

GEL'BERG, L.A., kandidat tekhnicheskii nauk, redaktor; KUTSENOVA, A.A.,
redaktor; IONAS, B.Ya., kandidat ekonomicheskikh nauk, redaktor;
TOKNER, A.M., tekhnicheskii redaktor

[Problems of economics in the design of dwellings; collection of
articles] Voprosy ekonomiki proektirovaniia zhilykh domov; sbornik
statei. Pod obshchei red. L.A.Gel'berga. Moskva, Gos. izd-vo lit-ry
po stroit. i arkhitekture, 1954. 58 p. (MLRA 8:3)

1. Akademiya arkhitektury SSSR, Moscow. Nauchno-issledovatel'skiy
institut arkhitektury shilishcha.
(Building—Estimates) (Apartment houses)

GEL'BERG, L.A.

GEL'BERG, L.A., kandidat tekhnicheskoy nauk, starshiy nauchnyy sotrudnik;
KATS, Ye.A., inzhener; FEDOROV, G.I.; PORFIR'YEV, M.M., kandidat
tekhnicheskoy nauk; SIGAYEV, A.V., kandidat tekhnicheskoy nauk;
KRYUCHKOV, N.V., kandidat tekhnicheskoy nauk, redaktor; PEVZNER,
A.S., redaktor; PERSON, M.N., tekhnicheskoy redaktor

[Comparative technical and economic evaluation of apartment houses
having different numbers of stories] Sravnitel'naya tekhniko-ekonomicheskaya
kharakteristika zhiloi zastroiki razlichnoi etazhnosti.
Moskva, Gos. izd-vo lit-ry po stroit. i arkhitekture, 1954. 68 p.

(MIRA 8:3)

1. Akademiya arkhitektury SSSR, Moscow. Nauchno-issledovatel'skiy
institut arkhitektury zhilishcha. 2. Institut arkhitektury zhilishcha
(for Gel'berg, Kats, Fedorov) 3. Institut gradostroitel'stva (for
Porfir'yev)

(Apartment house)

GEL'BERG, Lev Aronovich, kandidat tekhnicheskikh nauk; MEDVEDEV, L.Ya.
tekhnicheskii redaktor.

[Methods of determining engineering and economic indices of
apartment house plans] Metody opredeleniia tekhniko-ekonomi-
cheskikh pokazatelei proektov zhilykh domov. Moskva, Gos.izd-vo
litury po stroitel'stvu i arkhitekture, 1955. 179 p. (MLRA 8:8)
(Apartment houses)

GEL'BERG, L.A., kandidat tekhnicheskikh nauk; KATS, Ye.A.,
Inzhener; KOLOTILKIN, B.M., kandidat tekhnicheskikh nauk;
FYDOROV, G.I., inzhener; KUTSENOVA, A.A., redaktor izdatel'stva;
TOKER, A.M., tekhnicheskii redaktor

[Designs of four- and five-story apartment houses; a technical
and economic analysis] Planirovochnye reshenia chetyrekh-
piatietazhnykh zhilykh domov; tekhnikoekonomicheskii analiz.
Moskva, Gos. izd-vo lit-ry po stroit. i arkhit., 1956.
152 p. (MIRA 10:4)

(Apartment houses)

GEL'BERG, Lev Aronovich, kand.tekhn.nauk; KOLOTILKIN, Boris Michaylovich, kand.tekhn.nauk; ZAKHARENKOV, G.M.; BOBKOV, V.T.; VOTINOV, A.P., red.; FURMAN, G.V., tekhn.red.

[Data for lectures on the subject: "Housing construction in the sixth five-year plan and means of reducing its cost"; approved by the office of the Section on Construction, Architecture, and Building Materials] Material k lektsii na temu: "Zhilishchnoe stroitel'stvo v shestoi piatiletke i rezervy snisheniia ego staimosti"; odobren biuro seksii po stroitel'stvu, Arkhitekture i stroitel'nym materialam, Moskva, Ob-vo po rasprostraneniu polit. i nauchnykh znanii RSFSR, 1958. 46 p. (MIRA 11:12)

1. Zav. otdelom nauchno-tekhnicheskoy propagandy Pravleniya Obshchestva RSFSR (for Zakharenkov). 2. Referent otdela nauchno-tekhnicheskoy propagandy Pravleniya Obshchestva RSFSR (for Bobkov). (Housing)

SOPINSKIY, I.D.; BLOKHIN, P.N.; ~~GEL'BERG, L.S.~~; ZHDANOV, P.M.; IVASHCHENKO,
I.P.; LEVINA, G.P.; NAUMOVA, N.A.; SMIRNOV, M.S.; ARONOVA, R.I.;
NIKOLAYEV, N.A.; SHERENTSIS, A.A.; KOVALEVSKIY, I.I.; LOBACHEV, P.V.;
SLADKOV, S.P.; DZIGAN, A.V.; PORAPONOV, M.K. Primarni uchastnye:
ARGANSKIY, A.S.; ASMUS, Ye.M.; BRZHALOVA, Ye.M.; BOGATYKH, Ye.D.;
BURENIN, V.A.; GOL'DING, N.P.; DOMSHLAK, I.P.; MOSKALEV, S.A.;
RABINOVICH, S.G.; ROGOVSKIY, L.V.; KHOKHLOVA, L.P.; SHESTOPAL, N.M..
RUBANENKO, B.R., glavnyy red.; GALKIN, Ye.G., zamest.glavnogo red.;
SAPRYKIN, V.A., red.; SHCHEPOTOV, V.M., red.; NOVITCHENKO, K.M.,
nauchnyy red.; VILKOV, G.N., inzh., red.izd-va; TYAPKIN, B.G., red.
izd-va; EL'KINA, E.M., tekhn.red.

[Building your own home] Spravochnik individual'nogo sastroishchika.
Moskva, Gos.izd-vo lit-ry po stroit.materialam, 1958. 442 p.
(MIRA 12:2)

1. Akademiya stroitel'stva i arkhitektury SSSR.
(Building)

GELBERG, L.

Economic research of the Institute of Housing of the Academy of
Construction and Architecture of the U.S.S.R. Vop. ekon. no.3:
157-158 Nr '58. (MIRA 11:4)

(Housing)

GEL'BERG, L.A., kand.tekhn.nauk

~~Technical and economic characteristics of various types of~~
apartment houses and selection of most efficient planning
solutions. Trudy MIEI no.9:61-79 '58. (MIRA 11:6)
(Apartment houses)

OEL'BERG, L.

Reduction of costs in housing construction. Vop. ekon. no.8:152-154
Ag. '59. (MIRA 12:11)
(Housing--Costs)

BRONER, D.L.; GEL'BERG, L.A., kand. tekhn. nauk; KATS, Ye.A.; PEKLER, A.N.; FILATOV, N.L.; MORSKOY, K.L., red. izd-va; OSENKO, L.M., tekhn. red.

[Ways to lower apartment house operating expenses; on the basis of choosing efficient plans] Puti snizhenia raskhodov po eksploatacii zhilykh domov; na osnove vybora ratsional'nykh proektnykh reshenii. Moskva, Gos. izd-vo lit-ry po stroit., arkhit. i stroit. materialam, 1960. 109 p. (MIRA 14:9)

1. Akademiya stroitel'stva i arkhitektury SSSR. Institut zhilishcha. (Apartment houses—Accounting)

GEL'BERG, L.A., kand.tekhn.nauk; FEDOROV, G.I., kand.tekhn.nauk

Changing the estimated cost of apartment houses when adapting
them to local building conditions. Izv. ASIA no.2:89-93 '61.
(MIRA 15:1)
(Apartment houses—Cost of construction)

GEL'BERG, L.A.; FEDOROV, G.I.; ZAL'TSMAN, A.M.; KAPUSTYAN, Ye.D.;
BAYAR, O.G.; DELLE, V.I.; SHERENTSI, A.A.; MAKRAKOVA, T.G.;
KONFED, Yu.B.; KOLOTILKIN, B.M.; GLADKOV, B.V.; CAVALOV,
O.V., red.; GOLOVKINA, A.A., tekhn. red.

[Housing construction in the U.S.S.R.; present state and
prospects for development] Zhilishchmoe stroitel'stvo v SSSR;
sostoianie i perspektivy razvitiia. Moskva, Gosstroizdat,
1962. 202 p. (MIRA 15:11)
(Apartment houses) (Construction industry)

GEL'BERG, L.A., kand. tekhn. nauk; LYUBIMOVA, M.S., kand. tekhn. nauk;
PARSHINA, K.G., kand. tekhn. nauk; KIRSANOVA, M.K., kand. tekhn.
nauk; ZVORYKIN, D.N., kand. tekhn. nauk; ZHAGELEVA, I.I., inzh.;
Prinimala uchastiye LAZAREVA, N.N., inzh.; GLAZUNOVA, Z.M., red.
izd-va; SHEVCHENKO, T.N., tekhn. red.

[Economics of large-panel housing construction] Ekonomika krupno-
panel'nogo zhillishchnogo stroitel'stva. [By] L.A. Gel'berg i dr.
Moskva, Gosstroizdat, 1962. 153 p. (MIRA 16:3)
(Precast concrete construction)

GEL'BERG, L., kand.tekhn.nauk; FEDOROV, G., kand.tekhn.nauk

Technical and economic characteristics of the principal types
of apartment houses. Zhil.stroi. no.3:14-15 '62. (MIRA 15:9)
(Apartment houses)

GEL'BERG, L.A., kand.tekhn.nauk; FEDOROV, G.I., kand.tekhn.nauk

Present-day state housing construction and ways of improving it.
Izv.ASIA 4 no.1:47-56 '62. (MIRA 15:11)
(Building research)

GEL'BERG, L., kand. tekhn. nauk; FEDOROV, G., kand. tekhn. nauk

Characteristics of new state housing in cities.
Zhil. stroi. no.9:7-9 '65.

(MIRA 18:11)

SHTRAUS, Kh.; GELBERG, N.; MERDZHINYANU, Ch.

Iodine content of water supply sources in relation to the
distribution of endemic goiter. Trudy LSCMI no. 5:221-236
'60. (MIRA 14:11)

(TRANSYLVANIA--GOITER) (IODINE)
(TRANSYLVANIA--WATER--ANALYSIS)

1916
S/072/02/000/002/051/05
A001/A101

26.2532

AUTHORS: Kprshunov, V. A., Ge'id, P. V.

TITLE: Electric conductivity and thermo-emf of manganese silicides

PERIODICAL: Referativnyy zhurnal, Fizika, no. 2, 1962, 2, abstract 2-4-3shch
("Tr. Ural'skogo politekh. in-ta", 1961, no. 114, 164 - 165)

TEXT: Electric conductivity σ and thermo-emf α of Mn silicides were investigated. The values of σ and α (1,500 - 10,000 $\text{ohm}^{-1} \text{cm}^{-1}$ and from +15 to +20 $\mu\text{V}/\text{degree}$) for Mn_3Si , Mn_5Si_3 and MnSi are compared with those of the higher silicide $\text{MnSi}_{1.57} - \text{MnSi}_{1.73}$ (200 - 600 $\text{ohm}^{-1} \text{cm}^{-1}$ and from +70 to +110 $\mu\text{V}/\text{degree}$), and conclusion is drawn as to the metallic nature of the former and semi-metallic nature of the latter. The concentration of current carriers in the higher silicide saturated with silicon, presenting a special interest for using as a thermogenerator, is near the optimum for thermopiles at 20°C, and its efficiency in the range from 300 to 1,000°K amounts to ~6%. Its efficiency will possibly be raised by alloying. It is noted that the results of measuring σ and α of pure Mn silicides indicate that impurities present in commercially pure components (Fe, Al,

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Electric conductivity and...

S/058/62/000/002/051/053
A001/A101

Ca) do not change qualitatively electrical properties of Si-Mn alloys. There are 4 references.

E. P.

[Abstracter's note: Complete translation]

X

Card 2/2

SEREBRENNIKOV, N.N.; ~~GEL'D, P.V.~~

Heat content and heat capacity of titanium at high temperatures.
Izv. vys. ucheb. zav.; tsvet. met. 4 no.4:80-86 '61. (MIRA 14:8)

1. Ural'skiy politekhnicheskiy institut, kafedra fiziki.
(Titanium—Thermal properties)
(Metals at high temperature)

LYUBIMOV, V.D.; GEL'D, P.V.

Equilibrium in the reduction of niobium pentoxide by
hydrogen. Izv. vys. ucheb. zav.; tsvet. met. 4 no.5:145-151
'61. (MIRA 14:10)

1. Ural'skiy politekhnicheskiy institut.
(Niobium oxide) (Vapor-liquid equilibrium)

30188

S/078/62/007/004/007/016
B110/B101

15.2240

AUTHORS: Alyamovskiy, S. I., Gel'd, P. V., Matveyenko, I. I.

TITLE: Concentration ranges of the stability of niobium silicides at 1250°C

PERIODICAL: Zhurnal neorganicheskoy khimii, v. 7, no. 4, 1962, 836-843

TEXT: The alloys of the Nb-Si system were investigated. Sodium thermic niobium (99.7% Nb) and purified Si (99.98% Si) (size of particles ~ 90μ) was briquetted at 6-7 ton/cm². High volatilization of Si and concentration of Nb was observed during the silicide synthesis in the vacuum furnace at 1300-1500°C. The briquetted charge was therefore degassed at 800°C in a vacuum furnace and subsequently sintered for 3-4 hrs at 1150°C under spectroscopically pure He. The product was ground, briquetted, and further sintered in a sealed, evacuated quartz ampulla for ~5 hrs at 1250°C. It was then cooled in the furnace during 10 min to 200°C. 27 samples between NbSi_{0.15} and NbSi_{2.30}, as well as Nb₅Si₃C_x and Nb₅Si₃O_x were studied under the metallographic MIM-7 (MIM-7) or MIM-8M (MIM-8M) microscope and by X-ray diffraction. In samples with < 14% Si, (1) the solid solution of Si
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Concentration ranges of the ...

in Nb and (2) α -Nb₅Si₃ were ascertained. No Nb₄Si was found. The lattice constants of the phase components from NbSi_{0.15} to NbSi_{0.55} were identical. The alloys with the stoichiometric composition of Nb₅Si₃ and NbSi₂ were monophase. NbSi₂ was hexagonal (a = 4.785 kX, c = 6.58 kX), α -Nb₅Si₃ was tetragonal (a = 11.84 kX, c = 6.54 kX). NbSi_{0.50}-NbSi_{0.80} the alloys NbSi_{0.50} and NbSi_{0.55} were found to contain two phases: (1) α -Nb₅Si₃ and (2) slightly solid solution of Si in Nb. NbSi_{0.60}, NbSi_{0.62}, NbSi_{0.64} and NbSi_{0.66} are monophase. The identity periods of all lattices practically coincide. By adding ~2% carbon black or NbO (related to ~3% O₂) to Nb-Si mixtures γ -Nb₅Si₃ and the phase component Nb-Si-C(O) were obtained. The latter points toward isomorphous behavior of C and O on interaction with α -Nb₅Si₃. In the range NbSi_{1.70}-NbSi_{2.30} a diphasic state consisting of α -Nb₅Si₃ and NbSi₂ was detected for NbSi_{1.70} and NbSi_{1.80}; the following

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Concentration ranges of the ...

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were monophasic (NbSi_2): $\text{NbSi}_{1.87}$, $\text{NbSi}_{1.90}$, $\text{NbSi}_{2.00}$ and $\text{NbSi}_{2.10}$. For $\text{NbSi}_{2.20}$, $\text{NbSi}_{2.28}$, $\text{NbSi}_{2.29}$ and $\text{NbSi}_{2.30}$ were found: NbSi_2 and Si. The density drops with increasing Si content. The thermo emf and the identity periods of the lattices of samples in the homogeneity range of $\alpha\text{-Nb}_5\text{Si}_3$ and NbSi_2 hardly change with the composition. NbSi_2 has p-type, $\alpha\text{-Nb}_5\text{Si}_3$ has n-type conductivity. It is supposed that the not found Nb_4Si is only stable above 1500-1600°C. The proportional change of the alloy densities with the composition and the unimportant sensitivity of the interplane distances to the composition best explained with the formation of solid solutions by substitution, supposing approximately equal dimensions of the Nb and Si atoms in Nb-Si alloys. There are 1 figure and 4 tables. The most important English-language reference is: H. J. Goldschmidt, J. Iron and Steel Inst., 194, 169 (1960). ✓

SUBMITTED: June 1, 1961

Card 3/3

GEL'BERG, S. I.

Gel'berg, S. I. and Finkel', Ye. A. "Observations of the activity of BCG vaccine in connection with the method of preparing it and the conditions and duration of storage," [With editor's note], Byulleten' In-ta tuberkuleza Akad. med. nauk SSSR, 1948, No. 4, p. 23-27

So: U-3566, 15 March 53, (Letopis 'Zhurnal 'nykh Statey, No. 13, 1949)

GEL'BERG, S. I.; AMINOVA, M. G.; TVERTINOVA, A. M.

"Treatment of Diphtheria Carriers With Soviet Gramicidin," Trudy
Instituta Epidemiologii i Mikrobiologii Ministerstva Zdravookhraneniya Kirgizskoy SSR,
Frunze, Vol 1, 1951, pp 30-34.

GEL'BERG, Z. I. and ZUBAREVA, A. I.

"Experiments on the Use of Soviet Gramicidin and Penicillin in the Purification of Smallpox Vaccine From Foreign Microflora," Trudy Instituta Epidemiologii i Mikrobiologii Ministerstva Zdravookhraneniya Kirgizskoy SSR, Frunze, Vol 1, 1951, pp 40-43.

GEL'BERG, S. I.; AMINOVA, M. G.; TYERITINOVA, A. M.

"Treatment of Diphtheria Carriers With Soviet Gramicidin," Sbornik Nauchnykh Trudov Kirgizskogo Gosudarstvennogo Meditsinskogo Instituta, Frunze, Vol 7, 1951, pp 249-258.

Name: GEL'BERG, Samuil ~~J~~osel'-Khaimovich

Dissertation: Experimental study of the activity of
BTsK /?/ vaccine in connection with
the problem of increasing the effecti-
veness of specific prophylaxis of
tuberculosis

Degree: Doc Med Sci

Affiliation: Kirgiz ~~State~~ Med Inst

Defense Date, Place: 7 Dec 55, Council of Tashkent State
Med Inst imeni Molotov

Certification Date: 26 May 56

Source: BMVO 4/57

©
1955
Kir SSR

GELBERG, S.I.

USSR /Microbiology. Medical and Veterinary
Microbiology.

F-6

Abs Jour: Referat. Zh.-Biol., No. 9, 1957, 35716

Author : Gelberg, S.I.; Finkel, E.A.

Title : A Study of the Acclimatization of the Microbacteria
BTsZh by the Method of Marked Cultures in an
Experiment

Orig Pub: Zdravookhr. Belorussii, 1956, No. 5, 22-27

Abstract: The acclimatization and the dynamics of the vege-
tating of microbacteria of the active vaccine
BTsZh was studied in guinea pigs and mice by
means of a bacteriological study of the lymphatic
nodes and the internal organs of the animals
after various periods of the injection of the
vaccine. It was discovered that an adaptation
of the bacteria occurs soon after the injection,

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USSR /Microbiology. Medical and Veterinary
Microbiology.

F-6

Abs Jour: Referat. Zh.-Biol., No. 9, 1957, 35716

and during this phase, the screenings show a negative result. After the phase of adaptation, there sets in a phase of maximum reproduction in the lymphatic nodes and internal organ, then passing through a distinct period into a fixed phase. This latter is characterized by a less intensive reproduction of the microbacteria as a result of the development of the immunological reactions of the organism in response to the activity of the vaccine microbes. Gradually this phase is replaced by the phase of a dying of the vaccine infection, the siftings from which yield either sparse growths, or a negative result. To clarify the fate of the microbes, in each of the second vaccinations and revaccinations, strains of BTsZh were used which were resistant to

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USSR /Microbiology. Medical and Veterinary
Microbiology.

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Abs Jour: Referat. Zh.-Biol., No. 9, 1957, 35716

streptomycin and phtivazid. Such resistant strains analyzed as marked since they possessed a selective capability of growth in nourishing media containing corresponding medicinal preparations. By using these strains the authors obtained the ability to distinguish the distribution of the microbes after each of the repeated vaccinations and the continuity of their vegetating.

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GEL'BERG, S.I.; FINKEL', Ye.A.; BELETSKIY, V.I.; DANOVICH, S.M.; TSATSKINA, E.S.

Combined entero-cutaneous method of immunization with BCG vaccine.
Probl.tub. 34 no.4:48-53 J1-Ag '56. (MLRA 9:11)

1. Iz kafedry mikrobiologii (zav. S.I.Gel'berg) Kirgizskogo meditsin-
skogo instituta.

(BCG VACCINATION, exper.

entero-cutaneous method of admin. in mice & guinea pigs)

USSR/Microbiology - Microbes Pathogenic for Man and Animals. F
Bacteria. Mycobacteria.

Abs Jour : Ref Zhur Biol., No 22, 1958, 99509

Author : Gel'berg, S.I., Finkel', Ye.A., Gel'berg, I.S.

Inst : -
Title : Preparation of Labeled Cultures of ECG and Virulent Tuberculous Mycobacteria with the Aid of Antibiotics and Chemotherapeutic Drugs.

Orig Pub : Probl. tuberkuleza, 1957, No 9, 105-108

Abstract : By cultivating for a period of 11 months of the strain BCG-1 and of the virulent strain of tubercle bacilli "Ravenel" on an egg medium in the presence of gradually increasing quantities of streptomycin (S) or phtivazide (P), cultures were obtained which were resistant to 20,000 units of S in 1 ml of the medium (BCG-S and "Ravenel"-S) or to 1,000 of P in 1 ml of the medium (BCG-P and "Ravenel"-P). The obtained resistant strains

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USSR/Microbiology - Microbes Pathogenic for Man and Animals. F
Bacteria. Mycobacteria.

Abs Jour : Ref Zhur Biol., No 22, 1958, 99509

of BCG did not differ from the original strain in the activity of multiplication in the organism, and in the sensitizing and immunizing properties. The resistant cultures of the strain "Ravenel" possess a virulence for guinea pigs identical with the original strain. The obtained cultures do not multiply in the presence of other antibiotics towards which they remain sensitive. It is the opinion of the authors that the cultures obtained by them are labeled since they possess biological properties identical to those of the original strains and are easily detected among microbes of this type due to the characteristic of therapeutic resistance. The authors are utilizing these strains in experimental investigations of vaccination and immunity in tuberculosis.
-- G.Ye. Frunkina

Card 2/2

GEL'BERG, S.I.; FINKEL', Ye.A.; GEL'BERG, I.S.

Producing tagged cultures of BCG and virulent Mycobacterium tuberculosis with the aid of antibiotics and chemotherapeutic agents [with summary in French]. Probl.tub. 35 no.8:105-108 '57.

(MIRA 11:4)

1. Iz kafedry mikrobiologii (zav. S.I.Gel'berg) Kirgizskogo gosudarstvennogo meditsinskogo instituta.

(MYCOBACTERIUM TUBERCULOSIS, culture
labeled cultures on egg medium with addition of
antibiotics & chemother. agents (Rus))

GEL'BERG, S.I.; FINKEL', Ye.A.

Method of experimental study of immunogenic properties of
antituberculosis vaccine and the effectiveness of methods of
its use. Probl.tub. 37 no.2:80-84 '59. (MIRA 12:9)

1. Iz kafedry mikrobiologii (sav.S.I.Gel'berg) Kirgizskogo
meditsinskogo instituta.
(BCG VACCINATION, exper.
immunogenic properties in guinea pigs (Rus))

SUPRON, L.F., dots., otv. red.; ARINCHIN, N.I., prof., red.;
GEL'BERG, S.I., prof., red.; KLEPATSKIY, B.I., prof., red.;
LIBERZON, G.Ya., prof., red.; NOVIKOV, I.I., kand. med.nauk
red.; RAZUMOVICH, A.N., assistant, red.

[Abstracts of the reports of the Fourth Scientific Session
on the Problem: Physiology, Morphology and Pathology of the
Cardiovascular System] Tezisy dokladov Nauchnoi sessii po
probleme: Fiziologiya, morfologiya i patologiya serdechno-
sosudistoi sistemy. Grodno, Grodnenskiy med. in-t, 1962. 207 p.
(MIRA 17:10)

1. Nauchnaya sessiya po probleme: Fiziologiya, morfologiya i
patologiya serdechno-sosudistoy sistemy, 4th, 1962. 2. Zave-
duyushchiy kafedroy patologicheskoy fiziologii Grodenskogo me-
ditsinskogo instituta (for Supron). 3. Zaveduyushchiy kafedroy
normal'noy fiziologii Grodenskogo meditsinskogo instituta (for
Arinchin). 4. Kafedra normal'noy anatomii Grodenskogo meditsin-
skogo instituta (for Novikov). 5. Zaveduyushchiy kafedroy mikro-
biologii Grodenskogo meditsinskogo instituta (for Gel'berg).
6. Zaveduyushchiy kafedroy obshchey khirurgii Grodenskogo medi-
tsinskogo instituta (for Klepatskiy). 7. Zaveduyushchiy kafed-
roy nervnykh bolezney Grodenskogo meditsinskogo instituta (for
Liberzon). 8. Kafedra biokhimii Grodenskogo meditsinskogo in-
stituta (for Razumovich).

GELBERG, S.I.; FINKEL, E.A.; KIRNIK, B.L.; GELBERG, I.J.

Experimental vindication of the immunochemical prophylaxis of tuberculosis. J. hyg. epidem. (Praha) 9 no.1:18-30 '65

1. Grodno Medical Institute and Kirghiz Tuberculosis Research Institute, Grodno.

MAKAYEV, N.A.; GEL'BERG, Ya.L (Vitebsk)

On the road to technical progress. Shvein.prom. no.5:11-14 8-0
'60. (MIRA 13:12)

(Clothing industry)

SHILKIN, V. G.

"Application of Solid Elective Tetrathionic Media for Separation of Salmonellae in Sanitation-Medical Investigations," Thesis for degree of Comd. Biological Sci. Sub 16 Feb 50, Acad Med Sci USSR

Summary 71, 4 Sept 52. Dissertations Presented for Degrees in Sci. and Engi. in Moscow in 1950. From Vechernyaya Moskva. Jan-Dec 1950.

GEL'BERGER, M. G.

USSR/Chemical Technology. Chemical Products and Their Application -- Water treatment. Sewage water, I-11

Abst Journal: Referat Zhur - Khimiya, No 2, 1957, 5383

Author: Cherkinskiy, S. N., Mats, L. I., Rossovskaya, V. S., Gel'berger, M. G., Dmitriyeva, L. V.

Institution: None

Title: Effectiveness of Water Disinfection by Ultraviolet Radiation at the Pilot Plant of the Academy of Communal Economy

Original
Publication: Gigiyena i sanitariya, 1953, No 10, 8-14

Abstract: No abstract

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GEL'BERGER, M.G., kand.biol.nauk

Practical significance of analysis of washing from equipment and hands. Gig. i san. 23 no.5:53-55 My '58 (MIRA 11:6)

1. Iz Moskovskoy oblastnoy sanitarno-epidemiologicheskoy stantsii.
(SANITATION,
value of analysis of washings from food equipment
& hands (Rus))

GEL'BERGER, M.G.; MUR, M.G.; FRIDMAN, Yu.M.

Bacteriological investigations of sour milk and cottage cheese sold
at collective farm markets. Vop.pit. 18 no.5:81 S-0 '59. (MIRA 13:1)

1. Iz Moskovskoy oblastnoy sanitarno-epidemiologicheskoy stantsii.
(DAIRY PRODUCTS microbiol.)

GEL' BERGER, M.G.

Some remarks on standardized sanitary bacteriological examinations. Uch.zap.Mosk.nauch.issl. inst.san. i gig. no.4:11-14
*60. (MIRA 16:11)

Recovery of Salmonella from the feces of persons sicj with
dysentery and enterocolitis. Ibid. :71-74

1. Moskovskaya oblastnaya sanitarno-epidemiologicheskaya
stantsiya.

*

ARZAMASOVA, Z.A., kand.biologicheskikh nauk; GEL'BERGER, M.G., kand. biologicheskikh nauk; DERBENEVA-UKHOVA, V.P., prof.; ZAKHAROVA, N.F., nauchnyy sotrudnik; KIRPICHNIKOV, A.A., kand.tekhn.nauk.

Mechanized biothermic decontamination of refuse. Gig. i san.28
no.1:13-17 Ja'63. (MIRA 16:7)

1. In Akademi kommunal'nogo khozyaystva imeni K.D.Pamfilova.
(REFUSE AND REFUSE DISPOSAL)

GELBERGER, M.S.

CHEKINSKIY, S.N.; MATS, L.I.; ROSSOVSKAYA, V.S.; GEL'BERGER, M.S.; DMITRI'YEVA,
L.V.

Effectiveness of water purification by ultraviolet irradiation at
an experimental industrial center of the Academy of Municipal Economics.
Gig. sanit., Moskva no.10:8-14 Oct 1953. (GIML 25:5)

1. Of Scientific-Research Sanitary Institute imeni Erisman.

GINTSBURG, Ya.S., kandidat tekhnicheskikh nauk; KUDRYAVTSEV, I.V.,
professor, doktor tekhnicheskikh nauk, retsenzent; GEL'BERMAN, L.Sh.,
kandidat tekhnicheskikh nauk, redaktor.

[Testing of metals at high temperatures] Ispytaniia metallov pri
povyshennykh temperaturakh. Moskva, Gos. nauchno-tekhn. izd-vo
mashinostroit. i sudostroit. lit-ry, 1954. 251 p. (MLRA 7:8)
(Metals--Testing) (Metals at high temperatures)

SERGEYEV, P. (Ordzhonikidze); YAROLOV, G. (Leningrad); YEVDOKIMENKO, I.,
inzhnere-mekhanik (Chernigov); MIKHALEV, V. (Moskva); BUSLAYEV, V.;
GEL'FRAS, A.; SAMOYLOV, K. (Noginsk)

Opening the mail. Tekh.mol. 29 no.9:32-33 '61. (MIRA 14:10)
(Technological innovations)

GEL'BRAS, V.

Achievements of Chinese People's Republic for the last ten
years in the field of work and wages. Sots.trud 4 no.9:
27-38 S '59. (MIRA 13:1)
(China--Economic conditions)

GEL'BRAS, V.

Review of job classification manuals in the Chinese People's
Republic. Biul.nauch. inform.; trud i zar plata 3 no.1:64-65
'60. (MIRA 13:6)

(China--Job analysis)

GEL'BRAS, V.

Change of the workday schedule in the coal mining industry
of the Chinese People's Republic. *Biul.nauch.inform. i trud i*
zar.plata 3 no.3:52-54 '60. (MIRA 13:8)
(China--Coal mines and mining)

GEL'BRAS, V.; ZARUBOV, N.

Several methodological problems of comparing labor productivity standards in industries of Socialist countries. Biul. nauch. inform.: trud i zar. plata 3 no. 11:50-54 '60. (MIRA 14:1)
(Communist countries--Labor productivity)

GRUZINOV, V.; GEL'BRAS, V.

"Improving the forms of industrial management in the European
people's democracies." Reviewed by V.Gruzinov, V.Gel'bras. Vop.
ekon. no.4:124-129 Ap '62. (MIRA 15:4)
(Europe, Eastern--Industrial management)

GEL'BRAS, V.

The most important condition for increasing labor productivity
in the industry of socialist countries. Sots.trud 8 no.4:11-20
Ap '63. (MIRA 16:4)

(Europe, Eastern--Labor productivity)
(Mutual Economic Assistance Council)

G E L' b r n s , U . S .

AUTHORS: Arturov, O.A., Deceased, Gel'bras, V.G., 3-1-50/52
Mayorova, T.G.

TITLE: Against a Superficial Representation of the Economy of
People's China (Protiv poverkhnostnogo osveshcheniya ekono-
miki narodnogo Kitaya)

PERIODICAL: Vestnik Vysshey Shkoly, 1958, # 1, pp 32-87 (USSR)

ABSTRACT: The article contains a criticism of A.M. Kosolapov's
lecture, now published as a booklet entitled "The Economic
Structure of the Chinese People's Republic". The book
deals with the economic background of the Chinese revolution
and the conversion of economy on a socialistic basis. The
criticism is partly a doctrinaire dispute of the reviewers
who, on many points, disagree with the views set forth by
Kosolapov. Thus, for instance, according to the reviewers'
opinion, Kosolapov sees the objective premises of the Chi-
nese revolution mainly in the crisis of the capitalistic
world's economic system, and examines the internal contra-
dictions existing in China only superficially. The re-
viewers, however, consider that the aggravation of the in-
ternal and external contradictions have created objective
conditions for a revolution. They further state that the
booklet contains flat inaccuracies which have distorted the

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3-1-30/32

Against a Superficial Representation of the Economy of People's China

sense of the revolution's phenomena and processes.

The reviewers claim that in the booklet the position of the classes in the country, the moving forces of the revolution, and the role of the working class and its leader - the Communist Party - have been poorly represented. This, in the reviewers' opinion, is due to the fact that Kosolapov is lacking a clear understanding of the country's economic situation.

They further object to the statistical figures not being always correct, and in conclusion they regret that the Leningrad University has recommended the booklet to instructors and students as an aid for the course of political economy. There are 6 Chinese references.

ASSOCIATION: The Scientific-Research Institute of Labor, State Committee of the USSR Council of Ministers on Questions of Labor and Pay (Nauchno-issledovatel'skiy institut truda gosudarstvennogo komiteta Soveta ministrov SSSR po voprosam truda i zarplaty)

AVAILABLE: Library of Congress
Card 2/2

GEL'BRAS, V.G.

Development of power and electric industries in the Chinese People's
Republic. Biul. tekhn.-ekon. inform. no.3:78-80 '58. (MIRA 11:6)
(China--Power engineering) (China--Electric engineering)

GEL'BRAS, V. G.

Measures for the improvement of the vocational training of
personnel in the Chinese People's Republic. Biul.nauch.inform.:
trud 1 ser.plata no.5:59-62 '59. (MIRA 12:6)
(China--Vocational education)

GEL'BRAS, V.

New bonus system in enterprises of the Chinese Peoples's Republic.
Bul.nauch.inform.: trud i zar.plata no.12:54-56 '59. (MIRA 13:10)
(China--Bonus system)

AUTHOR: Gel'bras, V. Ya. Engineer

SOV-117-58-10-3/35

TITLE: An Automatic Milling Cutter Designed on the Base of a Standard Power Head (Frezernyy avtomat na baze standartnoy silovoy golovki)

PERIODICAL: Mashinostroitel', 1958, Nr 10, pp 3 - 4 (USSR)

ABSTRACT: Machining of the internal links of a sectional traction chain is done on FM-T09 copying milling cutters. The operation is difficult and requires an operator of considerable skill and physical strength. In order to improve these conditions and increase the productivity of the operation, an automatic duplex milling cutter on the base of a standard hydraulic power head of type 1U4041 with magazine feed attachment (Photo 1) has been projected, manufactured and put into operation. Former consecutive milling of the internal surfaces has now been changed over to simultaneous face milling of two milling cutters equipped with crowns of the hard alloy T15K6 at 2,000 revolutions per minute of the spindles and a speed of 600 mm/min. of the feed process. The magazine is calculated for 20 pieces and can be filled while the machine is operating. This makes

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DOV-117-58-10-3/35

An Automatic Milling Cutter Designed on the Base of a Standard Power Head

it possible for one operator to operate several machines of this type at a time. A safety valve can stop the machine immediately. The dimensions of the machine are 2,100 x 700 x 500 mm. The machine produces 420 pieces an hour, which is an increase of 3.5 times. The component parts of the machine are shown and described in detail. There are 2 sets of diagrams and 1 photo.

1. Cutting tools--Design 2. Milling machines (Engineering)
--Equipment

Card 2/2

GEL'BSHTEYN, A. I.

Equilibrium between the gas and liquid phases in the system $P_2O_5-H_2O$. A. I. Gel'bshteyn and M. I. Temkin. Zhur. Obshchei Khim. 23, 1278-83 (1958).—A new method is described for measurement of vapor pressure (v.p.) which uses the liquid whose v.p. is to be detd. as the manometer fluid. The temps. at which the v.p. equals 1 atm. were detd. over a range of comps. 29.0-80.0 wt. % P_2O_5 . A point of inflection on this isobar corresponds to the compd. H_2PO_4 (72.4% P_2O_5). The relation of the v.p. to temp. for acids contg. 09.8 to 76.3 wt. % P_2O_5 were detd. over a v.p. range from 1 to 20 atm. For solns. in which the P_2O_5 content is greater than 72.4%, log v.p. is a linear function of the H_2O content. J. Rovtar Leuch

MT RSH

Gel'bshteyn, A. I.

USSR/Physical Chemistry - Solutions. Theory of Acids and Bases, B-11

Abst Journal: Referat Zhur - Khimiya, No 1, 1957, 488

Author: Gel'bshteyn, A. I., Shcheglova, G. G., and Temkin, M. I.

Institution: None

Title: Acidity of Aqueous HCl Solutions and of the System $P_2O_5-H_2O$ at Various Temperatures

Original

Periodical: Zh. neorgan. khimii, 1956, Vol 1, No 2, 282-297

Abstract: The indicator method was used in determining the dependence of the acidity H_0 on the temperature and on the concentration in aqueous solutions of HCl (up to 6.44 M), aqueous solutions of H_3PO_4 (up to 100%), and in strong phosphoric acids containing up to 83.8 wt percent P_2O_5 . It was found that in the system $P_2O_5-H_2O$ the value of H_0 passes through a maximum at 79.7 wt percent P_2O_5 , which corresponds to the composition $H_4P_2O_7$. A further increase in the P_2O_5 content of the system leads to a decrease in acidity. Raising the temperature (20-80°) increases the acidity of aqueous HCl solutions. The acidity of

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USSR/Physical Chemistry - Solutions. Theory of Acids and Bases, B-11

Abst Journal: Referat Zhur - Khimiya, No 1, 1957, 488

Abstract: the system $P_2O_5-H_2O$ decreases when the temperature is increased (4-40°). In the region of strong phosphoric acids and high HCl concentrations, the derivative of the acidity-temperature characteristic is practically independent of the concentration. The values of the standard change in enthalpy ΔH^0 and entropy ΔS^0 during the ionization of the various basic indicators have been calculated.

Card 2/2

Gel'bshteyn, A. I.

USSR/Physical Chemistry - Solutions. Theory of Acids and Bases, B-11

Abst Journal: Referat Zhur - Khimiya, No 1, 1957, 485

Author: Gel'bshteyn, A. I., Shcheglova, G. G., and Temkin, M. I.

Institution: None

Title: Acidity of the System $H_2SO_4-H_2O$ at Various Temperatures

Original

Periodical: Zh. neorgan. khimii, 1956, Vol 1, No 3, 506-515

Abstract: The acidity of sulfuric acid was studied as a function of the concentration (4-100% H_2SO_4) and the temperature (20, 40, 60, and 80°). It was established that in solutions containing less than 30% H_2SO_4 by weight, the acidity increases with temperature; in solutions containing 30-50 wt. percent H_2SO_4 , the acidity is practically independent of the temperature, and in solutions with higher concentrations, the acidity decreases with increasing temperature. An equation is given for the acidity: $H_2SO_4:H_0 = -1.74 - \lg K_2 - \lg \frac{x_{H_2SO_4}}{x_{HSO_4^-}} - \lg \frac{f_{H_2SO_4} f_B}{f_{HSO_4^-} f_{BH^+}}$, where K_2 is the equilibrium

Card 1/2

USSR/Physical Chemistry - Solutions. Theory of Acids and Bases, B-11

Abst Journal: Referat Zhur - Khimiya, No 1, 1957, 485

Abstract: constant for the reaction $\text{H}_2\text{SO}_4 + \text{H}_2\text{O} \rightleftharpoons \text{HSO}_4^- + \text{H}_3\text{O}^+$; x_1 is the mole fractions and f_1 , the activity coefficients. This equation is equivalent to the equation introduced by Brand (J. C. D. Brand, J. Chem. Soc., 1950, 997). A theoretical discussion of the determination of the acidity of concentrated H_2SO_4 solutions is given. It is noted that the effect of the temperature dependence of the acidity on the rate of reactions which are catalyzed by the acids is comparable to the effect of the temperature dependence of the probable activation energy. Hence, the study of the temperature dependence of the acidity will lead to the correct determination of the activation energy during catalysis by strong acids.

Card 2/2

... conditions ...
72.4-93.3 wt % ...
various temps. In the P_{10} - H_2O system the ...
of a ... of ...
An analysis of the results obtained, taking into consideration
the changes in acidity with the temp., agrees with the
assumption of a formation of carbonium ion intermediates.
Deviations from direct proportionality between the reaction
rate and acidity are caused by changes of activation
energy with changes of acid strength. At equilibrium the
reaction in H_2SO_4 proceeds consistently ...
W. M. Sherberg

for
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GEL'BSHTEYN, A-I.

✓ The acidity of HCl-H₂O, H₂SO₄-H₂O, and P₂O₅-H₂O systems at different temperatures. A. I. GEL'BSHTEYN, G. G. Shelepova, and M. I. Tenkin. *Doklady Akad. Nauk S.S.S.R.* 107, 105-11 (1956). The $H_0 = \log a$ value (the acidity function), a continuation of the pH scale into high-concn. range, was heretofore measured only at room temp., although the variations in H_0 with the temp. defines accurately the activation energy in high-temp. catalysis. The results of color-intensity measurements were made with a Pulfrich photometer at 20, 40, 60, and 80 with a no. of indicators, with the acid concn. changes: HCl: 0.1-0.5M; H₂SO₄: 4-100%; H₃PO₄: 5-100%; and P₂O₅ + H₂O: 72.4-83.8%. The data for HCl, H₂SO₄, and H₃PO₄ at room temp. agree with the data in the literature. For the P₂O₅ + H₂O system no previous information was found. A max. was found in that system at 80% P₂O₅ concn., corresponding to the formula H₄P₂O₇. In the range of high HCl concn., the acidity rises with the temp., and dH_0/dT is independent of the concn.; in H₃PO₄, the dH_0/dT is independent of the concn., except at concns. 25% H₃PO₄. In H₂SO₄ the acidity rises to concns. below 30% H₂SO₄ with the temp., and drops at higher H₂SO₄ concns. The results are interpreted in mass-action terms.

W. M. Sternberg

U.S.S.R. 3

Am

GEL'BSHTEYN, A.I. (Moscow); TEMKIN, M.I. (Moscow)

Kinetics of the chemical interaction between ethylene and propylene
with sulfuric acid [with summary in English]. Zhur. fiz. khim.
31 no.12:2697-2705 D '57. (MIRA 11:4)

1. Fiziko-khimicheskiy institut im. L. Ya. Karpova, Moskva.
(Ethylene) (Propylene) (Sulfuric acid)

AUTHORS: Gel'bshteyn, A. I., Zansokhova, A. A., SOV/64-58-5-6/21
Shcheglova, G. G.

TITLE: The Vapor Phase Alkylation of Benzene With Ethylene With
a Phosphorus-Diatomite Catalyst (Parofaznoye alkilirovaniye
benzola etilenom na fosforno-diatomitnom katalizatore)

PERIODICAL: Khimicheskaya promyshlennost', 1958, Nr 5, pp. 284 - 287 (USSR)

ABSTRACT: This alkylation was carried out in a high-pressure apparatus,
a diagram of which is given. In the case where the authors
worked with pure ethylene (instead of with an ethylene-nitrogen
mixture) it was dissolved in a special mixing bulb in benzene
and the composition of the mixture was determined by means of
pressure readings. The analysis of the liquid reaction pro-
ducts was carried out according to the melting temperature
method suggested by O.M.Podurovskaya, which had been developed
in the below mentioned laboratory for the analysis of benzene-
toluene mixtures. A diagram of the apparatus is given. The
authors carried out experiments with a 50% ethylene-nitrogen
mixture at different ratios to benzene, at 300 and 325° and
at 40 atmospheres absolute pressure. It was found that the
optimum molar ratio benzene - ethylene is in the vicinity of

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The Vapor Phase Alkylation of Benzene With Ethylene
With a Phosphorus-Diatomite Catalyst

SOV/64-58-5-6/21

10. The experimental results obtained are given in a table, as are those on the effect of the composition of the "Ethylene Fraction" on the alkylation process. From the experimental results obtained it may be seen that at a temperature of 325° a conversion of 85-90% of the ethylene into alkyl products is reached, with almost no side reactions taking place. A drop of the temperature decreases the conversion by 10-15%, so that the temperature mentioned may be regarded as the optimum temperature. The content of ethylbenzene in the reaction products was 10 per cent by weight. There are 3 figures, 2 tables, and 19 references, 5 of which are Soviet.

ASSOCIATION: Fiziko-khimicheskly institut imeni L.Ya.Karpova (Institute of Physics and Chemistry imeni L.Ya.Karpov)

Card 2/3

The Vapor Phase Alkylation of Benzene With Ethylene
With a Phosphorus-Diatomite Catalyst

SOV/64-58-5-6/21

1. Benzenes--Chemical reactions 2. Substitution reactions 3. Ethylene--Chemical
reactions 4. Catalysts--Chemical reactions

Card 3/3

76-32-4-21/43

AUTHORS: Tsybina, Ye. N., Gel'bshteyn, A. I., Arest-Yakubovich, A. A.,
Temkin, M. I.

TITLE: The Kinetics of the Vapor Phase Hydration of Acetylene in the
Presence of a Carbon-Supported Phosphoric Acid Catalyst
(Kinetika parofaznoy gidratatsii atsetilena v prisutstvii
katalizatora - fosfornaya kislota na ugle)

PERIODICAL: Zhurnal Fizicheskoy Khimii, 1958, Vol. 32, Nr 4,
pp. 856 - 863 (USSR)

ABSTRACT: Investigations in the field of acetylene hydration were already
carried out by A. P. El'tekov (Reference 1), M. G. Kucherov
(Reference 4-6) and others so that the present paper is a
continuation of a previous one by A. Ya. Yakubovich, A. A.
Danilevich and N. A. Medzykhovskaya (Reference 9). Externally
there is apparently present an heterogenous catalytic process;
in fact it is an homogenous catalytic process which takes
place in liquid dissolved acetylene. From the technique applied
can be seen that the authors used the passage system within

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76-32-4-21/43

The Kinetics of the Vapor Phase Hydration of Acetylene in the Presence of a Carbon-Supported Phosphoric Acid Catalyst

a temperature interval of from 261 - 302°C and with using activated charcoal BAU ; the catalyst was produced of this according to a method by N. M. Chirkovyy. From the results obtained can among other facts be seen that no retardation of diffusion of the process takes place and that the reaction velocity at a constant phosphoric acid concentration corresponds to an equation of first order. The increase of the pressure of steam leads to a decrease of the reaction velocity which is explained by the dilution of the acid. It was observed that parallel to the hydration an acetylene polymerization and croton condensation of acetaldehyde takes place. A. L. Klebanskiy and V. D. Titov (Reference 18) investigated the reaction mechanism of unsaturated compounds which were catalized by strong acids; they did this by investigating the alkylic acids formed as intermediate products. The hydration velocity of acetylene is proportional to its concentration as well as to the acidity of the medium and is dependent on the activity of water. This is

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The Kinetics of the Vapor Phase Hydration of Acetylene in the Presence of
a Carbon-Supported Phosphoric Acid Catalyst 76-32-4-21/43

explained by a monomolecular conversion of the product of proton addition to the acetylene molecule as reaction limit. The products are regarded as π -complexes of acetylene with a proton in the carbonium ion. Concluding from this a reaction scheme is given and the activation energy is calculated taking into account the temperature dependence of the activity of the catalyst. There are 1 figure, 3 tables, and 21 references, 14 of which are Soviet.

ASSOCIATION: Fiziko-khimicheskiy institut im. L. Ya. Karpova, Moskva (Moscow Physicochemical Institute imeni L. Ya. Karpov)

SUBMITTED: December 27, 1956

AVAILABLE: Library of Congress

1. Acetylene--Hydration 2. Phosphoric acid--Catalytic properties

Card 3/3

AUTHORS: Tsybina, Ye. N , Gel'bshteyn, A. I , 76 32 5-5/4?
Temkin, M. I.

TITLE: The Kinetics of the Vapor Phase Hydration of Acetylene on
Zinc Phosphate (Kinetika parofaznoy gidratatsii atsetilena na
fosfate tsinka)

PERIODICAL: Zhurnal fizicheskoy khimii, 1958, Vol. 32, Nr 5, pp. 995-1002
(USSR)

ABSTRACT: The reaction kinetics were investigated according to the flow
circulation method, which made possible an isothermal catalyst
layer independent of the conversion degree of the reacting sub-
stances, and also made possible a direct measuring of the re-
action velocity. The mechanism of the catalytic effect of pro-
tonic and aprotonic acids or acid-similar substances, respective-
ly, is assumed according to the terminology by A. I. Shaten-
shteyn (Ref 5). The experimental technique and the equipment
are given. It was observed that the reaction took place in the
kinetic range and that it did not depend on the granular size
of the catalyst, but that it depended on the conditions of
preparation, so that comparisons were made only with catalysts
of the same series of production. The catalyst activity de-

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The Kinetics of the Vapor Phase Hydration of Acetylene on
Zinc Phosphate

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creased with the prolongation of the working period which made necessary its regeneration after a certain working period. The amount of side reaction products was determined by bromination and served for orientation. As was shown by the results mentioned in form of tables the reaction velocity does not change with the partial pressure of the acetaldehyde with the reaction kinetics corresponding to that of the catalytic effect of phosphoric acid; this permits to conclude on a similarity of the mechanism of the two catalysts. It is assumed that a corresponding carbonium ion of Zn^{+2} is formed the structure of which corresponds to that of the compound of mercury chloride with acetylene as assumed by A. N. Mesmeyanov and R. Kh. Freydina (Ref 12) in the reaction of vinyl derivatives, and which is in the present case represented by $HC^+ = CHZn^+$. The productions by A. L. Klebansiy and V. D. Titov (Ref 14) based on the investigation results by A. N. Mesmeyanov, as well as those by Lyuderi and Tsuffanti (Ref 13) are also mentioned. Concluding the authors state that the formation velocity of acetaldehyde is proportional to the partial pressure of acetylene and independent of the partial pressure of water

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The Kinetics of the Vapor Phase Hydration of Acetylene on Zinc Phosphate 76-32-5-5/47

and acetaldehyde, and that the yield of acetylene polymers is proportional to the ratio $P_{C_2H_2} / P_{H_2O}$.

There are 3 figures, 6 tables, and 15 references. 14 of which are Soviet.

ASSOCIATION: Fiziko-khimicheskiy institut im. L.Ya. Karpova, Moskva (Moscow Physical-Chemical Institute imeni L.Ya. Karpov)

SUBMITTED: December 28, 1956

1. Acetylenes--Chemical reactions
2. Zinc phosphates--Chemical reactions
3. Chemical reactions--Velocity
4. Acids--Catalytic properties

Card 3/3

AUTHORS: Gel'bshteyn, A. I., Temkin, M. I. 20-118-4-32/61

TITLE: On the Determination of the Reaction Order From the Acidity (Ob opredelenii poryadka reaktsii po kislotnosti)

PERIODICAL: Doklady Akademii Nauk SSSR, 1958, Vol. 118, Nr 4, pp. 740-743 (USSR)

ABSTRACT: In the catalysis by concentrated acids the degree of the transition of the substrate B into the protonized form BH^+ is determined by the acidity of the medium, i.e. by the ability to deliver a proton, and also by the alkalinity of the substrate:

$C_{BH^+}/C_B = Kh_0$. Thereby h_0 denotes the acidity of the medium and K - the constant of the equilibrium of the reaction $B + H^+ \rightleftharpoons BH^+$. It is possible that the equilibrium is established previous to the limiting stage $B + 2H^+ \rightleftharpoons BH_2^{2+}$. In that case the constant k of the velocity must be proportional to h_0^2 . The dependence of the constant k on h_0 is usually represented by the equation

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On the Determination of the Reaction Order From
the Acidity

20-118 -4-32/61

$k = \text{const.} \cdot h_0^n$, where n is graphically determined. By this means in the decomposition of benzoyl-formic-acid in sulfuric acid the value $n = 2$ was determined and it was concluded that the reaction comprises the combination of two protons. The authors investigated the kinetics of the decomposition of formic acid into carbon monoxide and water in the media $\text{H}_2\text{SO}_4\text{-H}_2\text{O}$ (from 80,7 to 98,2 % H_2SO_4) and $\text{P}_2\text{O}_5\text{-H}_2\text{O}$ (from 72,4 to 83,3 % P_2O_5 , i.e. in the domain of the so-called strong phosphoric acids). The acidity of the system $\text{P}_2\text{O}_5\text{-H}_2\text{O}$ passes through a maximum at a P_2O_5 -percentage of about 80 % in contrast to the system $\text{H}_2\text{SO}_4\text{-H}_2\text{O}$, where the acidity monotonously depends on the composition. The peculiarity of the system $\text{P}_2\text{O}_5\text{-H}_2\text{O}$ makes possible a better determination of the relation between the constant of the reaction velocity and the acidity. The shape of the curve for the system $\text{P}_2\text{O}_5\text{-H}_2\text{O}$ indicates the inapplicability of the equation $k = \text{const.} \cdot h_0^n$. Then the authors give a formula

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the Acidity

20-118.-4-32/61

for k and for a proportionality coefficient, occurring in this formula. Finally $k = F(x)e^{-E(x)/RT}$ is obtained, whereby $F(x)$ is an observed factor and $E(x)$ is the observed activation energy. These terms here are specialized more exactly. A table contains the values of the quantity occurring in these terms for 20°C. The accuracy of the here given formulae is shortly discussed. The finding of n by means of the equation $\log F(x) = \log B + n \log \beta$ fundamentally is more correct than the determination by the equation $k = \text{const.} \cdot h_0^n$, but it imposes considerably higher demands on the experimental data. There are 2 figures, 2 tables, and 4 references, 2 of which are Soviet

ASSOCIATION: Nauchno-issledovatel'skiy fiziko-khimicheskiy institut
im. L. Ya. Karpova (Physical-Chemical Scientific Research
Institute imeni L. Ya. Karpov)

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On the Determination of the Reaction Order From
the Acidity

20-1184-32/61

PRESENTED: July 23, 1957, by A. N. Frumkin, Member, Academy of
Sciences USSR

SUBMITTED: July 16, 1957

AVAILABLE: Library of Congress

Card 4/4

5(4)

AUTHORS: Apel'baum, L. O., Gel'bshteyn, A. I., SOV/76-33-2-45/45
Kul'kova, N. V., Morozov, N. M.

TITLE: Mikhail Isaakovich Temkin (Mikhail Isaakovich Temkin).
(On His 50th Birthday) (K 50-letiyu so dnya rozhdeniya)

PERIODICAL: Zhurnal fizicheskoy khimii, 1959, Vol 33, Nr 2, pp 507-508
(USSR)

ABSTRACT: Professor M. I. Temkin dedicated more than 25 years of his scientific activity to the theoretical problems of physical chemistry. He first set forth the theory of the kinetic catalytic reactions on heterogeneous surfaces, which is based on the logarithmic adsorption isothermal lines (Temkin isothermal lines). With this theory he and his collaborators were able to define kinetics and the mechanism of such important processes in chemical technology as the ammonia synthesis, the production of water gas, the gasification of coal, and others. For his investigations in the field of the linear relationship between the activation energy and the heat effects of heterogeneous catalytic processes and for his work on the processes of chemisorption Temkin received the premiya im. A. N. Bakha (Prize imeni A. N. Bakh) in 1957. Temkin founded

Card 1/2

Mikhail Isaakovich Temkin. (On His 50th Birthday)

SOV/76-33-2-45/45

the concept of "adsorption of high intensity" and explained the catalytic oxidation of ethanol as an example of it. Temkin was the first to obtain a general, theoretical expression for the absolute rate of reaction on surfaces of solid bodies, which is of fundamental importance in the theory of catalysis. M. I. Temkin also showed that the activation energy of electrochemical processes can be determined theoretically and experimentally, and without difficulty, in relation to the absolute potential. Temkin's ion theory of melted salts and metallurgical slags is well-known in his own country and in foreign countries. His investigations in the field of thermoelectric phenomena in electrolyte solutions and his concept of "ions agitated by entropy" have been confirmed in the papers by English authors. Several papers of M. I. Temkin are concerned with the thermodynamic properties of real gas mixtures. From 1939 to 1949 Temkin was Editor of the Zhurnal fizicheskoy khimii (Periodical of Physical Chemistry). He was awarded the Order of the Red Banner of Work and other Orders of Honor. There is 1 figure.

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USCOMM-DC-60795

5(4)

AUTHORS:

Bakshi, Yu. M., Gel'bshteyn, A. I.,
Temkin, M. I.

SOV/20-126-2-24/64

TITLE:

The Equilibrium of the Synthesis of Ethyl Alcohol (Ravnovesiye sinteza etilovogo spirita)

PERIODICAL:

Doklady Akademii nauk SSSR, 1959, Vol 126, Nr 2, pp 314-317 (USSR)

ABSTRACT:

The degrees of transformation attainable in the hydration of ethylene in the gaseous phase depend on the equilibrium $C_2H_4(gas) + H_2O(gas) = C_2H_5OH(gas)$. The gases participating in this equilibrium must never be considered to be perfect in the case of the industrial realization of this reaction. For this and other reasons the authors carried out an experimental investigation of the above-mentioned equilibrium, and the results obtained by these investigations are discussed in the present paper. The investigations were carried out in a proton reactor made of stainless steel. The catalyst in this case was silica-gel (~40% H_3PO_4 of the weight of the catalyst). Carrying out these experiments is described. The equilibrium was attained from two sides, and results were found to be in practical agreement. The experimental results are shown by a rather voluminous table. The velocities referred to the volume

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The Equilibrium of the Synthesis of Ethyl Alcohol

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were calculated as the ratio between the ethylene yields per hour (0°, 1 atm) and the volume of the catalyzer layer. The

average values of $K_p = \frac{P_{C_2H_5OH}}{P_{C_2H_4} P_{H_2O}}$ determined by means of experiments

carried out with mixtures of alcohol and water are also shown by a table. In this connection it holds that $P_{C_2H_5OH} = P_{C_2H_5OH}^{PN}$

(P - total pressure, $N_{C_2H_5OH}$ - molar fraction of C_2H_5OH). In the

case of slight deviations from the perfect state, the equation of state of a gas mixture may be used: $V = \frac{RT}{P} + B$. Here V denotes the molar volume of the mixture, and B - the second virial coefficient, which depends upon the state of the mixture: $B = \sum_i \sum_j B_{ij} N_i N_j$. The quantities $B_{ij} = B_{ji}$ are functions of T. For the "activity coefficient"

$\gamma_1 = \frac{f_1}{N_1 P}$ it holds that $\ln \gamma_1 = \frac{2B_1 - B}{RT} P$ with $B_1 = \sum_j B_{1j} N_j$. With

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$\ln K_p = \sum_i \nu_i \ln p_i$ (where ν_i denote the stoichiometric coefficients)

there follows $\ln K_p = \frac{2 \sum_i \nu_i B_i - B \sum_i \nu_i}{RT} P$. The quantity $\frac{2 \sum_i \nu_i B_i - B \sum_i \nu_i}{RT}$ is a function of the state and of temperature, and in the case of T being given, depends only on the ratio $\frac{E_{H_2O}}{E_{C_2H_4}}$. $\ln K_p$ must

depend linearly on P. The calculations carried out in accordance with the methods discussed in the present paper show satisfactory agreement with the experiment, especially at high temperatures. There are 2 figures, 2 tables, and 23 references, 8 of which are Soviet.

ASSOCIATION: Nauchno-issledovatel'skiy Fiziko-khimicheskiy institut im. L. Ya. Karpova (Physico-Chemical Scientific Research Institute imeni L. Ya. Karpov)

PRESENTED: January 26, 1959 by S. S. Medvedev, Academician

SUBMITTED: January 24, 1959

Card 3/3

VARSHAVSKIY, Ya.M., doktor khim.nauk, red.; OML'BSHEVYN, A.I., kand.
khim.nauk [translator]; SHUB, D.M., kand.khim.nauk [translator];
SHEGLOV, O.F., kand.khim.nauk [translator]; ARNOL'DOV, V.V., red.;
IOVLVA, M.A., tekhn.red.

[Catalytic, photochemical, and electrolytic reactions] Katali-
ticheskie, fotokhimicheskie i elektroliticheskie reaktsii. Moskva,
Izd-vo inostr.lit-ry, 1960. 436 p. Translated from the English.
(MIRA 13:11)

(Chemical reactions)

S/O20/60/132/01/41/064
B004/B007AUTHORS: Bakshi, Yu. M., Gel'behteyn, A. I., Temkin, M. I.TITLE: Additional Data on the Equilibrium of the Synthesis of Ethyl Alcohol¹

PERIODICAL: Doklady Akademii nauk SSSR, 1960, Vol. 132, No. 1, pp. 157-159


TEXT: In Ref. 1 the authors published the data on the equilibrium of the reaction (1) $C_2H_4 \text{ gas} + H_2O \text{ gas} = C_2H_5OH \text{ gas}$ at pressures of up to 81 atm. They found the linear dependence of $\log K_p$ on total pressure, extrapolated $\log K_p$ for $P = 0$, and obtained equation (2): $\log K_p = 2093/T - 6.304$. In the present paper they report on the dependence of the logarithm of the coefficient K_γ on P .

($K_\gamma = \gamma_{C_2H_5OH} / \gamma_{C_2H_4} \gamma_{H_2O}$; γ - activity coefficient). The data is given in table 1. Further, equation (5) was derived from the dependence $K_p = K_f / K_\gamma$. Table 2 compares the values of K_p calculated from this equation with the experimentally determined values. The degree of equilibrium α of the conversion of ethylene into alcohol,

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Additional Data on the Equilibrium of the Synthesis
of Ethyl Alcohol

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B004/B007

determined according to equation (6) with $N_{\text{H}_2\text{O}}/N_{\text{C}_2\text{H}_4} = 1$ is given in table 3,
and in table 4 α is given for 290° for a different ratio between water and
ethylene. Calculation of the heat effect of reaction (1) gives $\Delta H = -5263$ cal
at 300° and 80 atm, whereas $\Delta H^\circ = -9370$ cal. This dependence of ΔH on P must
be taken into account for technical calculations. There are 4 tables and
1 Soviet reference. 

ASSOCIATION: Fiziko-khimicheskiy institut im. L. Ya. Karpova (Institute of
Physical Chemistry imeni L. Ya. Karpov)

PRESENTED: December 30, 1959, by S. S. Medvedev, Academician

SUBMITTED: December 30, 1959

Card 2/2

80489
S/020/60/132/02/39/067
B004/B007

5.3200
AUTHORS:

Gel'bshteyn, A. I., Bakshi, Yu. M., Temkin, M. I.

TITLE:

The Kinetics of the Hydration of Ethylene in the Vapor Phase on a Phosphoric Acid Catalyst

PERIODICAL: Doklady Akademii nauk SSSR, 1960, Vol. 132, No. 2, pp. 384-387

TEXT: The authors investigated the industrially utilized reaction $C_2H_4(gas) +$

$H_2O(gas) = C_2H_5OH(gas)$ (1). As catalyst, phosphoric acid applied to silica gel was used. The authors proceeded from the assumption that the reaction

develops in a way similar to the previously (Ref. 1) investigated hydration of C_2H_2 , and that only its reversibility must be taken into account. Scheme (2) is written down for reaction (1), and it is found that the transformation of the

π -complex $H_2C \overset{H^+}{\underset{|}{\text{C}}} CH_2$ into the carbonium ion $H_3C-C^+H_2$ is the stage that limits the reaction rate. From scheme (2) equation (3) is derived for the direct reaction,

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B004/B007

The Kinetics of the Hydration of Ethylene in the Vapor Phase on a Phosphoric Acid Catalyst

after which equation (4) is obtained with some simplification: $v_1 = k_1 h_o P_{C_2H_4}$

(v_1 = rate of direct reaction, k_1 = reaction constant, h_o = acidity of H_3PO_4 , $P_{C_2H_4}$ = partial ethylene pressure). In a similar manner, equation (5) is

obtained for the rate of reversible reduction, equation (7) is derived for the total reaction, and finally equation (9) is written down for the constant k of the total reaction. Table 1 gives the experimental data for absolute pressures P between 36 and 81 atmos and a reaction temperature of 290°C. The values of k remain constant within the limits of experimental errors. The low degree of dependence of the alcohol yield upon P_{H_2O} proves the zeroth order of the

reaction with respect to water, which does not participate in the limiting stage of the reaction. For technical purposes the reaction rate is represented as an explicit function of P_{H_2O} . For the reaction constant k' one finds:

$k' = k P_{H_2O}^{1/2}$ (15). The values of k' given in Table 1 are approximatively constant.

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The Kinetics of the Hydration of Ethylene in the Vapor Phase on a Phosphoric Acid Catalyst

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For the temperatures of 270, 290, 310, and 330°C as well as $P_{H_2O} = 30$ atmos, the average values of k_1 and k' are given in Table 2. As in the adsorption of C_2H_4 and C_3H_6 in H_2SO_4 (Ref. 9), and in the hydration of C_2H_2 (Ref. 1) also in this case the transformation of the π -complex into the carbonium ion is the limiting stage. There are 2 tables and 9 references, 7 of which are Soviet. 4

ASSOCIATION: Fizicheskko-khimicheskiy institut im. L. Ya. Karpova (Institute of Physical Chemistry imeni L. Ya. Karpov)

PRESENTED: December 30, 1959, by V. A. Kargin, Academician

SUBMITTED: December 21, 1959

Card 3/3

GEL'BSMTEYN, A.I.; SILING, M.I.; SERGEYEVA, G.A.; SHCHEGLOVA, G.G.

Vapor phase catalytic conversions of acetylene. Part 1: Adsorption of acetylene and hydrogen chloride on catalysts for vapor phase hydrochlorination of acetylene. *Kin.i kat. 4 no.1:149-155 Jan '63.*
(MIRA 16:3)

1. ~~Fiziko-khimicheskiy~~ fakul'tet imeni L.Ya.Karpova.
(Acetylene) (Hydrochloric acid) (Adsorption)

GEL'BSHTEYN, A.I.; SILING, M.I.

Vapor-phase catalytic conversions of acetylene. Part 2:
Thermodynamic characteristics of the complex-forming
reactions of mercury, bismuth, cadmium, and zinc chlorides
with acetylene and hydrogen chloride on a carbon surface.
Kin.i kat. 4 no.2:303-306 Mr-Ap '63. (MIRA 16:5)

1. Fiziko-khimicheskiy institut imeni Karpova.
(Acetylene compounds) (Hydrochloric acid) (Catalysts)

GEL'BSHTEYN, A.I.; SHCHEGLOVA, G.G.; KHOMENKO, A.A.

Vapor-phase catalytic conversions of acetylene. Part 3:
Kinetics and the mechanism of vapor-phase hydrochlorination
of acetylene over catalysts such as chlorides of Hg (II),
Cd, Zn, Bi. *Kin. i kat.* 4 no.4:625-634 J1-Ag '63. (MIRA 16:11)

1. Fiziko-khimicheskiy institut imeni L.Ya.Karpova.

GEL'BSHTEYN, A.I.; AYRAPETOVA, R.P.; SHCHEGLOVA, G.G.; TERKIN, M.I.

Acidity function of the system $P_2O_5 - H_2O$ Zhur. neorg. khim.
9 no.6:1502-1505 Je '63 (MIRA 17:8)

1. Fiziko-khimicheskiy institut imeni Karпова.

STROYEVA, S.S.; RUDNITSKIY, L.A.; FOMIN, O.K.; KULIKOVA, N.V.;
GEL'BSHTEYN, A.I.

Surface properties of a catalyst for oxidizing ammonolysis of
propylene. *Kin. i kat.* 5 no.2:355-356 Mr-Apr '64. (MIRA 17:8)

1. Fiziko-khimicheskiy institut imeni Karpova.

GELIBENTSEYN, A.I.; SILING, M.I.; SHCHEGLOV, G.G.; VASHI YANV I.R.

Vapor-phase catalytic conversions of acetylene. Part 5: Certain regularities in the catalysis by salts of vapor-phase reactions of addition to acetylene. Kin. i lat. 5 no.3:460-468 Ny-Je '64. (MIRA 17:11)

1. Fiziko-khimicheskiy institut imeni Karpova.