references: 13 Polish, 6 English and 1 Soviet.

ASSOCIATION: Katedra Projektowania Technologicznego Politechniki Warszawskiej (Warsaw Polytechnical Institute, Department of Technological Designing), in Warsaw

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WARSZAWA

1

Application of models in transfer processes. I. Determination of mass transfer coefficients in the system ammonia in air and blotting paper saturated with sulfuric acid. Stanisław Bretsznajder, Leonard Leśniewicz, and Iwona Mościcki. *Przemysł Chem.* 39, 75-81(1960).—Empirical dimensionless equations involving mass transfer coeffs. are presented for laminar and turbulent flow conditions, which are valid when less than 81% of the NH_3 introduced is absorbed and when the length to diam. ratio of the cylindrical blotter is <2:7. II. Determination of mass transfer coefficients in models by the measurement of ammonia absorption in blotting paper saturated with acid under conditions hydronamically not defined. *Ibid.* 155-60.—An empirical equation involving mass transfer coeffs. is presented for the absorption of NH_3 from air by H_2SO_4-satd. blotting paper which lines the walls of parallelopipeds.

Edmund A. J. Mroz

APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000306910010-1"

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BRETSZNAJDER, Stanislaw; LESNIEWICZ, Leonard; MOSCICKA, Iwona

Modeling of transition processes. Pt. 2. Determination of the coefficient of mass permability in models by measuring of the ammonium absorption in acid saturating the paper under hydrodynamically undefined conditions. Przem chem 39 no.3:155-160 Mr '60.

1. Zaklad Fizykochemicznych Podstaw Technologii, Instytut Chemii Fizycznej, Polska Akademia Nauk, Warszawa

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BRETSZNAJDER, Stanislaw; MOSCICKA, Iwona

Modeling of transition processes. Pt. 3. Studies on the character of the flow of the agent in models with the help of ozalid paper. Przem chem 39 no.4:219-222 Ap '60.

1. Zaklad Fizykochemicznych Podstaw Technologii, Instytut Chemii Fizycznej, Polska Akademia Nauk, Warszawa

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BRETSZNAJDER, STANISŁAW

5
MJC(JD)
3

Distr: 4E2b(b)/4E2b(v)/4E2o(m)

Resistance of some metals to corrosion by ammonium sulfide and ammonium polysulfide. Stanisław Bretsznajder and Wanda Pasiuk (Tech. Univ., Warsaw). *Przemysł Chem.* 39, 433-6(1960).—The resistance of low-C steel St 4S, stainless steel H 13, acid-resistant steel 1 H 18 N9, 99.5% Al, and an Al alloy with 3% Cu and 1% Mg to corrosion caused by aq. solns. of $(NH_4)_2S$ and $(NH_4)_2S_n$, and by vapors of these solns. has been studied at room temp. (atm. pressure) and at 100° (9 atm). The examd. materials were uniform, gas welded, or elec. welded. The steels 1H18N9 and H13, and 99.5% Al are resistant at room temp. and at raised temp. and pressure. The steel 1H18N9 can be used for the construction of every type of app. when not gas welded. The Al alloy with 3% Cu and 1% Mg has a lower resistance at raised temp. It can be used to construct simpler app.; the corrosion stops after the formation of a protective layer. The steel St 4S is less resistant to corrosion when the soln. is stirred and in contact with air or at raised temp. and pressure.

J. Gallus-Glender

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"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000306910010-1

BRETSZNAJDER, Stanislaw; SAWA, Jozefa

Removal of hydrogen sulphide from deposit water in sulphur mines. Przem chem 39 no.8:502-505 Ag '60.

1. Katedra Projektowania Technologicznego, Politechnika, Warszawa i Zaklad Fizykochemicznych Podstaw Technologii, Instytut Chemii Fizycznej, Polska Akademia Nauk, Warsawa

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S/081/62/000/005/046/112
B151/B101

AUTHORS: Bretsznajder, Stanisław, Mościcka, Iwona

TITLE: An investigation of the motion of a gas using the photometric method and models. Part I.

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 5, 1962, 346, abstract 5I88 (Chem. stosow". v. 5, no. 3, 1961, 319-335)

TEXT: The degree of change in the color of chromatographic paper, fed with an aqueous solution of $CuSO_4$, produced by the effect of a mixture of ammonia and air moving at various rates over the surface of the paper, is studied. The degree of color change, determined photometrically, is expressed as a function of the Reynolds criterion. Preliminary experiments are carried out to determine the coefficient of mass transfer using the method described. [Abstracter's note: Complete translation.]

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KAWECKI, W.; BRETSZNAJDER, S.

Hydrolysis of aluminium sulphate in solution at elevated temperature. Bul chim PAN 9 no.1:37-43 '61. (EEAI 10:9/10)

1. Department of Technological Designing, Technical University Warsaw. Presented by S. Bretsznajder.

(Hydrolysis) (Aluminum) (Sulfates) (Solutions)

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"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000306910010-1

BRETSZNAJDER, Stanislaw; LEYKO, Jadwiga; BLUM, Aleksander

On the rate of nuclei formation of a new solid phase in the reaction of thermal dissociation of magnesium carbonate. Rocz chemii 35 no.5: 1477-1486 '61.

1. Department of Technological designing, Technical University, Warsaw and Department of Physicochemical Problems of Technology, Institute of Physical Chemistry, Polish Academy of Sciences, Warsaw.

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"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000306910010-1

BRETSZNAJDER, Stanislaw; KAWECKI, Wieslaw; KOTOWSKA-RAABE, Wilhelmina

Simple apparatus for thermogravimetric analysis. Przem chem 40 no.8:443-447 Ag '61.

1. Katedra Projektowania Technologicznego Politechniki Warszawskiej i Instytut Chemii Ogolnej, Warszawa.

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BRETSZNAJDER, Stanislaw; ZIOLKOWSKI, Dariusz

On the specific thermal conductivity of some carbon linings.
Przem chem 40 no.12:705-708 D '61.

1. Katedra Projektowania Technologicznego, Politechnika, Warszawa i Instytut Chemii Ogolnej, Warszawa.

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BRETSZNAJDER, Stanislaw

Extraction method of obtaining sulfur from Polish indigenous ores. Przem chem 41 no.9:494-497 S '62.

1. Katedra Projektowania Technologicznego, Politechnika, Warszawa.

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BRETSZNAJDER, Stanislaw; MOSCICKA, Iwona

Determination of local values of heat transfer coefficients in apparatus models. Przem chem 42 no.1:35-38 Ja '63.

1. Zaklad Fizykochemicznych Podstaw Technologii, Instytut Chemii Fizycznej, Polska Akademia Nauk, Warszawa.

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BRETSZNAJDER, Stanislaw

"Crystallization" by J.W.Mullin. Reviewed by Stanislaw Bretsznajder. Przem chem 41 no.12:736-737 D '62.

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BRETSZNAJDER, S.

BRETSHNAYDER, S.[Bretsznajder, S.]; YASHCHAK, M.[Jaszczak, M.]; PASYUK, V.[Pasiuk, W.]

Intensification of some processes in the chemical industry by means of vibration. Khim. prom. no.3:211-217 Mr '63. (MIRA 16:4)

1. Varshavskiy politekhnicheskiy institut i Institut fizicheskoy khimii Pol'skoy Akademii nauk.

(Chemical reaction, Rate of)
(Mass transfer) (Vibration)

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BRETSZNAJDER, Stanislaw; MOSCICKA, Iwona

Photometric investigations of the character of the flow agent in models. Pt. 2. Chemia stosow 7 no.1:3-21 '63.

1. Zaklad Fizykochemicznych Podstaw Technologii, Instytut Chemii Fizycznej, Polska Akademia Nauk, i Katedra Projektowania Technologicznego, Politechnika, Warszawa.

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BRETSZNAJDER, S.; PASIUK, W.

Behavior of the free surface of the liquid in a pulsation column. Biul chim PAN 11 no.2:101-102 '63.

1. Department of Fundamental Physico-Chemical Problems in Technology, Institute of Physical Chemistry, Polish Academy of Sciences, and Department of Technological Designing, Technical University, Warsaw.

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BRETSZNAJDER, S.; PASIUK, W.

Enlargement of the free surface of the liquid in a pulsation column. Biul chim PAN 11 no.2:103-106 '63.

1. Department of Fundamental Physico-Chemical Problems in Technology, Polish Academy of Sciences, Institute of Physical Chemistry, and Department of Technological Designing, Technical University, Warsaw.

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BRETSZNAJDER, S.; PASIUK, W.

Effect of liquid column height on the phenomena in a pulsation absorption column. Biul chim PAN 11 no.2:107-108 '63.

1. Department of Fundamental Physico-Chemical Problems in Technology, Institute of Physical Chemistry, Polish Academy of Sciences, and Department of Technological Designing, Technical University, Warsaw.

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BRETSZNAJDER, Stanislaw

New method of obtaining, in a metallurgic plant, aluminum oxide and other aluminum compounds from clays. Przem chem 42 no.12: 677-684 D'63.

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"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000306910010-1

BRETSZNAJDER, S.; PYSIAK, J.

Thermal decomposition of basic aluminum ammonium sulfate. Pts. 1-2. Bul chim PAN 12 no. 3:197-202 '64.

1. Department of Technological Design, Technical University, Warsaw, and Department of Basic Physiochemical Problems, in Technology, Institute of Physical Chemistry, Polish Academy of Sciences, Warsaw. Presented by S.Bretsznajder.

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BRETSZNAJDER, S.; PYSIAK, J.

Thermal decomposition of basic aluminum ammonium sulfate. Pt. 3.
Bul chim PAN 12 no.5:315-318 '64.

1. Department of Technological Design, Technical University, Warsaw, and Department of Basic Physicochemical Problems in Technology, Institute of Physical Chemistry, Polish Academy of Sciences. Presented by S. Bretsznajder.

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BRETSZNAJDER, S.; PISKORSKI, J.

Leaching kinetics. Pts.1-2. Bul chim PAN 12 no.10:735-741 '64.

1. Department of Technological Planning of Warsaw Technical University. Submitted July 11, 1964.

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BRETSZNAJDER, Stanislaw; PYSIAK, Janusz

Thermal dissociation of basic ammonium-aluminum sulfate. Pt.1.
Chemia stosow A 9 no.1:3-17 '65.

1. Department of Technological Design of Warsaw Technical University. Submitted July 17, 1964.

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"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000306910010-1

BRETSZNAJDER, S.; MOSCICKA, I.

Effect of length of tube on local heat transfer coefficient in turbulent flow. Bul chim PAN 11 no.11:657-659 '63.

1. Department of Technological Designing, Technical University, Warsaw and Department of Fundamental Physico-Chemical Problems in Technology, Institute of Physical Chemistry, Polish Academy of Sciences, Warsaw. Presented by S. Bretsznajder.

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BRETSZNAJDER, S.; ZIOLKOWSKI, D.; SURDACKI, T.

Effective thermal conductivity of granular solids in rotary units. Bul chim PAN 11 no.12:711-713 '63.

1. Department of Fundamental Physico-chemical Problems in Technology, Institute of Physical Chemistry, Polish Academy of Sciences, Warsaw and Department of Technological Designing, Technical University, Warsaw.

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BREITSZNAJDER, Stanislaw; PYSIAK, Janusz; GROMADOWSKI, Jerzy

Studies on the sedimentation rate of small fractions of sulfur ore in an ammonium multisulfide solution. Przem chem 42 no.10:566-569 O'63.

1. Katedra Projektowania Technologicznego, Politechnika, Warszawa.

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BRETSZNAJDER, Stanislaw; PASIUK, Wanda

Absorption in the pulsation column. Pt. 2. Przem chem 43 no. 2: 74-79 F '64.

1. Katedra Projektowania Technologicznego, Politechnika, Warszawa i Zakład Fizykochemicznych Podstaw Technologii, Instytut Chemii Fizycznej, Polska Akademia Nauk, Warszawa.

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"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000306910010-1

BRETT, Jozsef

Joszef Brett, 1909-1961; obituary. Gepgyartastechn 1 no.8:305. N '61.

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"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000306910010-1

BURDA, Pavel; BRETT, Zdenek; FRANZ, Ferdinand

The mass transfer in liquid metal systems with thermal gradient.
Sbor chem tech 4 no.2:159-170 '60. (EEAI 10:9/10)

1. Katedra chemicke technologie kovu, Vysoka skola chemicko-technologicka, Praha.

(Metals)

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COUNTRY : CZECHOSLOVAKIA H
CATEGORY : Chemical Technology. Chemical Products and Their Uses. Part 3. Fermentation Industry
ABS. JOUR. : RZKhim., No. 1 1960, No. 2679

AUTHOR : Brettschneider, A.
INST. : -
TITLE : Mechanized Curing of Malt

ORIG. PUB. : Kvasny prumysl, 1959, 5, No 5, 109-112

ABSTRACT : An installation for the mechanized curing of green malt with a daily output of 320-360 centners of barley is described. The installation is situated between the malting floor and the malt kiln. It consists of transporting mechanisms (bucket and screw conveyers) for green and cured malt, 4 chambers for curing and bunkers for the storage of malt before kiln-drying. The chambers for curing are

CARD: 1/3

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COUNTRY :
CATEGORY :

ABS. JOUR. : RZKhim., No. 1 1960, No. 2679

AUTHOR :
INST. :
TITLE :

ORIG. PUB. :

ABSTRACT cont'd : equipped with ventilators for cooling the green malt. The order of work of the installation and 29 mechanical and chemical analyses of malt, obtained by the usual method and those obtained with the inclusion of the curing installation for 12 and 24 hours of work, are described. With ventilation by the outside air in chambers during 2-3 hours, the temperature of the green malt decreased from 18-20° to 13-9°. The treat-

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COUNTRY :
CATEGORY : H

ABS. JOUR. : RZKhim., No. 1 1960, No. 2679

AUTHOR :
INST. :
TITLE :

ORIG. PUB. :

ABSTRACT cont'd : ment of the green malt in chambers during 24 hours permits to reduce the time of germination by 24 hours and treatment lasting 48 hours, by 48 hours. It was demonstrated that the quality of cured malts is considerably higher according to all indicators. The use of mechanized curing of malt does away with the disproportion between the output of the malting floor and the malt kiln.-- N. Bakanov

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"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000306910010-1

BRETTSCHNEIDER, Adolf

Transportation of loose malt. Kvasny prum 9 no.2:27-31 F '63.

1. VUPS Praha.

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PRAUS, R.; BRETTSCHNEIDER, I.; HVEZDOVA, H.; STERBOVA, V.

The effect of lathyrogens on the cornea. The effect of beta-aminopropionitrile on the sulfation of acid mucopolysaccharides of the beef cornea in vitro. Cesk. oftal. 21 no.3:244-248 My '65.

1. Laborator fyziologie a patologie zrakoveho analyzatoru Ceskoslovenskej akademie ved v Praze (vedouci: akademik J.Kurz).

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VOTOCKOVA, J.; PRAUS, R.; HVEZDOVA, H.; STERBOVA, V.; BRETTSCHNEIDER, I.

The significance of the arteriae temporalis and nasalis iridis for the nourishment of the cornea. Cesk. oftal. 21 no.4:312-317 Jl '65.

1. II. ocni klinika fakulty vseobecneho lekarstvi Karlovy University v Praze (prednosta akademik J. Kurz) a Laborator fyziologie a patologie zrakoveho analyzaroru Ceskoslovenskej akademii ved v Praze (vedouci akademik J. Kurz).

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"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000306910010-1

VOTOCKOVA, J.; PRAUS, R.; SULCOVA, H.; STERBOVA, V.; BRETTSCHNEIDER, I.

Studies on remote nutrition of the rabbit cornea after occluding the arteria temporalis and arteria nasalis iridis. Cesk. oftal. 22 no.1:28-32 Ja '66.

1. II. ocni klinika fakulty vseobecneho lekarstvi Karlovy University v Praze a Laborator fyziologie a patologie zrakoveho analyzatoru Ceskoslovenskej akademie vied v Praze.

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