

HEYMARK, I.I.

[Perforating ulcer of the stomach and duodenum] Proboznaia
iazva zheludka i dvenadtsatiperstnoi kishki. Leningrad,
Medgiz, 1958. 259 p. (MIRA 11:9)

(PEPTIC ULCER)

NEYMARK, I.I.

Appearance of cancer at the site of a sutured perforated ulcer of
the stomach. Khirurgiia 35 no. 11:98-101 N '59. (MIRA 14:1)
(PEPTIC ULCER) (STOMACH—SURGERY)

NEYMARK, I.I. (Barnaul, ul. Shevchenko, d. 52a, kv. 135)

Benign tumors of the lungs. Grud. khir. 2 no. 3:37-43 My-Je '60.
Grud. khir. 2 no. 3:37-43 My-Je '60. (MIRA 15:3)

I. Iz fakul'tetskoy khirurgicheskoy kliniki (zav. - prof.
I.I. Neymark) Altayskogo meditsinskogo instituta (dir. - dotsent
F.M. Kolomytsev).

(LUNGS--TUMORS)

NEYMARK, I.I.

Bilateral ligation of the internal mammary artery in chronic
coronary insufficiency. Klin.med. 38 no.6:67-70 Je '60.

(MIRA 13:12)

(CORONARY HEART DISEASE) (BREAST—BLOOD SUPPLY)

NEYMARK, I.I., prof.

Our experience with the preoperative preparation of patients with thyrotoxicosis. Sov.med. 25 no.12:121-125 D '61. (MIRA 15:2)

1. Iz fakul'tetskoy khirurgicheskoy kliniki (zav. - prof. I.I.Neymark) Altayskogo gosudarstvennogo meditsinskogo instituta (dir. - dotsent V.M.Kolomytsev).

(THYROID GLAND__DISEASES)

NEYMARK.I.I., prof.

Treatment of pulmonary hemorrhages. Khirurgiia 37 no.1:101-
106 Ja '61. (MIRA 14:2)

1. Iz fakul'tetaskoy khirurgicheskoy kliniki (zav. -- prof. I.I.
Neymark) Altayskogo meditsinskogo instituta.
(HEMORRHAGE)

NEYMARK, I. I.

Diagnosis and surgical treatment of tumors and cysts of the
mediastinum. Grud. khir. 4 no.1:86-91 Ja-F '62. (MIRA 15:2)

(MEDIASTINUM—TUMORS)

NEYMARK, I. I., prof.

Hyperalgesic zones of the skin in various clinical forms of
goiter. Probl. endok. i gorm. 8 no.3:69-73 My-Je '62.
(MIRA 15:6)

1. Iz fakul'tetskoy khirurgicheskoy kliniki (zav. - prof. I. I.
Neymark) Altayskogo gosudarstvennogo meditsinskogo instituta
(dir. - dotsent F. M. Kolomytsev)

(GOITER) (PAIN)

NEYMARK, Izrail' Isayevich, prof.; KAMALDIN, Lev Nikolayevich,
dots.; EL'KOV, F., red.; ZHDANOVA, G., tekhn.red.

[Diagnosis and treatment of acute diseases of the abdominal
organs] Diagnostika i lechenie ostrykh zabolevanii organov
briushnoi polosti. Barnaul, Altaiskoe knizhnoe izd-vo,
1963. 211 p. (MIRA 17:3)

*

BAYANDIN, P.A. (Murmansk); SHVETSOV, I.M.; TIMOFEYEVA, N.V.; KOVAL', V.P.;
KOZLOVA, E.Z.; TRET'YAKOV, N.I. (Kaliningrad); HAMEDOV, E.Sh.
(Poselok Martuni, AzerSSR); BOROVYY, Ye.M.; DULAYEV, S.G. (Grodno);
GERASIMOV, B.A. (Lugansk); MEL'NIK, L.A. (Chernovtsy); MIGAL', L.A.;
GUBANOV, A.G.; GOROVENKO, G.G. (Kiyev); SHAROV, B.K. (Chelyabinsk);
SHUVALOVA, Z.A. (Sverdlovsk); NEYMARK, I.I.; ARYAYEV, L.N. (Odessa);
KABANOV, A.N.; KONOVALOV, Yu.S.; ZAK, V.I. (Orenburg); MIKHAYLOV, M.M.;
SEZ'KO, A.D. (Voronezh); SHALAYEV, M.I.; DONIN, V.I. (Saratov).

Abstracts. Grudn. khir. 5 no.3:110-126 My-Je'63 (MIRA 17:1)

1. Iz kafedry normal'noy anatomii Ryazanskogo meditsinskogo in-
stituta imeni akademika I.P.Pavlova (for Shevtsov). 2. Iz Sochin-
skogo nauchno-issledovatel'skogo instituta kurortologii i fizio-
terapii Ministerstva zdravookhraneniya RSFSR (for Timofeyeva).
3. Iz khirurgicheskogo otdeleniya Ternopol'skoy klinicheskoy
gorodskoy bol'nitsy (for Koval'). 4. Iz kafedry topograficheskoy
anatomii i operativnoy khirurgii (zav. - prof. A.P. Sokolov).
Permskogo meditsinskogo instituta (for Kozlova). 5. Iz khirur-
gicheskogo otdeleniya (zav. - Ye. M. Borovyy) Rovenskoy oblast-
noy bol'nitsy (glavnyy vrach - UkrSSR V.M. Vel'skiy) (for Borovyy).

(Continued on next card)

BAYANDIN, P.A.— (continued) Card 2.

6. Iz fakul'tetskoy khirurgicheskoy kliniki (dir. - prof. I.M. Popov'yan) i gospital'noy terapevticheskoy kliniki (dir. - prof. L.S.Shvarts) lechebnogo fakul'teta Saratovskogo meditsinskogo instituta (for Migal'). 7. Iz kafedry fakul'tetskoy khirurgii (zav. - prof. I.I.Neymark) Altayskogo meditsinskogo instituta (for Neymark). 8. Iz Novosibirskogo gorodskogo protivotuberkuleznogo dispansera (for Kabanov). 9. Iz kafedry fakul'tetskoy khirurgii (zav. - prof. I.A.Ivanov) Permskogo meditsinskogo instituta (for Shalayev).

KOLOMIYTSEVA, Marta Grigor'yevna; NEYMARK, Izrail' Isayevich;
KHAMIDULLIN, R.S., red.

[Goiter and its prevention] Zob i ego profilaktika. Moskva, Medgiz, 1963. 298 p. (MIRA 17:5)

NEYMARK, I.I. (Barnaul)

Diagnosis and clinical aspects of pericardial ccelomic
cysts. Klin. med. 41 no.4:73-78 Ap '63. (MIRA 17:2)

1. Iz fakul'tetskoy khirurgicheskoy kliniki (zav. - prof.
I.I. Neymark) Altayskogo meditsinskogo instituta.

NEYMARK, I.I.; KAMARDIN, L.N.

Progressive ossifying myositis. *Pediatrics* 42 no.6:78-80
Ja'63 (MIRA 17:1)

1. Iz kliniki fakul'tetskoy khirurgii (zav. - prof. I.I.
Neymark) Altayskogo meditsinskogo instituta.

NEYMARK, I.I., prof.

Surgical treatment of cancer. Kaz. Med. Zhurn. no. 6: 2-7, 1962.
(MIRA 1965)

1. Fakul'tetskaya kafedra neoplazm klinicheskoy onkol. - prof. I.I. Neymark) Altayskoye nauchnoissledovatel'skoye instituta.

NEYMARK, I.I., prof.

Surgical treatment of chronic coronary insufficiency. Kaz. med.
zhur. no.8:8-11 N-3 1982. 1982

1. Fakul'tetskaya khirurgicheskaya klinika (zav. - prof. I.I.
Neymark) Altayskogo meditsinskogo instituta.

BARKAGAN, Z.S.; NEYMARK, I.I.

Nature of postoperative hemorrhages in lung resection. Sov
med. 27 no.1:101-103 Ja '64. (MIRA 17:12)

1. Klinika fakul'tetskoy khirurgii (zav.- prof. I.I. Neymark)
i klinika propedevtiki vnutrennikh bolezney (zav.- dotsent Z.S.
Barkagan) Altayskogo meditsinskogo instituta.

NEYMARK, I.I. (Barnaul, prospekt Lenina, d.53, kv.10); Weymark, I.I. (Barnaul,
ul. 1-go Maya, d.10, kv.7)

Diagnosis of the cavitary form of pulmonary cancer. *Russ. med. zh.*
10 no.5:11-14 '64. (Barnaul 1964)

1. Iz fakul'tetskoy khirurgicheskoy kliniki (zav. - prof. I.I. Neymark) Altayskogo meditsinskogo instituta (rektor - prof. F.M. Kolomiitsev).

NE MARK, I.I. (Barnaul, 15, prospekt Lenina 55, kv.10); KAMARDIN, L.N.
(Barnaul, 15, ul. Novaya, 9, korpus 2, kv.24)

Results of the use of bronchoscopy under anesthesia in apnoea in
the diagnosis of cancer of the lungs. Vop. onk. 10 no.12:64-
68 '64. (MIRA 18:6)

1. In kafedry fakul'tetskoy khirurgii (nav.- prof. I.I. Neymark)
Altayskogo meditsinskogo instituta (rektor - dotsent V.N. Kryukov).

NEYMARK, I.I.

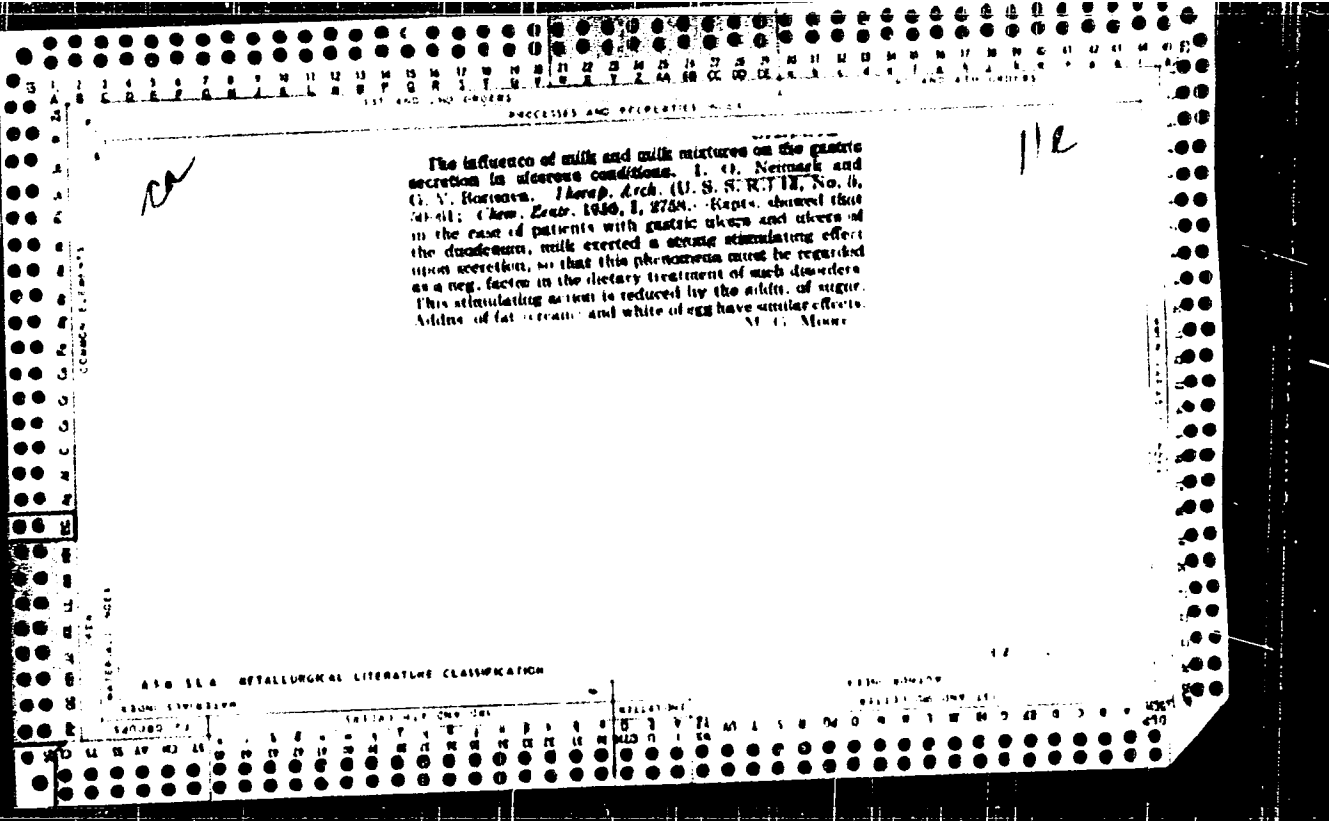
Treatment of cardiac fibrillation in thyrotoxicosis. Probl.
endok. i gorm. 11 no.1:29-33 Ja-F '65. MIPA 18:5

1. Kafedra fakul'tetskoy khirurgii (zav. - prof. I.I. Neymark,
Altayskogo meditsinskogo instituta, Barnaul.

NEYMAR, I.I., (1911-1912) ...

Prophylaxis of ...
no. 2022 ...

1. Fakultetskoye ...
Neymar, A. ...



NEYMARK, I. O.

29267 O metode lecheniya yazvennoy bolezni dlitel'- nym snom. Klinich. meditsina,
1949, No 9, s. 65-69

SO: Letopsi' Zhurnal'nykh Statey, Vol. 39, Moskva, 1949

NEYMARK, I.O., professor; GUSTERIN, G.A.

Clinical characteristics of deforming perigastritis and pathogenesis
of associated insufficiency of gastric evacuation. Terap. arkh. 26
no.2:61-68 Mr-Apr '54. (MLRA 7:8)

1. Iz gosptal'noy terapevticheskoy kliniki Leningradskogo pediatri-
cheskogo meditsinskogo instituta (dir. prof. M.E.Mandel'shtam)
(STOMACH, diseases,
*perigastritis with disord. of evacuation)

NEYMARK, I.O., professor (Leningrad)

Clinical aspects and pathogenesis of asthenia following
gastrectomy. Terap. arkh. 28 no.1:26-33 ' 56 (MLRA 9:6)

1. Iz klinicheskogo sanatoriya bolezney organov pishchevareniya
VTSSPS.

(ASTHENIA,
postgastrectomy (Rus))
(STOMACH, surgery
gastrectomy, postop. asthenia (Rus))

NEYMARK, I.S.
GUBER-GRITS, D.S.; NEYMARK, I.S.

Treating lumbosacral arachno-radiculitis by endolumbar air insufflation [with summary in French]. Zhur.nevr. i psikh. 57 no.10: 1269-1271 '57. (MIRA 10:12)

1. Tsentral'naya psikhonevrologicheskaya bol'nitsa (nach. V.M. Yushtin) Ministerstva putey soobshcheniya.

(THERAPEUTICS

endolumbar admin. of air in lumbosacral arachno-radiculitis (Rus))

(NERVES, SPINAL, diseases,

lumbosacral arachno-radiculitis, encolumbar admin. of air in ther. (Rus))

(ARACHNOID, diseases,

seam)

L 26688-66 EWT(I)/EWT(M)/EWP(J)/T WW/EO/JK/RM

ACC NR: AP6016900

SOURCE CODE: UR/0379/65/001/003/0400/0405

AUTHOR: Tertykh, V. A.; Churko, A. A.; Naymark, I. Ye. 53 BORG: Institute of Physical Chemistry im. L. V. Pisarzhevskiy, AN UkrSSR, Kiev
(Institut fizicheskoy khimii AN UkrSSR)TITLE: Reaction of gamma-aminopropyl- and beta-cyanethyl-triethoxysilanes with aerosol surface using infrared spectroscopy 1SOURCE: Teoreticheskaya i eksperimental'naya khimiya, v. 1, no. 3, 1965, 400-405

TOPIC TAGS: aerosol chemistry, aerosol, IR spectroscopy, silica, organic nitrogen compound, hydrogen bonding, adsorption

ABSTRACT: Surface modification of aerosols⁶ by vapors of γ -aminopropyl- and β -cyanethyl-triethoxysilanes and their benzene solutions was investigated. Upon contact of alkoxy silanes with surface OH groups of the silica, an organosilyl layer is formed which is stable under vacuum conditions up to high temperatures. The condensation reaction evidently occurs first of all on surface hydroxyle that are not hydrogen bonded. The behavior of cyanorganosilyl groups as new possible sites of adsorption was discovered. It was shown that the CN-group band (2249 cm^{-1}) does not change its position upon the adsorption of different compounds. The authors thank A. N. Sidorov and Academician A. N. Terenin for their assistance in carrying out this work. Orig. art. has 5 figures. [JPRS]

SUB CODE: 07 / SUBM DATE: 28Dec64 / ORIG REF: 015 / OTH REF: 002

Card 1/1 BLG

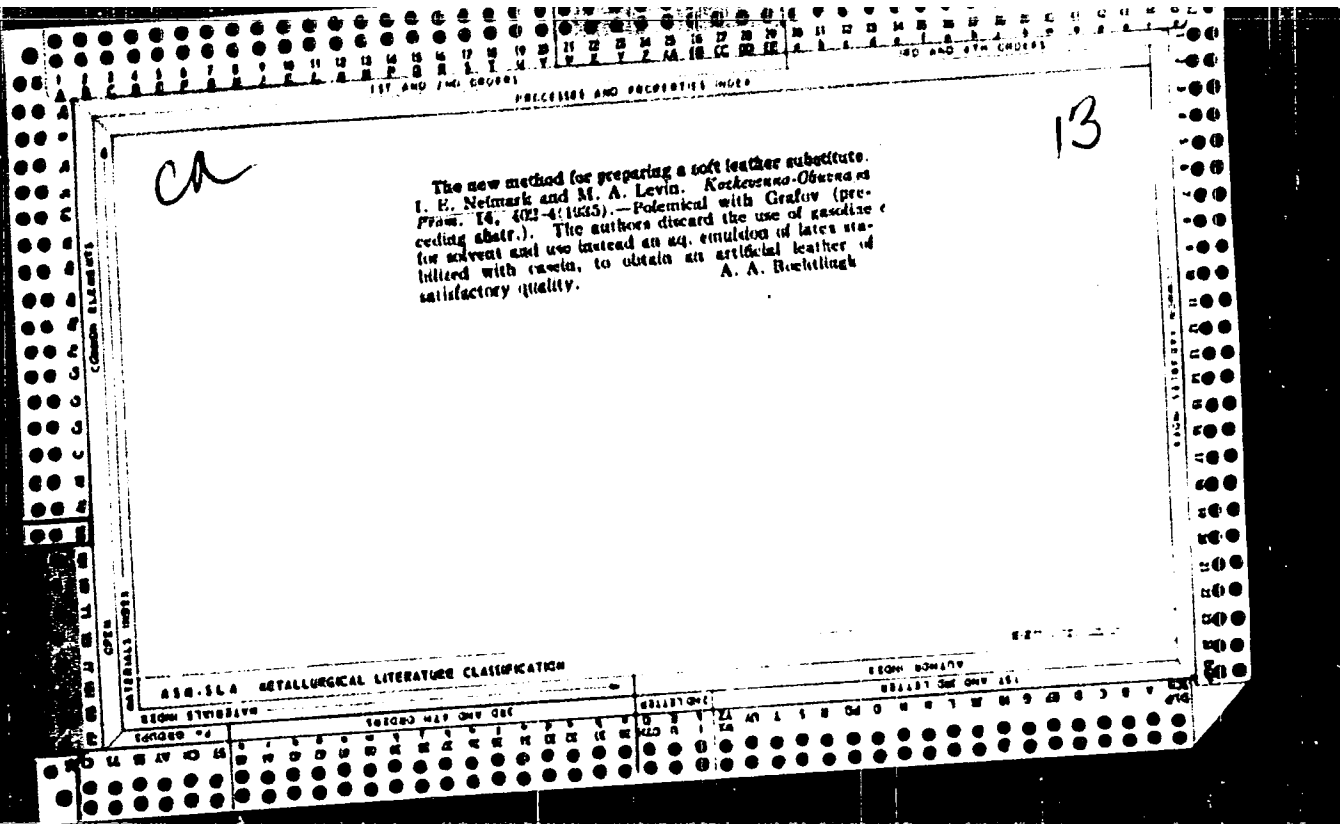
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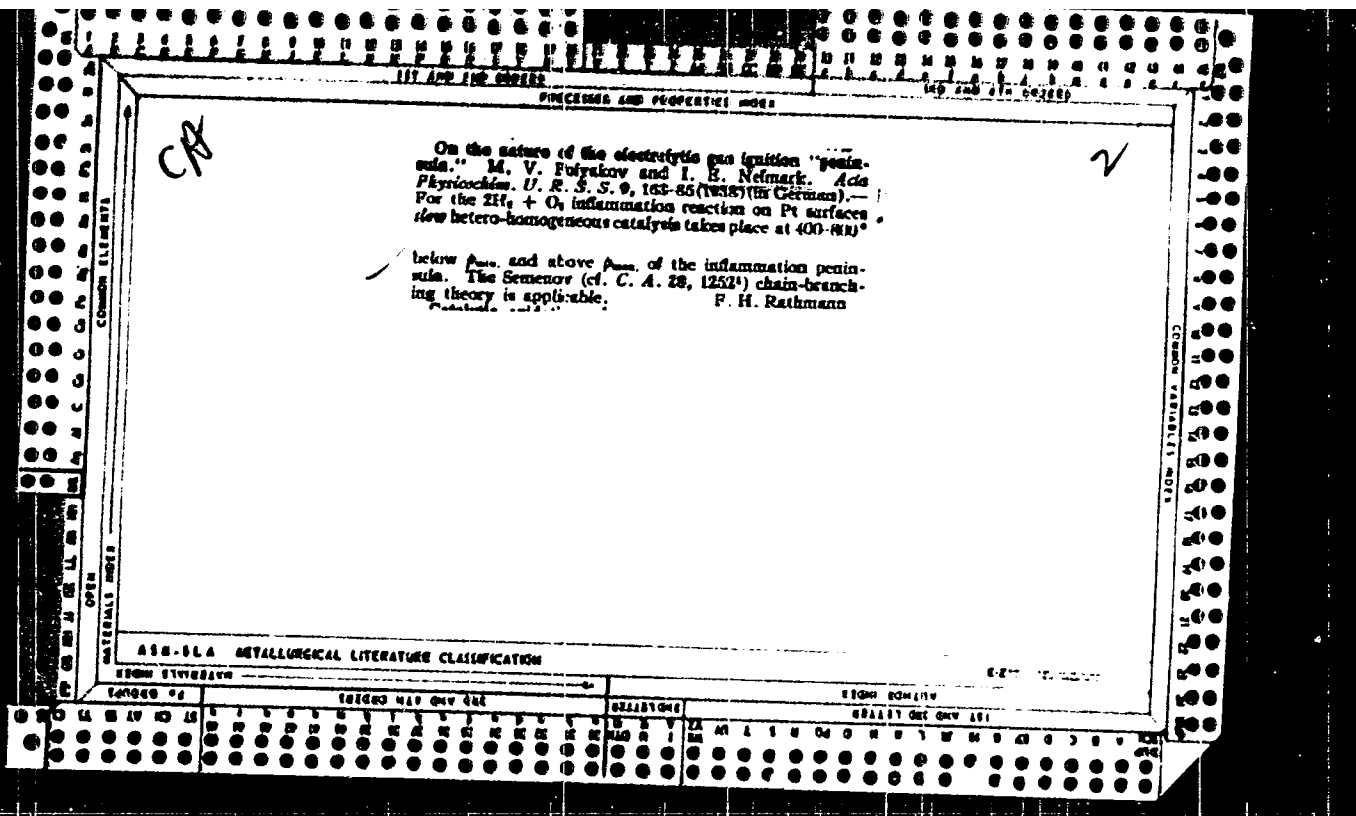
The kinetics of adsorption of vapors by highly active sorbents. M. V. Polyakov, I. B. Neimark and I. M. Malkin. *J. Phys. Chem. (U. S. S. R.)* 5, 1079-81 (1974).

The kinetics of adsorption of vapors by dynamic means was studied by the usual methods. With a mist of charcoal and silica gel as adsorbent the adsorption of benzene and toluene at temps. from 0° to 30° gives a linear dependence of A upon C and C/A upon C at higher temps., proving the correctness of the Langmuir conception with regard to the essence of adsorption as the result of kinetic equilibrium between condensation and evaporation. The change in the character of the isotherm with decrease in temp. apparently must be explained by the onset of capillary condensation.

E. M. Hammon



Formation of hydrogen peroxide by the explosive method. M. V. Polyakov, I. E. Nelmark and F. G. Maksimuk. *Rev. Inst. phys. Chem. Acad. Sci. USSR*, No. 1, 21, 800, 1963, 8482. Results are reported on the yields of H_2O_2 by exploding mixtures of $2H_2 + O_2$ under pressures of 80, 130 mm. Hg and wall temps. ranging from -40 to -180° . At 100 and 130 mm. the yield of peroxide increases noticeably as the temp. of the walls is decreased to -120° , but any further drop in temp. causes a very small increase in the yield. The yields at 100 mm. were higher than at 130 mm. At 80 mm. the yield below -120° increases considerably down to -180° . The resp. yields of peroxide at -180° at 80, 100 and 130 mm. were 2.28, 1.3 and 0.62%. Within the interval of -40 to -120° the yield and wall temp. are expressed by $K = \log a / T^2$, where a is yield and T is abs. temp.; a is about 0. Mechanism of peroxide formation is discussed. W. Z. Kamich

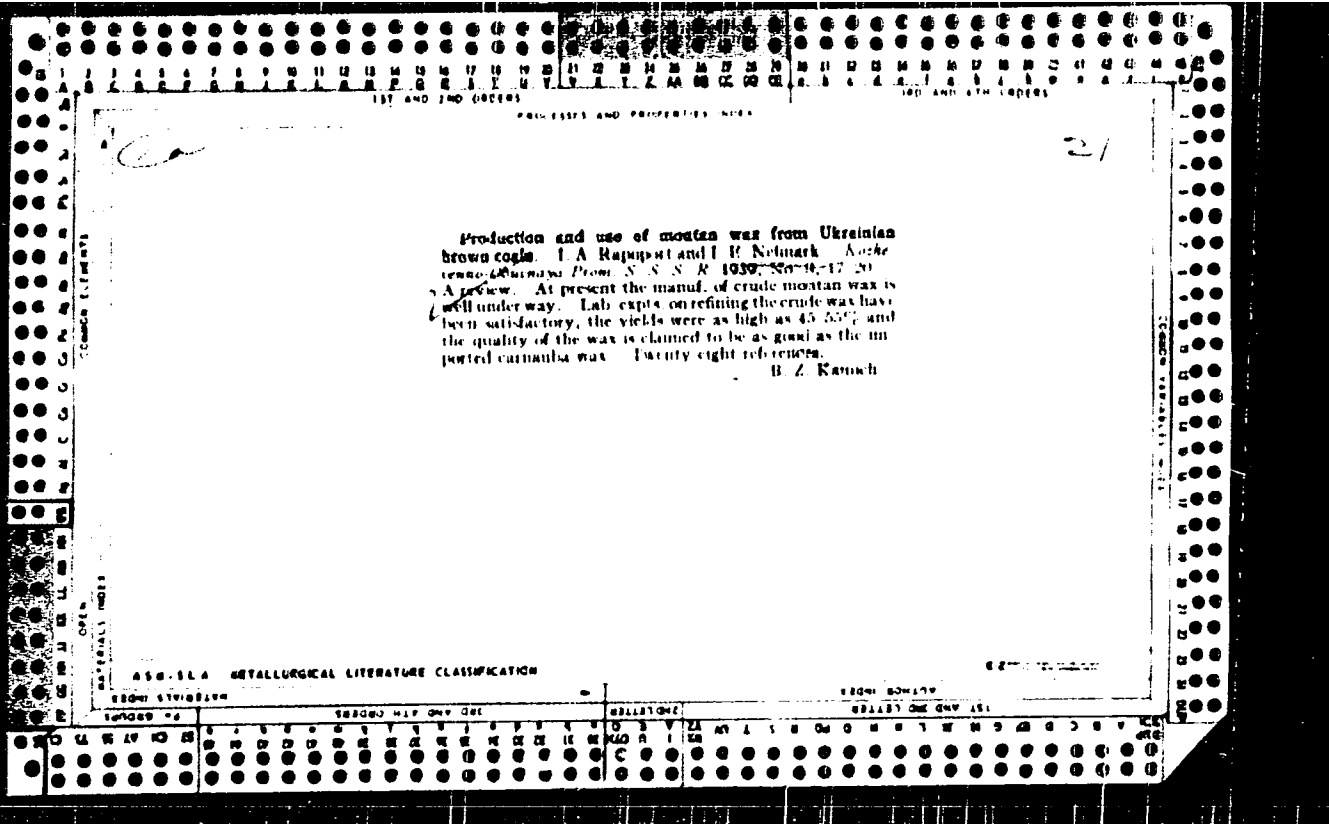


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27

Casein coatings for leather. I. E. Nelmark, G. M. Kagan and A. S. Shincerson. *Khimiya-Odnoraznykh Veshch. 1938, No. 2, 26-8; Khim. Referat. Zhur. 1, No. 10, 67 (1939). Unsatisfactory results were obtained when acidic casein was used as the film-forming substance. Entirely satisfactory results were obtained with a mixt. of casein and skim milk. Alizarin oil neutralized with KOH was used as a plasticizer, and phenol, as an antiseptic for the coatings. Technique of application is described.*
W. R. Henn

ASAC LIA DETAIL LITERATURE CLASSIFICATION



1. NEYMARK, I. Ye.; KULESHINA, L.P. POLYAKOV, M.V.

2. USSR (600)

"The Kinetics of the Slow Oxidation of Hydrogen," Zhur. Fiz. Khim, 13, No. 11, 1939. Dnepropetrovsk, Institute of Physical Chemistry imeni Academician I.V. Pizarzhevski Academy of Sciences Ukrainian SSR. Received 13 June 1938.

9. Report U-1615, 3 Jan 1952.

NEIMARK, I.

"Du depistage des forines atypiques de la maladie ceulreuse." Neimark, I. (p. 49)

SO: Journal of General Chemistry (Zhurnal Obsheei Khimii) 1940, Volume 18, No. 1.

USSR/Silica Gels
Surface Tension

Apr 1947

"Effect of Surface Tension of the Coagulant Upon the Formation of the Internal Structure of Silica Gels," I. B. Neumark, F. I. Khatzet, Laboratory of Adsorption Processes, Institute of Physical Chemistry Imeni L. V. Pisnarshevskiy, Academy of Sciences, USSR, 9 pp

"Kolloidnyy Zhurnal" Vol IX, No 4

Discussion of experimental data, with tables and graphs. Concludes that the surface tension has a considerable effect; the lower the tension, the more coarsely porous types of silica gels are formed, etc.

17T83

USSR/Silica Gels (Contd)
Surface Tension

Apr 1947

Submitted 20 Dec 1946. Assistance from Academician M. M. Dubinin and Prof M. V. Polyakov.

17T83

1ST AND 2ND COLUMNS PROCESSES AND PROPERTIES INDEX 3RD AND 4TH COLUMNS

19

CA

Absorption properties and structure of silica gels. I. I. Neimark, F. I. Khachat, and R. Yu. Buzelina. *Doklady Akad. Nauk S.S.S.R.* 61, 1037-40(1968). - Samples of silica gels of different microporosities, including very fine, porous gels with the total pore vol. equal to the micropore vol. (I), medium porous (II), and coarsely porous gels with a large total pore vol. (III), are shown to have different adsorption isotherms for MeOH vapor. With I, the adsorption equil. is reversible, the sorption and desorption branches coincide, indicating absence of capillary condensation. II and III show hysteresis. The Brunauer-Emmett-Teller equation is not applicable to I but does apply to II and III up to relative pressures $p/p_0 = 0.35-0.40$. The equation of Dubinin and Radushkevich (*ibid.* 55, 331(1947)) $\log a = \log (W_0/a) - 0.454[\log (p_0/p)]^2$, where $W_0 = \text{vol. of the adsorption space at the adsorption potential } a = 0$, applies to all gel samples examd. up to $p/p_0 = 0.35-0.38$, which demonstrates the validity of the Gauss-type distribution of the vol. of the adsorption space, $W = W_0 e^{-a^2}$, except for III. N. Thon

Inst. Phys. Chem. in L. V. Prizhevskiy, AS Ukr. SSR

ASB-31A METALLURGICAL LITERATURE CLASSIFICATION

FROM 47102120

SEARCHED BY INDEXED BY REACTION SOURCE NUMBER

10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

NEYMARK, I.E.; KHATSET, F.I.

Role of the structure of adsorbents in molecular chromatography
of vapors. Dop. AN URSS no.2:24-29 '49. (MLRA 9:9)

1. Institut fizichnoi khimii im. L.V. Pisarzhevs'kogo AN URSS.
Predstaviv diyeniy chlen AN URSS O.I. Brods'kiy.
(Vapors) (Chromatographic analysis)

HEYMARK, I.E.; FREYDLIN, L.Kh.; FRIDMAN, G.A.; SHEYMFAYN, R.Yu.

Structural changes of a silica-gel catalyst during its poisoning.
Dop.AN URSS no.5:27-32 '49. (MLRA 9:9)

1. Institut fizichnoi khimii imeni L.V.Pisarzheva'kogo AN URSS i
Institut organichnoi khimii AN URSS. Predstaviv diysniy chlen AN
URSS O.I.Brods'kiy.

(Catalysts) (Silica)

NEYMARK, I. Ye.

Neymark, I. Ye., and Sheynfayn, R. Yu. - "On the mechanism of thermic deactivation of silica gel", Ukr. khim. zhurnal, Vol. XIV, Issue 2, 1949, p. 24-33, - Bibliog: p. 33.

SO: U-4392, 19 August 53, (Letopis 'Zhurnal 'nykh Statey, No. 21, 1949).

CA

Relation between the type of the porosity of a silica gel and its catalytic properties. I. Kh. Perfilov, I. R. Nefedov, G. A. Fridman, R. Yu. Sheinfilin and P. I. Khachat (Inst. Org. Chem. Acad. Sci. U.S.S.R., Moscow). *Izv. Akad. Nauk S.S.S.R., Otdel. Khim. Nauk* 1960, 621-30. The fact that vapor-phase hydrolysis of aryl halides is catalyzed by the typically hydrophilic catalyst silica gel proves that the activation bears on the H₂O; a typical activator of aryl halides, Cu, does not catalyze the reaction. Only somewhat-hydrated silica gel is active; consequently, the active centers lie at the OH groups of the silica gel. However, the catalytic activity of a silica gel is governed not only by the d. of these centers but by the vol. of the micropores, which det. the sp. surface area, and the amt. of intermediate pores necessary for the transport of reactants and products. Yields of PhOH and of HCl, from PhCl and H₂O passed in approx. equal amts., at ~300 g./l. catalyst/hr., in 110-min. (11 g. PhCl) runs at increasing temps. from 450 to 650°, with air-stream regeneration at 525° between runs, were detd. for 6 types of silica gel catalysts with the following characteristics (total pore vol., micropore vol. (ml./g.), vol. of absorbed liquid C₆H₆ at the satn. pressure, vol. of intermediate pores (ml./g.), Brunauer-Emmett-Teller sp. surface area in sq. m./g.): (I) 0.30, 0.25, 0.30, 0.20, 300; (II) 0.45, 0.25, 0.45, 0.10, 420; (III) 0.45, 0.32, 0.45, 0.14, 500; (IV) 1.23, 0.25, 1.10, 0.94, 490; (V) 0.93, 0.23, 0.95, 0.72, 420; (VI) 0.93, 0.18, 0.94, 0.70, 325. Curves of the yield of PhOH (in %) against the temp. are of 3 types: Catalysts I, IV, and V have a distinct max. at about 600°; the subsequent fall of the rate is due to irreversible thermal deactivation. This is most marked with catalyst I which has the smallest vol. of intermediate pores. The 2nd type is represented by II and III. Catalyst II has a low activity, practically independent of the temp. between 450 and 650°.

III has a temp.-independent activity between 450 and 650°, followed by a fall. Absence of an increase of the activity with the temp. in the case of II is attributed to the insufficiency of intermediate pores, i.e. to inadequate diffusivity. This same factor is responsible for the relatively not very high activity of III, despite its very high microporosity. The 3rd type, represented by catalyst VI, characterized by a small micropore and a large intermediate-pore vol., is an S-shaped curve with the yield steadily increasing with temp. up to 650°. The selectivity of the catalysts, characterized by the yield ratio HCl/PhOH, is different for the 3 types. It is lowest with silica gels II and III, with the HCl/PhOH yield ratio increasing very strongly with the temp., from about 850° and 600° ca, resp. With the gels I, IV, and V, the ratio begins to increase with the temp. from 600° on, with VI, it remains very nearly temp. independent, ~1. The thermal stability, expressed by the ratio of the PhOH yields at 600 and 650°, decreases in the order VI (0.8), V (1.1), IV (1.4), I and III (2.4), i.e. the least microporous VI is the most thermostable; catalysts I and III, having the smallest vol. of intermediate pores, are the least stable. Catalyst II is not included in this evaluation on account of the predominant role of inhibited diffusion. An important silica gel, found to be very highly active at 450°, but almost completely inactivated at 550°, was found to be very highly microporous, and, by the reversibility of its MeOH-vapor adsorption curve, almost completely devoid of intermediate pores, which accounts for its exceptionally poor thermostability. N. Tsim

1951

CA

2

The phase state of a substance in the adsorbed layer. L. M. Nekrasov and P. I. Khatmet (Inst. Acad. Sci. Ukr. S.S.R., Kiev). *Doklady Akad. Nauk S.S.S.R.* 74, 781-4 (1950).—The controversial question of the state of aggregation of a vapor physically adsorbed on a solid surface was decided by detns. of the compn. of the mixt. adsorbed from a binary mixt., as compared with the compn. of the liquid and of the vapor phases of that mixt. The answer depends on the type of the porosity of the sorbent. Three types of silica gel, (I) finely porous, (II) medium-porosity, and (III) coarsely porous, preliminarily heated to 400°, were exposed to mixed vapors of C_6H_6 + CCl_4 ; the substance adsorbed was desorbed at 400° until const. wt., and its compn. was detd. On type I, the compn. (at high surface coverage) was found to correspond to that of the vapor, on III mainly to the liquid phase, whereas on II it is intermediate between the two. Consequently, on I the adsorbed substance is gaseous, on III liquid, and on II partly gaseous and partly liquid. At low surface coverages, the adsorbed substance is

gaseous in all cases, and, on I, it remains gaseous over the whole range of coverages. On II and on III, the liquid phase appears at a definite coverage, the later the course the porosity, e.g. at 0.18 cc./g. on II, and at 0.347 cc./g. on III, and its amt. increases with increasing coverage. Absence of selective adsorption of C_6H_6 from the C_6H_6 + CCl_4 mixt. is demonstrated by the constancy of the C_6H_6 content in the substance desorbed from different types of silica gel and its identity with the azeotropic compn. Accordingly, the liquid C_6H_6 + CCl_4 mixt. is not sepd. by filtration through a column of silica gel. In contrast thereto, C_6H_6 is selectively adsorbed on silica gels of type I from a mixt. C_6H_6 + C_2H_2 , i.e. a mixt. of mols. of distinctly different sizes. The view ascribing all phys. adsorption to capillary condensation is erroneous; it does not apply at all to finely-porous sorbents, and for coarsely porous sorbents it is true only at sufficiently high surface coverages. Capillary condensation develops when unimol. adsorption is followed by the build-up and merging of multimol. layers in a capillary, and will occur the later the greater the diam. of the pore. N. Tsiou

C.R.
1951

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Poisoning of the silica-gel catalyst by inorganic impurities and by the reactants. I. E. Neimark, L. Kh. Frekhtin, R. Yu. Shostakov, and G. A. Pivinskii (L. V. Piarshkevskii Inst. Phys. Chem., Acad. Sci. Ukr. S.S.R., Kiev). *Izv. Akad. Nauk S.S.S.R., Otdel. Khim. Nauk* 1951, 311-10. — Poisoning of a sample of com. SiO_2 gel with 1% HCO_2Li caused a decrease of the micropore vol. from 0.21 to 0.11 ml./g., and of the sp. surface area from 296 to 191 sq. m./g. In another sample, the same admn. caused a decrease of the total pore vol. from 0.40 to 0.40 ml./g., of the micropore vol. from 0.20 to 0.19 ml./g., and of the sp. surface area from 450 to 300 sq. m./g. In a 3rd sample, the total pore vol. decreased from 0.48 to 0.43, and the micropore vol. from 0.23 to 0.18 ml./g. The vol. of intermediate pore underwent no change. Along with these changes of micropore vol. and sp. surface area, there is also a decrease of the catalytic activity in the gas-phase hydrolysis $\text{PhCl} + \text{H}_2\text{O} \rightarrow \text{PhOH} + \text{HCl}$, as illustrated by the following data of yields of PhOH and HCl , at 500° : unpoisoned SiO_2 gel (space velocity 388 g. $\text{PhCl}/1$ catalyst/hr.) 10.7 and 11.3%; poisoned with 1% HCO_2Li (space velocity 326) 0.2 and 0.5; poisoned with 1% $(\text{AcO})_2\text{Pb}$ (space velocity 572) 0.5 and 0.7. The poisoning is reversible; with an imported (German) SiO_2 gel, impregnated with CoCl_2 , the sp. surface and the catalytic activity were increased upon elution of the CoCl_2 . Adsorption of H_2O vapor on the SiO_2 gels was not detected at either 300° or 450° . At 450° , PhCl was adsorbed without decompn., but PhBr , and to an even higher degree, PhI , underwent decompn. At 300° , where there was no decompn., adsorption of PhBr was 3 times, and that of PhI 7 times as great as that of PhCl . The very much stronger adsorption of PhBr and PhI as compared with PhCl is taken to account for the decrease of the hydrolytic catalytic activity of SiO_2 gel, unpromoted or promoted with CaCl_2 , from PhCl to PhBr and PhI , owing to stronger adsorptive poisoning by the latter reactants.

N. Thon

USSR/Chemistry - Catalysts Jan/Feb 51

"Promotion of Silica Gels of Different Porosities"
L. Kh Freydlin, I. Ye. Neymark, G. A. Fridman, R.
Yu. Sheynfeyn, Inst Org Chem, Acad Sci USSR, Inst
Phys Chem imeni L. V. Pissarzhevskiy, Acad Sci
Ukrainian SSR

PA 174712

"Iz Ak Nauk SSSR, Otdel Khim Nauk" No 1, pp 86-94

Investigates effect of cupric chloride on prop-
erties of silica gels of different porosities as
catalyst in vapor-phase hydrolysis of chloro-
benzene. Finds cupric chloride promotes silica

LC 174712

USSR/Chemistry - Catalysts (Contd) Jan/Feb 51

gel, regenerates it when it is poisoned by inorg
admixt, increases its thermostability and selec-
tivity of action, and reduces diffusion braking
of reaction.

NEWMARK, I. YE.
LC 174712

18513, I. Ye.

USSR/Chemistry - Adsorption

21 Feb 51

"Investigation of the Structure of an Adsorbent by Several Independent Methods,"
M. Avgul', G.M. Dzhigit, N.K. Kamkin, A.V. Siselev, V.K. Luk'yanovich, I.Ye. Neymark',
R. Yu. Sheynfayn, Moscow State U Inent. N.Y. Lomonosov, Inst Phys Chem, Acad Sci Ukr
SSR, Inst Phys Chem, Acad Sci USSR, Groznyy Sci Res Petroleum Inst

"Dok Ak Nauk SSSR" Vol LXXVI, No 6, pp 855,859

Adsorption isotherms of benzene, heptane, and MeOH were taken on uniform roughly porous silica gel (structural type 2). Found surface of adsorbed film to be equal to surface of the adsorbent and not to depend on nature of vapor. Detd distribution of vol of pores by structure-adsorption method, method of pressing Hg into the pores, and electronic microscope method. Results obtained by the 3 methods checked.

18513

DOBININ, M.M., akademik, otvetstvennyy redaktor; GAPON, Ye.N.; GAPON, F.B.;
ZHYPAKHINA, Ye.S.; RACHINSKIY, V.V.; BELEN'KAYA, I.M.; SHUVAEVA, G.M.;
ROGINSKIY, S.Z.; YANOVSKIY, N.I.; FUES, N.A.; KISELEV, A.V.; HEYMARK, I.Ye.;
SLINYAKOVA, I.B.; KHATSET, F.I.; LOSEV, I.P.; TROSTYANSKAYA, Ye.B.;
TEVLINA, A.S.; DAVANKOV, A.B.; SALDAZEV, K.M.; BEUMBERG, Ye.M.; ZHIDKOVA,
Z.V.; VEDENEEVA, N.Ye.; NAPOL'SKIY, S.A.; MIKHAYLOVA, Ye.A.; KAZANSKIY, B.A.;
RYABCHIKOV, D.I.; SHEMYAKIN, F.M.; KRESTOVICH, V.L.; BUNDEL', A.A.; SAVINOV,
B.G.; VENDT, V.P.; EPSHTEYN, Ye.A.

[Research in the field of chromatography transactions of the All-Union
Conference on Chromatography, November 21-24, 1950] Issledovaniia v oblasti
kromatografii; trudy Vsesoiuznogo soveshchaniia po khromatografii, 21-24
noiabria 1950 g. Moskva, Izd-vo Akademii nauk SSSR, 1952. 225 p.
(MLRA 6:5)

1. Akademiya nauk SSSR. Otdelenie khimicheskikh nauk.
(Chromatographic analysis)

OVCHARENKO, F.D.; NEYMARK, I.Ye.; SLYNYAKOVA, I.B.; BYKOV, S.F.; DUMANS'KYY, A.V.,
diysnyy chlen.

Hydrophilic and adsorption properties of certain natural sorbents. Dop. AN
URSR no.6:447-452 '52. (MLRA 6:10)

1. Akademiya nauk Ukrayins'koyi RSR (for Dumans'kyy). 2. Instytut fizychnoyi
khimiyi i instytut zahal'noyi ta neorganichnoyi khimiyi Akademiyi nauk Uk-
rayins'koyi RSR (for Ovcharenko, Neymark, Slynyakova and Bykov).
(Sorbents) (Clay)

~~NEYMARK I.V.~~
NEYMARK, I.V.E.

Effect of the method of production on the structure and sorption properties of alumina-silica gels. I. E. Neymark and E. V. Vlasovskii. *Doklady Akad. Nauk S.S.S.R.* 1953, 17-20. (Russian summary).--Results of the investigation indicate that the porous structure and the sorption characteristics of the gels in all cases differ from those of the original seq. compds. SiO_2 and Al_2O_3 gels. In the acid range small additions of $Al(OH)_3$ to the sol of citric acid leads to formation of finely porous gel of greater surface area than that of the original SiO_2 gel. In alk. and neutral medium the gels of alumina silicate are coarsely grained with particles larger than the initial Al_2O_3 . The sorption characteristics of the gels appear to follow the basic rules established for the SiO_2 gels according to which the sorption is a function of the available surface area.

M. G. Holowaty

NEYMARK, I. Ye.

Application of the mechanism of formation of porous structures of hydrophilic oxides to mixed sorbents. *Zh. Vysokikh i Ned. Temp.* 1954, 10:1-10:12 (Russian summary); *et. C.A.* 47, 7193d. — The effect of the drying temp. and the washing liquor on the activity (C_{eff}) of mixed sorbents. $Al_2O_3-SiO_2$, $C-SiO_2$, and $C-Al_2O_3$ were used. $Al_2O_3-SiO_2$ dried at 200° had a higher activity (greater porosity) than when dried at 20° . To a lesser degree the same was true of other mixts. The deviation of the apparent from the real d. (additive rule) of mixts. washed with tap water is at first pos., then passes through a max. and becomes neg. as the C content increases; when washed with acidified H_2O the deviation is continuously neg. (up to 60% C).

I. Ben-zovits

10

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U.S.S.R.

Effect of pressing on the character of porosity, catalytic properties, and chromatographic activity of silica gel. L. Ch. Freidlin, L. F. Vereshchagin, I. E. Selmark, I. G. Rumshin, and R. Yu. Shergalo. *Bull. Acad. Sci. U.S.S.R. Div. Chem. Sci.*, 1953, 8(11-5) (Engl. translation). See C.A. 48, 4929f.

USSR/Chemistry - Adsorption, Alumina--
Silica Gel
Jan 53

NEWMARK, I. YE

"The Effect of the Conditions of Preparation of Alumina-Silica Gel on Its Structure and Sorption Properties," I. Ye. Newmark, Z. Z. Vysotskiy, Inst of Phys Chem Imeni L. V. Prizhzeva'skiy, Acad Sci Ukrainian SSR

"Dopovid' Ak Nauk Ukraini 'kol RSR" No 1, pp 17-20

The effect of conditions of preparation of alumina silica gel on its structure, composition, and sorption properties was studied. Results indicate that the pore structure and sorption properties differ from

245716

that of the starting material. In an acid medium, small additions of $Al(OH)_3$ to silicic acid sol lead to the formation of an alumina-silica gel with finer pores and greater specific surface than that of the original gel. In neutral and alkaline media, the silica gels are coarser than the control sample of alumina gel. It was demonstrated that the rules for the formation of the pore structures previously established for silica gel could be extended to mixed hydrophylic sorbents of the alumina-silica gel type if the characteristics due to the second component are taken into account. Presented by A. I. Brodskiy, Acting Mem, Acad Sci Ukrainian SSR.

245716

PA 245716

NEYMARK I.E.

USSR/Chemistry - Catalysts

Card 1/1 : Pub. 10 - 21/22

Authors : Freydlin, L. Kh.; Vereshchagin, L. F.; Neymark, I. E.; Numanov, I. U.;
and Steynfayn, R. Yu.Title : Effect of compression on the porosity, catalytic properties and chroma-
tographic activity of silica gel

Periodical : Izv. AN SSSR. Otd. khim. nauk 5, 945-950, Sep-Oct 1953

Abstract : The effect of 20,000 atm pressures on the change in porosity, adsorb-
ability and catalytic properties of silica gel was investigated. The
chromatographic activity of silica gel compressed at 20,000 atm was
found to be about 25% lower than the activity of non-compressed s. g.
The greatest reduction (almost 50%) in specific sorption volume of
pores (total volume of micro- and transient pores) of large porous
silica gel was observed at 5000 atm. but its specific surface area
remained unchanged. Maximum reduction in specific sorption volume of
pores of micro-porous silica gel was established during compression of
latter at 10,000 atm. Five USSR references (1949-1952). Tables, graphs.

Institution : ...

Submitted : December 13, 1952

MEYMARK, I.Ye.; SHEYNFAYN, R.Yu.

The role of capillary forces in the process of structure formation
of silica gels. Kolloid.Zhur. 15, 145-51 '53. (MLBA 6:3)
(CA 47 no.16:7859 '53)

1. Acad. Sci.Ukrain. S.S.R., Kiev.

NEYMARK, I.Ye.; SLINYAKOVA, I.B.

Effect of the conditions of obtaining chalk-like silica gels, on their properties and structure. Koll.zhur. 15 no.4:277-283 '53. (MLRA 6:8)

1. Institut fizicheskoy khimii Akademii nauk SSSR imeni L.V.Pisarzhevskogo (Kiyev). (Silica gel)

(CA 47 no.22:11887 '53)

11
3

Effect of the formation conditions of chalk-like aggregates on their properties and structure. I. B. Nelmark and E. Silinokova. *Colloid J. U.S.S.R.* 13, 263 (1953). (Orig. translation). See *C.A.* 47, 11827a. H. L. H. L.

NR

NEYMARK, I. YE.

USSR/Chemistry - Adsorption

11 Sep 53

"The Influence of the Hydrophobic Component of Mixed Adsorbents on the Formation Mechanism of Their Porous Structure," Z. Z. Vysotskiy and I. Ye. Neymark, Inst of Phys Chem in L. V. Pisarzhevshiy, Acad Sci Ukr SSR.

DAN SSSR, Vol 92, No 2, pp 347-350 .

During the formation of adsorbents prepd from carbon and silica gel, there is an increase in the apparent density of the silica gel as the amount of carbon is increased. This is due to penetration of silicic acid into the carbon. After passing a

269T19

max, the apparent density (corresponding to an increase of porosity) drops sharply as the amount of carbon is increased. This drop is due to the hydrophobic action of the carbon which prevents contraction of the SiO_2 in dehydration. Presented by Acad M. M. Dubinin 23 Jun 53.

VYSOTSKIY, E.E.; HEYMARK, I.Ye.; DUBININ, M.M., akademik.

Effect of the hydrophobic component of mixed sorbents, on the mechanism of formation of their porous structure. Dokl. AN SSSR 92 no.2:357-359 8 '53.
(MIRA 6:9)

1. Akademiya nauk SSSR (for Dubinin). 2. Institut fizicheskoy khimii im. K.V. Pisarshevskogo Akademii nauk Ukrainskoy SSR (for Vysotskiy and Heymark).
(Sorbents)

VISOTSKIY, Z.Z.; NEYMARK, I.Ye.

Structure and sorptive properties of mixed sorbents -- aluminosilica gels. Ukr.khim.zhur. 20 no.5:513-522 '54. (MLBA 8:1)

1. Institut fizicheskoy khimii im. L.V.Pisarzhevskogo Akademii nauk
USSR.
(Sorbents) (Silica)

Neymark, I.E.

USSR/Chemistry - Physical chemistry

Card 1/1 Pub. 147 - 14/25

Authors : Dzहित, O. M.; Kiselev, A. V.; Neymark, I. E.

Title : Standard series of silica gels and their structure

Periodical : Zhur. fiz. khim. 28/10, 1804-1811, Oct 1954

Abstract : Various standard silica gel samples were investigated to determine the effect of pore narrowing on the absolute adsorption properties of $\text{SiO}_2 \cdot n\text{H}_2\text{O}$ type adsorbents (from nonporous quartz to the finest porous silica gels). It was found that the change in the form of absolute isotherms, which takes place during reduction of pore dimensions and increase in molar volume of the adsorbed substance, is due to the intensification of the adsorption bond which is usually attributed to the dispersion forces having additive characteristics. The connection between the pore structure and the skeletal structure of silica gels was investigated and the results obtained are described. Forty-one references: 36-USSR; 2-USA; 2-German and 1-French (1932-1954). Table; graphs.

Institution : Acad. of Sc. Ukr-SSR, The L. V. Pisarzhevskiy Institute of Physical Chemistry and the M. V. Lomonosov State University, Moscow

Submitted : February 28, 1954

NEKMARK, I. Ye.

3

✓ The use of tagged atoms in the study of the effect of wash liquids on the process of the formation of silica gel structure. G. P. Yankov'ska, M. K. Piontkovskaya and I. E. Nekmark. *Doklady Akad. Nauk Ukr. R.S.S.R.*, 1955, 87-90 (Russian summary, 91); cf. *C.A.* 47, 7812d. — Freshly prepd. SiO₂ gels were (I) washed with tap water with and without Ca(NO₃)₂, (II) with distd. H₂O with CaCl₂ and (III) with distd. water without CaCl₂. The sorption-desorption (McDH) isotherms of I showed considerably greater hysteresis than those of II, whereas the isotherms of III showed no hysteresis. This indicates large pores in the former gels, which supports the theory that during washing with tap water, silicates are formed on the surface of the micelle blocking the pores. That fine porosity is formed after removing these silicates is shown when gels washed as in I were washed with 6N HCl and dried at 160°; the porosity was reduced from 0.78 to 0.45 cc./g. I. B.

② M JAC

Inst. Phys. Chem. in. Piontkovskiy, AS USSR

NEYMARK, I.E., SLINYAKOVA, I.B.

Changes in the structure of silica gel under the action of
alkali and hydrofluoric acid. Dop. AN URSS no.5: 469-473
'55. (MIRA 9:3)

1. Institut fizichnoi khimii imeni L.V. Pisarzheva'kogo AN
URSS. Predstaviv diyaniy chlen AN URSS O.I. Brods'kiy.
(Silica gel)

HEYMARK, I.Ye.

Preparation of hydrophilic sorbents of various structural types for chromatography. Trudy Kou.anal.khim. 6:77-87 '55. (MLRA 9:5)

1. Institut fizicheskoy khimii imeni L.V. Pisarzhevskogo Akademii nauk USSR.

(Chromatographic analysis) (Sorbents)

NEYMARK, I.Ye.

Classification of adsorbents according to their structural types.
Ukr.khim.zhur. 21 no.4:460-467 '55. (MLRA 9:2)

1. Institut fizicheskoy khimii imeni L.V.Pisarshevskego AN USSR.
(Adsorbents)

NEYMARK, I.Ye.; SLINYAKOVA, I.B.

Influence of cations and pH of silicic acid hydrogels on the structure of dry silica gel [with English summary in insert].
Koll.zhur. 18 no.2:219-226 Mr-Apr '56. (MLRA 9:8)

1. Institut fizicheskoy khimii ANUSSR imeni L.V. Pisarzhevskogo,
Kiyev.

(Silica)

NEYMARK L.Ye

USSR/Surface Phenomena. Adsorption. Chromatography. Ion Inter-
change

B-13

Abs Jour : Ref Zhur - Khimiya, No 8, 1957, 26364

Author : Z.Z. Vysotskiy, L.Ye. Neymark

Title : Special Case of Porous Structure of Mixed Sorbents in Sorption
Region

Orig Pub : Ukr. khim, zh., 1956, 22, No 4, 485-488

Abstract : The isotherms of sorption of C_6H_6 and H_2 vapors at 20° on coal (C) and silica gel (SG), and on carbon-silica gels (CSG) prepared on their basis were recorded by the method of quartz spring balance. The isotherms of C_6H_6 sorption on CSG differ sharply from isotherms on C and SG, especially by the presence of a vertical rise near $p/p_s = 1$. It is shown that this isotherm section is indicating the presence of macropores in CSG, in which capillary condensation of C_6H_6 takes place. The H_2O isotherms are also different on CSG-s and their components. The conclusions arrived at earlier (RZhKhim, 1954, 25053) regarding the part of C in the formation mechanism of the porous structure of CSG were confirmed.

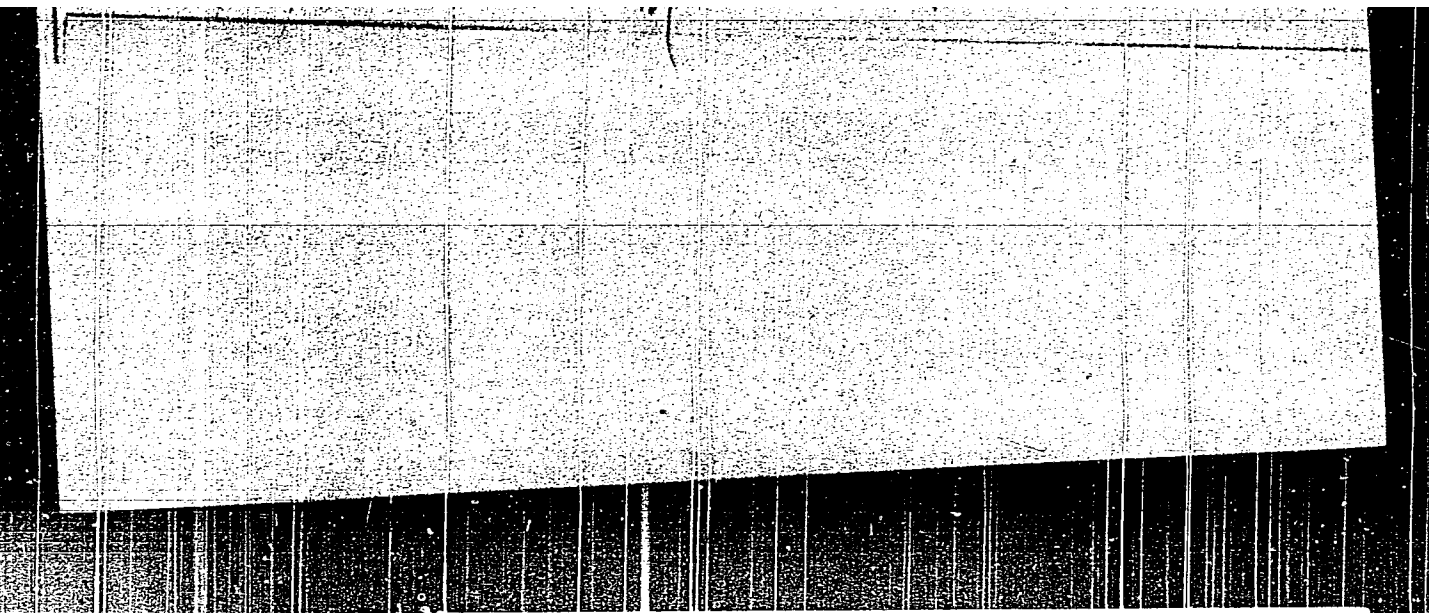
Card : 1/1

NE YMARK, I.YE.

Distr: LEA1

~~Silva Sarngal~~ ⁷ Y. B. Nelmark, S. Yu. Shafajin, and

"APPROVED FOR RELEASE: Monday, July 31, 2000 CIA-RDP86-00513R001136820



APPROVED FOR RELEASE: Monday, July 31, 2000 CIA-RDP86-00513R001136820

NEYMARK, I. Ye.

USSR/Physical Chemistry - Surface Phenomena, Adsorption, Chromatography, Ion Interchange.

B-13

Abs Jour: Referat. Zhurnal Khimya, No 2, 1958, 4016.

Author : I. Ye. Neymark, A. I. Rastrenenko, M. A. Plontkovskaya.

Inst :

Title : Preparation of Titanium Silica Gels and Their Porous Structure.

Orig Pub: Kolloidn. zh., 1957, 19, No 3, 324-332.

Abstract: Methods of preparation of titanium silica gels (TSG) and titanium gels (TG) of various texture (total porosity from 0.3 to 2.2 cub. cm per g) and with TiO₂ content up to 22% were developed. The texture of TSG was studied by measuring the apparent and true density and by taking down the isotherms of methanol vapor sorption at 20°, which were used for the computation of the specific surface and the distribution of pores according to their radii. It is shown that the conditions of TSG and TG preparation influence the final texture

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Card : 1/2

NEYMARK, I. Ye.

NEYMARK, I. Ye.; SLINYAKOVA, I.B.

Effect of the reaction of the precipitation medium and the pH of the coagulate prior to dehydration on the porous structure of chalky silicagels [with summary in English]. Koll. zhur. 19 no.6: 706-712 N-D '57. (MIRA 11:1)

1. Institut fizicheskoy khimii AN USSR im. L.V. Pisarzhevskogo, Kiev.

(Silica) (Precipitation (Chemistry))
(Hydrogen-ion concentration)

NEYMARK, I YE

USSR/Physical Chemistry - Kinetics, Combustion, Explosions, Topochemistry, Catalysis.

B-9

Abs Jour: Referat. Zhurnal Khimiya, No 3, 1958, 7244.

Author : A.I. Rastrenenko, I.Ye. Neymark.

Inst :

Title : Porous Structure of Titanosilica and Alumosilica Gels and Their Catalytic Activity.

Orig Pub: Zh. fiz. khimii, 1957, 31, No 4, 874-881.

Abstract: The following was studied; the porous structure of various titanosilica gels (I) containing 13 and 22% of TiO₂ and alumosilica gels (II) containing 6% of Al₂O₃, as well as their catalytic activity at the dehydrating decomposition of HCOOH in a circulating system at 200 to 400 . Specimens of I and II of the same composition by of various porosity were studied. The porosity was computed from the isotherms of methyl alcohol adsorption and desorption; the prevailing pore radius r varies from 60 to < 10 A,

Card : 1/3

-25-

Acad. Sci Ukr SSR, Inst. Phys Chem in PISARZHEVSKIY

USSR/Physical Chemistry - Kinetics, Combustion, Explosions, Topochemistry, Catalysis.

B-9

Abs Jour: Referat. Zhurnal Khimiya, No 3, 1958, 7244.

the magnitude of the specific surface changes little with the change of r. At 200°, the decomposition degree of HCOOH is greater on samples with fine porosity, the specific productivity (amount of the decomposed HCOOH referred to the unit of surface in a unit of time) does not practically depend on the sample porosity; samples with coarse porosity are the most productive at higher temperatures. The specific productivity rises, if the dimensions of the finely porous grains of I were decreased from 2 to 3 to 0.05 or 0.10 mm, but it does not attain the productivity of coarsely porous samples. The calcination of finely porous samples of I at 700 to 800° results in a decrease of the specific surface and the decomposition degree of HCOOH and in an increase of the specific productivity. The authors emphasize that the surface of coarsely porous samples is utilized best and that fine pores of 10⁻⁶ to 10⁻⁷ cm do not guarantee

-26-

Card : 2/3

AUTHOR: Neymark, I. Ye., Doctor of Chemical Sciences 301/64-55-4-1/20

TITLE: The Production of Mineral Technical Adsorbents of Different Pore Structure (Polucheniye mineral'nykh tekhnicheskikh adsorbentov raznoy poristoy struktury)

PERIODICAL: Khimicheskaya promyshlennost', 1958, Nr 4, pp. 227 - 234 (USSR)

ABSTRACT: After a general consideration of porous adsorbents and their use and properties the author supplies more detailed data on silica gel, the aerogel of silicic acid, alumogel and active aluminum oxide, as well as on alumosilicagels. In the case of silicagel the production process is divided into 5 stages: the production of silicic acid brine, the coagulation of the brine in the gel, the syneresis and ripening of the gel, the washing of the electrolyte from the gel, and the drying or crushing respectively as well as the filtering. A schematic figure of the plant for the production of spherical silicagel by means of an oil layer is given; also other methods of production are mentioned and it is pointed out that the dehydration of the hydrogel of the silicic acid exercises the main influence on its structure.

Card 1/3

The Production of Mineral Technical Adsorbents of Different Pore Structure 307/64-59-4-3, 20

Some methods for obtaining different pore sizes are described and the technical brands of silicagel produced in the Soviet Union are given (with specific data and designations being mentioned); also the corresponding sorption isothermal lines are mentioned according to data by I.Ye.Neymark and I.T.Slinyakova, among others. The aerogel of silicic acid was first obtained by Kistler (Ref 12) using a method based on the exchange of the water of the hydrogel with alcohol. The use of the aluminogels and active aluminum oxides is to be explained by their high hydrophilic properties and a developed surface; in the production the bauxite form (hydrargillite form- γ modification) or the bayerite form (α -modification) can develop. A method of production as used in the Soviet Union is given. The use of aluminosilicates for catalysts is especially widely spread in the organic synthesis and in oil cracking, where two methods of production are distinguished. It was found that the catalyst activity is proportional to the accessible catalyst surface, the pore structure having a greater effect on the chemical composition than on the yield of the products. The mechanism of the formation of the pore structure

Card 2/3

The Production of Mineral Technical Adsorbents of Different Pore Structure SOV/64-58-4-9/20

of silicagels can in principle also be applied to aluminosilicagels. A table of the specific properties of the described adsorbents, as well as sorption isothermal lines of methanol on aluminosilicagel with various pore structures are enclosed (according to data by A.I.Rasterenko and I.Ye.Neymark). There are 5 figures, 3 tables, and 26 references, 22 of which are Soviet.

1. Adsorbents--Production
2. Adsorbents--Properties

Card 3/3

AUTHORS: Leont'yev, Ye. A., Luk'yanovich, V. M., SIV 2-2-2-1-1-1
Neymark, I. Ye., Piontkovskaya, M. A.

TITLE: Investigation of the Structure of Titanium Dioxide Gels
by Independent Methods (Issledovaniye struktury
geley dvuokisi titana nezavisimymi metodami)

PERIODICAL: Izvestiya Akademii nauk SSSR. Otdeleniye khimicheskoy fiziki, 1958, Nr 9, pp 1037 - 1044 (USSR)

ABSTRACT: In only a few papers on the structure of titanium dioxide gels is the dependence of the catalytic and adsorption properties of titanium dioxide gel upon the conditions of their preparation exclusively considered (Ref. 1). The porous structure of the titanium dioxide gels is not considered in this paper. In order to get a comprehensive conception of the structure of these gels and to define more clearly the various methods with which they may find practical application the authors of this paper investigated titanium dioxide gels of various structures. Independent methods of investigation were used. Working in cooperation with the Institute of Physical Chemistry

Card 1/3

Investigation of the Structure of Titanium Dioxide
Gels of Independent Methods

BTW, 2-20-74, 28

AS UkrSSR (preparation of the titanium dioxide gels of various structures and investigations on adsorption and structure) and with the Institute of Physical Chemistry AS USSR (electron microscopic, X-ray, and electron diffraction investigations) they obtained the following results. The adsorption and electron microscopic investigations were extended to a series of gels of titanium dioxide, which was prepared by the hydrolysis of titanium chloride. The gels consisted of spherical particles which appeared non-porous at first sight. The specific surface area of the gels depended mainly on the size of the particles, whereas the character of the porosity depended on the size and the density of packing. The pores appeared as interstitial spaces (between the touching particles). The exchange of water present in the gels for other liquid of smaller surface tension made it possible to adsorb larger particles while maintaining the tight packing of particles. Increasing the formation time for the titanium dioxide gel in the formation solution diminished the porosity as a result

Card 2/3

Investigation of the Structure of Titanium Dioxide
Gels of Independent Methods

SOV, 62-1-1-1, 2

of the adsorbed particles becoming more closely packed. There are 7 figures, 2 tables, and 14 references, 10 of which are Soviet.

ASSOCIATION: Institut fizicheskoy khimii Akademii nauk SSSR (Institute of Physical Chemistry, AS USSR) Institut fizicheskoy khimii im.L.V.Pisarzhevskogo Akademii nauk Ukrainской SSR (Institute of Physical Chemistry imeni L.V.Pisarzhevskiy, AS UkrSSR)

SUBMITTED: March 28, 1957

Card 3/3

NEYMARK, I. Ye.

69-20-1-8/20

AUTHORS: Kiselev, A.V.; Lygin, V.I.; Neymark, I.Ye.; Slinyakova, I.B.;
Chen' Ven'-khan.

TITLE: Electron Microscopic and Adsorption Studies of Silica Sols
and Silica Gels (Elektronno-mikroskopicheskoye i adsorbtsion-
noye issledovaniya silikazoley i silikageley)

PERIODICAL: Kolloidnyy Zhurnal, 1958, Vol XX, # 1, pp 52-58 (USSR)

ABSTRACT: The globular theory of the structure of many gels (silica-
gels, alumo-silica-gels, titano-gels) postulates that the
framework of these gels is made of ball-shaped primary par-
ticles. In the article the results of an electron microscopic
study are represented. The substances investigated are sta-
bilized sols, peptized hydro-gels washed with liquids of dif-
ferent pH and xerogels obtained from these hydrogels. The
sols and hydrogels were investigated after application and
drying on a collodion support. The collodion supports by
applying a 1%-solution of collodion in amylacetate on the
surface of distilled water. Hydrosols were investigated by
making a carbon replica of them. A carbon film of 100 ang-
strom was applied in a vacuum device by means of thermal

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spraying. The carbon film is fixed by paraffin and shaded by chromium. The obtained replica has a dissolution of 50 angstrom and is investigated by means of the electronic microscope UEM-100 working with 60 kv. The sol particles of 50-100 angstrom form in the early stages of the colloid before the formation of the hydrogel. During further gel formation the size of the particles is not increased. The electron microscopic investigation of xerogels is more difficult, because the dense framework does not allow a detailed analysis. Carbon replicas were used, therefore, to investigate the porous structure. Fig. 3, v,g, represents the stereomicrophotography of a xerogel, the initial hydrogel of which has been washed by a liquid with a pH of 10.2. In fig. 3:d the hydrogel has been washed with a liquid of pH 8.2. The adsorption method leads to the same results: the adsorption isotherms of methanol vapors and the distribution curves of the pore diameters show that a decrease in the pH value of the washing liquid causes the formation of

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of finely porous xerogels. The table shows that the pore space changes from $0.90 \text{ cm}^3/\text{g}$ at pH 10.2 to $0.33 \text{ cm}^3/\text{g}$ at pH 1.9. The surface of the xerogels changes from $400 \text{ m}^2/\text{g}$ at pH 10.2 to $650 \text{ m}^2/\text{g}$ at pH 6.5. These changes indicate that the washing causes a certain change in the primary particles.

There are 4 figures, 1 table, and 25 references, 21 of which are Soviet, 2 German, 1 English, and 1 Hungarian.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet imeni M.V. Lomonosova, Laboratoriya adsorbtsii (Moscow State University imeni M.V. Lomonosov, Adsorption Laboratory) Institut fizicheskoy khimii AN UkrSSR (Institute of Physical Chemistry of the AS Ukrainian SSR)

SUBMITTED: April 15, 1957

AVAILABLE: Library of Congress

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NEYMARK, I Ye.

AUTHOR: Slinyakova, I.B., Neymark, I.Ye.

69-20-1-12/20

TITLE: The Structure and Adsorptive Properties of Silica Gels Prepared from Alkaline Media (Struktura i adsorbtsionnyye svoystva silikageley poluchennykh iz shchelochnykh sred)

PERIODICAL: Kolloidnyy Zhurnal, 1958, Vol XX, # 1, pp 84 - 91 (USSR)

ABSTRACT: Alkaline silica-gels are prepared by precipitation in an excess of sodium silicate. In the article, the influence of several factors, especially the pH of wash-water, on the porous structure and the sorptive properties of the gels has been investigated. The hydrogels precipitated in an alkaline medium were divided into two groups. One was washed by an aqueous solution of pH 2.0-2.5, the other with pH 8.5-10.3. The washing was continued for 12 days. Table 1 shows the structural-sorptive characteristics of these silica-gels. The two groups differ, especially in their specific surface and the distribution of the pores according to radius. The adsorption isotherms in silica-gels washed by acid water, are higher in the field of small values than in silica-gels washed by alkaline water. This indicates that in acid-washed silica-gels the micro-pores and the specific surface is higher. The effective pore

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radius of such gels is small. The increase of the specific surface, by washing with acid solutions of pH 2, is explained by the reaction of the acid with unreacted sodium silicate in the intermicellar space of the gels. In the washing of alkaline hydrogels by weakly acid solutions ($\text{pH} > 2.0$) an alkalization of the washing water takes place, which is caused by the ion exchange of the silicate cation against the hydrogen ion of the acid. The specific surface of these coarsely porous silica gels is not large. Table 2 shows the reaction of the washing water after washing, and the structural characteristics of the silica-gels obtained. The experimental facts demonstrate that it is possible to produce silica gels with a large specific surface containing many fine and coarse pores. The treatment of alkaline hydrogels with concentrated acids leads to the formation of silica-gels with a large mass of small pores, and to a very high total porosity. Table 4 shows that the washing of alkaline hydrogels by concentrated acids increases only the effective radius of the pores. The specific surface of the investigated gels ranges

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from 550 m²/g to 700 m²/g.

There are 6 figures, 4 tables, and 7 references, 6 of which are Soviet, 1 English.

ASSOCIATION: Institut fizicheskoy khimii AN UkrSSR imeni L.R. Pisarzhevskogo, Kiyev (Institute of Physical Chemistry of the AS Ukrainian SSR imeni L.R. Pisarzhevskiy, Kiyev)

SUBMITTED: November 16, 1956

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Card 3/3

NEYMARK, I. Ye.

"The Results Of His Study of the Effect of Chemical Modification of Mineral Sorbent Surfaces on the Adsorptional Properties of the Sorbents."

report presented at the Section on Colloid Chemistry, VIII Mendeleev Conference of General and Applied Chemistry, Moscow, 16-23 March 1959.
(Koll. Zhur. v. 21, No. 4, pp. 509-511)

DEYNEGA, Yu. F.; DUMANSKIY, A. V.; VINOGRADOV, G. V.; NEYMARK, I. Ye.

"The Effect of the Surface and its Modification on the Dielectric Properties of Some Disperse Systems."

report presented at the Section on Colloid Chemistry, VIII Mendeleev Conference of General and Applied Chemistry, Moscow, 16-23 March 1959.
(Koll. Zhur. v. 21, No. 4, pp. 509-511)

5(4)

AUTHORS:

Kiselev, A. V., ~~Neymark, I. Ye.~~,
Poshkus, D. P., Piontkovskaya, M. A.

SCV/52-59-2-7/40

TITLE:

Change of Porous Structure of Magnesium Hydroxide During Heat Treatment (Izmeneniye poristoy struktury gidrookisi magniya pri termicheskoy obrabotke)

PERIODICAL:

Izvestiya Akademii nauk SSSR. Otdeleniye khimicheskikh nauk, 1959, Nr 2, pp 232-237 (USSR)

ABSTRACT:

In the present paper the change of the porous structure of magnesium hydroxide during heat treatment in the vacuum was investigated in a broad temperature range. It was found that the magnesium hydroxide pumped off at 200° represents a broad-porous sample ($d=450 \text{ \AA}$) with large pore volume ($v_s = 0.71 \text{ cm}^3/\text{g}$). The values of the specific surfaces of the skeleton and of the adsorption layer s' are approaching one another in the initial sample. This indicates that there- in micropores are occurring to practically no extent, which are filled up in the primary adsorption process without hysteresis. On the transition of this hydroxide into oxide the specific surface is considerably increased at 350° (by

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During Heat Treatment

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about the 3-fold). Volume and size of the pores in which capillary condensation takes place remain, however, unchanged. The formation of the micro-structure is due to water separation from the hydroxide lamellae and to the transformation of the crystal structure of $Mg(OH)_2$ into MgO structure at which the molar volumes are different. At 350° the sample is of bi-disperse structure; it keeps the homogeneous coarsely porous structure of the initial substance but the walls of this structure are traversed by fine pores (cracks). A further increase of the calcination temperature up to 500° causes already a certain agglomeration of the micro-structure, as the specific surface becomes smaller. On a further increase in temperature up to 1000 and 1400° also the large pores are considerably contracted. In consequence of this not only the size but also the surface of the adsorption layer s' and the volume of the pores V_s decrease. In samples obtained at 1400° the size of the specific surface s is getting nearly as large as the size of the adsorption layer s' . This means that in this sample the fine pores disappear and the structure

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passes over again from a bi-disperse (fine and coarsely porous) into a homogeneous coarsely porous one. There are 3 figures, 1 table, and 23 references, 12 of which are Soviet.

ASSOCIATION: Instituty fizicheskoy khimii Akademiy nauk SSSR i USSR (Institutes of Physical Chemistry of the Academies of Sciences, USSR and UkrSSR) Moskovskiy gosudarstvennyy universitet im M. V. Lomonosova (Moscow State University imeni M. V. Lomonosov)

SUBMITTED: July 1, 1957

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SOV/69-21-3-18/25

AUTHORS: Neymark, I.Ye. and Slinyakova, I.B.

TITLE: Preparation and Adsorption Properties of Ferrogels of Various Porous Structures

PERIODICAL: Kolloidnyy zhurnal, 1959, Vol XXI, Nr 3, pp 340-346 (USSR)

ABSTRACT: The authors report on a study of the effect of the sedimentation medium, the temperature of sediment ripening and the nature of the intermicellar liquid on the porous structure and the adsorption properties of ferrogels. In order to investigate the effect of the sedimentation medium, the authors prepared suspensions with different hydrogen ion concentrations. The pH values varied from 5.3 to 10. It could be stated that the increase of the total of pore volume and, consequently, of the sorption capacities of ferrogels is in accordance with the increasing alkalinity of the sedimentation medium. Within the range of the mentioned pH values, pore volume and sorption capacities were approximately

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doubled. The study of the effect of the temperature of sediment maturation revealed that higher temperatures equally result in an increase in the total of pore volume. The increase, however, was less remarkable than in the aforementioned case. The greatest effect was obtained by substituting isobutyl alcohol and benzene for the intermicellar liquid of a hydrogel (iron hydroxide). Table 3 shows that in the case of isobutyl alcohol as intermicellar liquid, ferrogels are formed with considerable over-all porosities, five-six times those of unsubstituted samples. The sorption pore volume was doubled and also tripled in some cases. Benzene was less effective as an intermicellar liquid. The total of pore volume was approximately doubled. The experiments have shown that the effect of basic factors (surface tension of intermicellar liquid, temperature of sediment ripening pH value etc.) on the porous structure of hydrated iron oxides is analogous to the effect of the same factors on silica

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gels. It is probable that the fundamental principles concerning the formation of the porous structure of hydrophylic sorbents, which were developed by the authors, can also be applied to ferrogels. The authors mention the Soviet scientists: G.M. Virskaya, B.G. Zaprometov, A.V. Dumanskiy, S.A. Levina and N.F. Yermolenko. There are 5 graphs, 4 tables and 17 references, 13 of which are Soviet, 3 English and 1 German.

ASSOCIATION: Institut fizicheskoy khimii AN USSR im. L.V. Pizarzhevskogo, Kiyev (Institute of Physical Chemistry of the AS UkrSSR imeni L.V. Pizarzhevskiy, Kiyev)

SUBMITTED: 15 November, 1957

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5(4)

SOV/69-21-3-19/25

AUTHORS: Piontkovskaya, M.A., Zhigaylo, Ya.V., Yeremenko, L.A.,
Neymark, I.Ye.

TITLE: The Change in the Structure and the Adsorption Capacities of Aluminum Hydroxide in Dependence on the Conditions of Its Formation

PERIODICAL: Kolloidnyy zhurnal, 1959, Vol XXI, Nr 3, pp 347-350
(USSR)

ABSTRACT: The authors report on a study of the changes of the adsorption capacities of aluminum hydroxide in dependence on a less or more prolonged maturation period of the gel. The experiments revealed that the total of pore volume, and consequently, the adsorption capacities of aluminum hydroxide decrease in proportion to the increase of the ripening period. It results therefrom that during the ripening period (0-45 days) the gel undergoes structural changes, which are characterized by a transition from amorphousness to the crystalline state. X-ray investigation (Debye-Scherrer method)

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of the same samples fully confirmed the obtained results. The evaluation of the diffraction patterns resulted again in a structural transition of the gel from amorphousness to micro- and macrocrystalline formations. Samples with ripening periods of 2, 10 and 45 days showed a hydrargillite lattice. Heating of the same samples to a temperature of 900°C resulted in a change of the lattice into the structure of corundum. The authors mention the scientist L.I. Shikina, who took part in the adsorption measurements. There are 6 X-ray diffraction patterns, 3 graphs, 3 tables and 19 references, 7 of which are Soviet, 4 German, 4 English and 4 French.

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The Change in the Structure and the Adsorption Capacities of
Aluminum Hydroxide in Dependence on the Conditions of Its Formation

ASSOCIATION: Institut fizicheskoy khimii AN USSR im. L.V. Pizar-
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ROGINSKIY, S.Z.; YANOVSKIY, M.I.; LU PEY-CHZHAN; GAZIT'EV, G.A.; ZHABROVA,
G.M.; KADENAT'SI, B.M.; BRAZHNIKOV, V.V.; NEYMARK, I.Ye.i.
PIOTKOVSKAYA, M.A.

Chromatographic determination of the adsorption isotherms of
gases and of the specific surface of solids. *Kin.i kat.* 1
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1. Institut fizicheskoy khimii AN SSSR.
(Adsorption)

NEYMARK, I.Ye., PIONTKOVSKAYA, M.A., LUKASH, A.Ye., TYUTYUNNIK, R.S.

Preparation and adsorption properties of synthetic zeolite. Koll.
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Kiyev.

(Zeolites)

NIKOLINA, V.Ya.; NEYMARK, I.Ye.; PIOTKOVSKAYA, M.A.

Molecular sieves (preparation, properties, applications).
Usp. khim. 29 no.9:1088-1111 S '60. (MIRA 13:9)

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skiy institut osnovnoy khimii. (Sorbents) (Zeolites)