

FRIDMAN, S.Ye.

BN-100 attachment to tractor for covering beet piles. Sakh.prom.
35 no.4:51-52 Ap '61. (MIRA 14:3)

1. "Rosglavpishchesbytsyr'ye" pri Vserossiyskom sovete narodnogo
khozyaystva.

(Sugar beets)

FRIDMAN, S.Ye.

Dirt percent of sugar beets. Sakh.prom. 35 no.4:58-60 Ap '61.

1. "Rosglavpishchesbytsyr'ye" pri Vserossiyskom sovete narodnogo
khozyaystva. (MIRA 14:3)

(Sugar beets)

FRIDMAN, S.Ye.

Experience showing the future of our sugar-beet production. Sakh.
prom. 35 no. 5:37-38 My '61. (MIRA 14:5)
(Sugar beets)

FRIDMAN, S.Ye.

Information. Sakh.prom. 36 no.5:79 My '62.
(Sugar industry)

(MIRA 15:5)

FRIDMAN, S.Ye.

Experience in the use of trench cutters for the opening and removal of the soil cover of sugar beet piles. Sakh.prom. 36 no.9: 36-37 S '62. (MIRA 16:11)

1. Glavnoye upravleniye po snadsheniyu i sbyru pishchevogo syr'ya pri Vserossiyskom sovete narodnogo khozyaystva.

VOSTOKOV, A.I.; DECHINSKIY, F.A.; YEPISHIN, A.S.; KATS, V.M.;
KLEYMAN, B.M.; LEPESHKIN, I.P.; LEBKIND, L.I. [deceased];
MEL'NIK, M.K.; POPOV, N.G.; STUDENETSKIY, V.A.;
FRIDMAN, S.Ye.; SHAPIRO, A.I.; SILIN, P.M., prof.,
retsensent; VINOGRADOV, N.V., prof., retsensent;
PRITYKINA, L.A., red.

[Manual for a sugar worker] Spravochnik sakharnika. Mo-
skva, Pishchepromizdat. Pt.1. 1963. 699 p.
(MIRA 17:5)

FRIDMAN, S.Ye.

Notes on raw materials. Sakh.prom. 37 no.7:51-55 J1 '63.
(MIRA 16:7)

1. Rospishchesbytsyr'ye pri Sovete narodnogo khozyaystva RSFSR.
(Sugar beets)

BASMANOV, P.I.; FRIDMAN, T.I.; PETRYANOV, I.V.

New method of purifying and sterilizing the air in the process of
fermentation in the production of antibiotics. Med.prom. 13 no.11:
31-35 N '59. (MIRA 13:3)

1. Nauchno-issledovatel'skiy fiziko-khimicheskiy institut imeni
L.Ya. Karpova i Vsesoyuznyy nauchno-issledovatel'skiy institut anti-
biotikov.

(AIR--PURIFICATION)

(ANTIBIOTICS)

BOYKO, I.D.; ZHUKOVSKAYA, S.A.; FRIDMAN, T.I.

Construction of a cylindrical vacuum filter for hard-to-filter
cultural fluids of antibiotics. Med.prom. 14 no.3:32-38 M^r '60.
(MIRA 13:6)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut antibiotikov.
(FILTERS AND FILTRATION)

FRIDMAN, V., kandidat tekhnicheskikh nauk

Problem of preparing water for locomotives. Zhel.dor.transp. no.8:
32-38 Ag¹⁴⁷. (MIRA 8:12)

(Locomotives) (Feed-water purification)

FRIDMAN, V. B. and CHEKMAREVA, P. P.

"Annealing Threaded Ends of Automobile Parts by Means of High Frequency Currents," Avt. trakt. prom., No.1, 1952

FRIDMAN, V.G.
KARPOV, Vladimir Timofeyevich; FRIDMAN, V.G., red.; SOROKINA, T.I.,
tekhn.red.

[Bratsk Hydroelectric Power Station] Bratskaia GES. [Irkutsk]
Irkutskoe kniznoe izd-vo, 1957. 32 p. (MIRA 11:4)
(Bratsk Hydroelectric Power Station)

GAVRILOV, Mikhail Konstantinovich; SMIRNOV, Aleksey Andreyevich; STEPICHEV,
Ivan Stepanovich; FRIDMAN, V.G., red.; SOROKINA, T.I., tekhn.red.

[Agriculture in Irkutsk Province during the past 40 years]
Sel'skoe khoziaistvo Irkutskoi oblasti za 40 let. [Irkutsk]
Irkutskoe knizhnoe izd-vo, 1957. 120 p. (MIRA 11:4)
(Irkutsk Province--Agriculture)

SILINSKIY, P.P., *otv.red.*; BURTSEV, Ye.G., *red.*; GAVRILOV, M.K., *red.*;
MALYSHEV, R.P., *red.*; CHUYKO, K.V., *red.*; SHOTSKIY, V.P., *red.*;
FRIDMAN, V.G., *red.*; SOROKINA, T.I., *tekh.n.red.*

[Irkutsk Province; a concise manual of its economy and statistics]
Irkutskaya oblast'; kratkii ekonom-statisticheskii sbornik.
Irkutskoe knizhnoe izd-vo, 1958. 165 p. (MIRA 12:4)

1. Akademiya nauk SSSR. Vostochno-Sibirskiy filial, Irkutsk.
(Irkutsk Province--Statistics)

SILINSKIY, Pavel Pavlovich; FRIDMAN, V.G., red.; PECHERSKAYA, T.I.,
tekh.n.red.

[Developing the economy of Irkutsk Province in 1959-1965; facts
and figures] Razvitie narodnogo khoziaistva Irkutskoi oblasti
v 1959-1965 godakh; tsifry i fakty. Irkutsk, Irkutskoe knizhnoe
izd-vo, 1959. 57 p. (MIRA 13:9)
(Irkutsk Province--Economic policy)

TAGAROV, Z.; FRIDMAN, V.G., red.; PECHKRSKAYA, T.I., tekhn.red.

[Labor movement in the Cherekhovo coal district] Rabochee
dvizhenie v Cherekhovskom ugol'nom raione; kratkii istori-
cheskii ocherk. Irkutsk, Irkutskoe knizhnoe izd-vo, 1959.
1⁴⁴ p. (MIRA 12:12)

(Cherekhovo--Coal miners)

KOSYKH, Aleksandr Polikarpovich; FRIDMAN, V.G., red.; KARAS', V.D.,
tekhn.red.

[State farms in Irkutsk Province] Sovkhozy Irkutskoi oblasti.
Irkutsk, Irkutskoe knizhnoe izd-vo, 1959. 147 p. (MIRA 12:9)
(Irkutsk Province--State farms)

FRIDMAN, V.G.

Causes of the breakdown of expander fly-wheels. Kislord 12
no.5:42-43 '59. (MIRA 13:2)
(Oxygen) (Fly-wheels)

KUNGUROV, Gavriil Filippovich; FRIDMAN, V.G., red.; PECHERSKAYA, T.I.,
tekhn.red.

[Town on the Angara] Gorod na Angare. Izd.2. Irkutsk,
Irkutskoe knizhnoe izd-vo, 1960. 128 p.

(MIRA 14:2)

(Irkutsk)

SILINSKIY, Pavel Pavlovich; FRIDMAN, V.G., red.; PECHERSKAYA, T.I.,
tekh.n.red.

[Developing the economy of Irkutsk Province in 1959-1965; facts
and figures] Razvitie narodnogo khoziaistva Irkutskoi oblasti
v 1959-1965 godakh; tsifry i fakty. Izd.2., ispr. i dop.
Irkutsk, Irkutskoe knizhnoe izd-vo, 1960. 61 p.

(MIRA 14:7)

(Irkutsk Province—Economic policy)

BANDO, Yevgeniy Georgiyevich; FRIDMAN, V.G., red.; PECHERSKAYA, T.I.,
tekh.n.red.

[Everybody must know this] Nto dolzhen znat' kozhdyi. Irkutsk,
Irkutskoe knizhnoe izd-vo, 1960. 111 p.

(MIRA 14:3)

(Irkutsk Province--Economic policy)

SILINSKIY, Pavel Pavlovich; FRIDMAN, V.G., red.; PECHERSKAYA, T.I.,
tekh. red.

[Developing the economy of Irkutsk Province in 1959-1965;
facts and figures] Razvitie narodnogo khoziaistva Irkutskoi
oblasti v 1959-1965 godakh; tsifry i fakty. Izd.2., ispr. i
dop. Irkutsk, Irkutskoe knizhnoe izd-vo, 1960. 61 p.
(MIRA 16:3)

(Irkutsk Province--Economic policy)

FRIEMAN, V.G., red.

[Heroic deeds are born in work; essays] Podvig rozhdaetsia
v trude; ocherki. Irkutsk, Irkutskoe knizhnoe izd-vo,
1961. 59 p. (MIRA 18:3)

KARPOV, Vladimir Timofeyevich, kand. ekon. nauk; FRIEDMAN, V.G.,
red.

[The Angara-Yenisey series] Angaro-Eniseiskii kaskad. Irkuts,
Irkutskoe knizhnoe izd-vo, 1962. 58 p. (MIRA 18:3)

SMIRNOV, Nikolay Nikolayevich; PUGACHEV, A.I., kand. tekhn. nauk,
retsensent; FRIDMAN, V.G., inzh., red.; GRIGORASH, K.I.,
red.; NOVIK, A.Ya., tekhn. red.

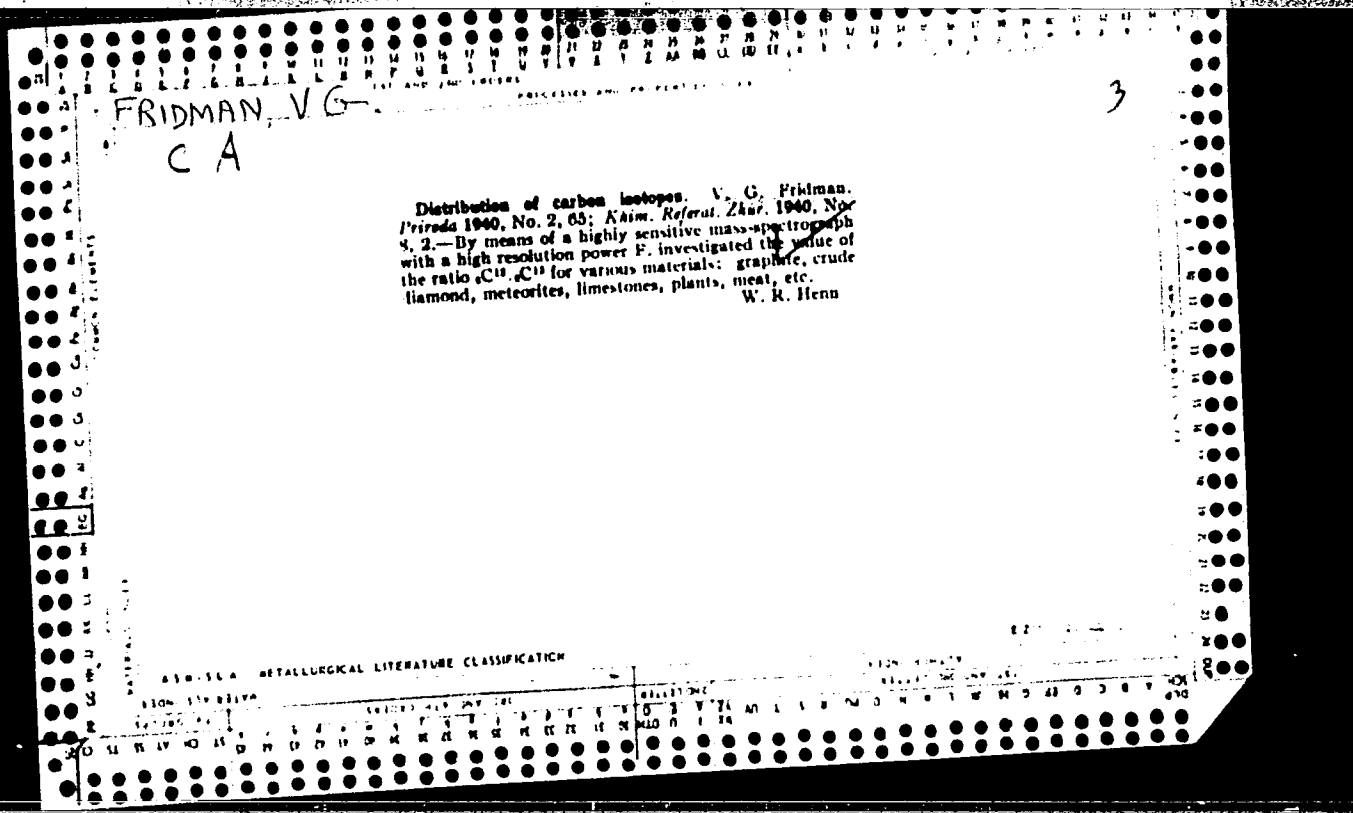
[Operational engineering efficiency of airplane structures]
Ekspluatatsionnaya tekhnologichnost' samoletnykh konstruksii.
Moskva, Oborongiz, 1963. 123 p. (MIRA 17:2)

FRIEMAN, V.G., rel.

[Bratsk Hydroelectric Power Station; a collection of documents and materials] Bratskaia GES; sbornik dokumentov i materialov. Irkutsk, Vostochno-Sibirskoe knizhnoe izd-vo. Vol.1. 1964. 555 p. (MIRA 19:1)

FREYMAN, W.G.

Problem of multiple control. Trudy MINKHISF no. 52:52-64 '64.
(MIRA 18:6)



FRIDMAN, Vladimir Georgievich, 1881-

Mechanics in railroad transportation Moskva, Transzheldorizdat, 1946. 194 p. (50-55946)

TF153.F7

~~FRIDMAN~~, V., professor (Moskva).

Explaining the law of inertia. *Fiz.v shkole* 16 no.5:91 S-0 '56.
(Force and energy--Study and teaching) (MLRA 9:11)

FRIDMAN, V.G.

Newton's principles of relativity. Trudy Inst.ist.est.i tekhn.
17:425-449 '57. (MLRA 10:7)
(Relativity (Physics))

FRIDMAN, V. G.

AUTHOR: Fridman, V. G., Engineer.

67-1-5/20

TITLE: The Production of a Neon - Helium - Nitrogen Compound
(Polucheniye neono-geliye - azotnoy smesi)

PERIODICAL: Kislород, 1958, No. 1, pp. 34-35 (USSR).

ABSTRACT: It is described in this paper that for the production of pure neon as raw material a neon-helium-nitrogen compound is used which forms under the cover of the condenser of an air fractionating apparatus with double rectification during operation. This compound is usually removed by a special valve at intervals in order to avoid an interruption of the operation of the apparatus. This compound contains 8 - 10% neon and helium and 90-92% nitrogen. In order to use this compound for the mentioned purpose an additional attachment - called dephlegmator - is connected to the air fractionating apparatus by means of which the total content of neon and helium in the compound can be increased to 50%. according to the scheme this additional attachment consists of: a valve dephlegmator, a level indicator of liquid nitrogen in the space between the valves, level indicator of liquid nitrogen in

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The Production of a Neon-Helium-Nitrogen Compound

67-1-5/20

the valves, outlet valve for the neon-helium-nitrogen compound into the gas tank, outlet valve for gaseous nitrogen, inlet valve for liquid nitrogen, outlet valve for the compound under the cover of the condenser of the air fractionating apparatus; outlet valve for liquid nitrogen; casing of the dephlegmator filled with insulating material. In order to simplify control and regulation of the function of the dephlegmator a special junction diagram is suggested in this work consists of the following parts: throttle valve at the inlet valve of liquid nitrogen to the dephlegmator, outlet valve for the neon-helium-nitrogen compound in the gas tank, dephlegmator, measuring diaphragms or gas meters.

There are 2 figures, and no references.

AVAILABLE: Library of Congress.

1. Industry-USSR
2. Neon-Production

Card 2/2

FRIDMAN, V.G.

Evaluation of the quality of symmetrical automatic control systems
based on amplitude-phase characteristics. Trudy MINKHIGP
no.34:173-182 '61. (MIRA 14:12)
(Automatic control)

FRIDMAN, V.G.

AUTHOR FRIDMAN V.G. PA - 2901
TITLE ON NEWTON'S THEORY OF MASS.
(Ob uchenii N'yutona o masse. - Russian)
PERIODICAL Uspekhi Fiz. Nauk 1957, Vol 61, Nr 3, pp 451 - 460 (USSR).
Received: 5/1957 Reviewed: 6/1957
ABSTRACT Newton's real definition runs thus "Quantitas materiae est mensura eiusdem orta ex illius densitate et magnitudine coniunctim" i.e. "The quantity of matter is its measure which results from its density and its volume jointly. According to the author's opinion Newton did not define mass as a quantity of matter. With this definition, however, Newton did not give a precise law of mathematics ($m = V.d.$), for he was obviously conscious of the difficulties occurring in the case of heterogeneous bodies.
The Latin original text does not contain the conception "mass". Newton uses this conception later in the explanation of the aforementioned definition. According to the author's opinion Newton uses the conceptions "corpus" and "massa" only as synonyms of the conception "quantity of mass" ("quantitas materiae"). According to the author's opinion Newton's real definition of mass runs as follows: "The mass is a measure of matter which results from its density and its volume jointly."

CARD 1/2

L 16068-66 EWT(1)/EWP(e)/EWT(m)/ETC(f)/EPF(n)-2/EWG(m)/T/EWP(t) IJP(c)

ACC NR: AT6004494 JD/CS/AT/WH SOURCE CODE: UR/0000/65/000/000/0223/0232

AUTHOR: Vurzel', F. B.; Dolgopolov, N. N.; Maksimov, A. I.; Polak, L. S.; Fridman, V. I.

ORG: none

TITLE: Application of high frequency electrodeless plasma generator to production of pure silicon and its oxides

SOURCE: AN SSSR. Institut neftekhimicheskogo sinteza. Kinetika i termodinamika khimicheskikh reaktsiy v nizkotemperaturnoy plazme (Kinetics and thermodynamics of chemical reactions in low-temperature plasma). Moscow, Izd-vo Nauka, 1965, 223-232

TOPIC TAGS: plasma generator, high energy plasma, plasma device, silicon, silicon dioxide, silicon carbide, plasma chemistry

ABSTRACT: The high frequency electrodeless plasma generator in chemical technology is superior to the electrode-type plasma generator since it eliminates the problem of contamination by the electrode material. The electrodeless plasma generator can handle the chemically aggressive as well as nonaggressive gases and it is particularly suitable for high temperature chemical processes. The typical conditions of operation

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ACC NR: AT6004494

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tion of a high frequency electrodeless plasma generator are: argon flow rate 36-51 l/min, oxygen flow rate 1.1-2.1 l/min, hydrogen flow rate 1.2-1.8 l/min, discharge input 3.4-5.2 kilowatts, portion of input carried away by the gases 1.9-2.4 kilowatts, and loss of the input energy 1.5-3.3 kilowatts. The unit utilizes a power supply IGD-32 operating within 15-30 megacycles. A detailed temperature distribution in argon plasma is given. It is indicated that the high frequency electrodeless plasma technique can be employed to decomposition of SiO_2 into elemental silicon or silicon monoxide. Other important applications include the decomposition of SiCl_4 , formation of silicon carbide from methylchlorosilane, oxidation of SiCl_4 to silicon mono- or dioxide, and reduction of silicon dioxide. The temperature dependence of the concentration χ of silicon and silicon monoxide in silicon-containing decomposition products is shown in fig. 1. Orig. art. has: 4 figures, 4 tables, 5 formulas.

Card 2/3

L 16068-66

ACC NR: AT6004494

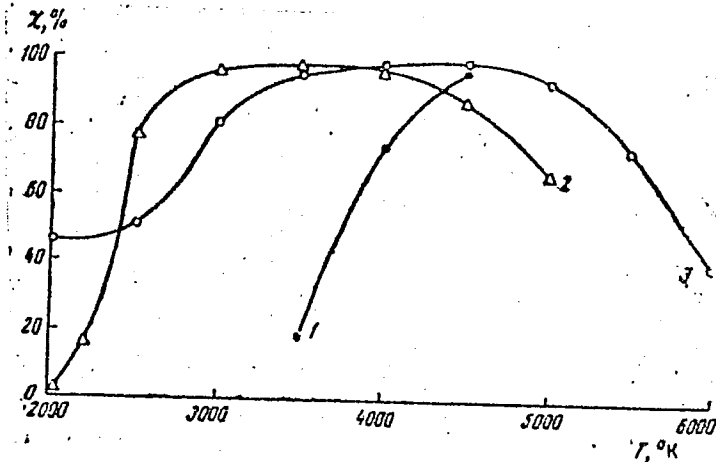


Fig. 1. 1--concentration of elemental silicon during thermal decomposition of SiCl_4 ; 2--concentration of SiO during oxidation of SiCl_4 with oxygen; 3--concentration of SiO during thermal decomposition of SiO_2 .

SUB CODE: 07,20/

SUBM DATE: 08Jul65/

ORIG REF: 004/

OTH REF: 005

Card 3/3

ACC NR: AT7006784

(A)

SOURCE CODE: UR/3236/65/002/000/0074/0080

AUTHORS: Dolgopolov, N. N. (Candidate of technical sciences); Polak, L. S. (Doctor of physico-mathematical sciences); Fridman, V. I. (Engineer); Vurzel', F. B. (Engineer); Maksimov, A. I. (Engineer)

ORG: none

TITLE: High-frequency electrodeless discharge and the possibilities of its application in the production of polymeric materials

SOURCE: Moscow. Vsesoyuznyy nauchno-issledovatel'skiy institut novykh stroitel'nykh materialov. Sbornik trudov, no. 2(10), 1965. Elektrofizicheskiye metody issledovaniya stroitel'nykh materialov (Electrophysical methods of investigating building materials), 74-80

TOPIC TAGS: silicon compound, silicon dioxide, gas discharge, electric discharge

ABSTRACT: A high-frequency electrodeless discharge burner is described. The burner design is similar to that reported by A. V. Donskoy and S. V. Dresvin (Zh. Elektrotermiya, No. 5, 37, 1963). A schematic of the apparatus is presented. The temperature distribution in the flame was determined in terms of the absolute intensities of number of argon emission lines. The experimental results are shown graphically (see Fig. 1). A scheme for the continuous production of pure silicon

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ACC NR: AT7006784

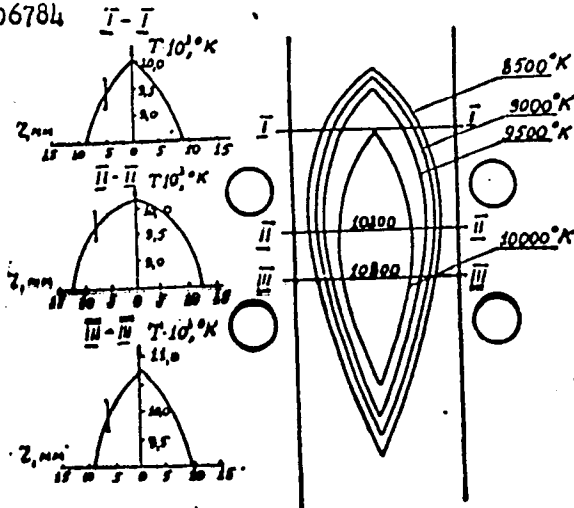
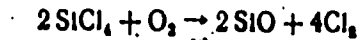
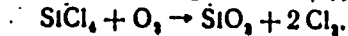


Fig. 1. Spatial distribution of temperature in an argon discharge containing additions of hydrogen

monoxide and silicon dioxide with the aid of the electrodeless burner was developed. This scheme is based on the following system of reactions:



The experimental results are tabulated. It was found that the use of the electrodeless discharge method introduces a considerable simplification in the production

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ACC NR: AT7006784

of high purity silicon dioxide. Orig. art. has: 1 table, 3 graphs and 2 equations.

SUB CODE: 11,07,09 SUBM DATE: none/ ORIG REF: 003/ OTH REF: 009

Card 3/3

L 48133-65 EWI(m)/EPF(c)/EPR/ENP(j)/EWA(c) Pc-4/Pr-4/Ps-4 RPL WJ/JW/RM
ACCESSION NR: AP5008652 S/0064/65/000/003/0178/0180

36
3

AUTHORS: Doyzenrot, I. V.; Kogan, V. B.; Fridman, V. M.

TITLE: Method of separating pure hexamethylenediamine

SOURCE: Khimicheskaya promyshlennost', no. 3, 1965, 178-180

TOPIC TAGS: hexamethylenediamine, adiponitrile, hexamethyleneimine, rectifica-
tion, polymer, nylon technology

ABSTRACT: A method of rectification purification of hexamethylenediamine (HMD), obtained by hydration of adiponitrile (ADN), to remove hexamethyleneimine (HMI) and other impurities was developed. First, the vapor-liquid equilibrium conditions of the HMI-HMD, HMD-ADN, and HMI-ADN systems were determined by measuring temperature, pressure, and vapor tension with an ebullioscope (type used by U.S. Bureau of Standards) and by calculating the equilibrium conditions from a set of 7 equations. The pressure-temperature-phase separation relationships for the three systems are presented in graphical form, and other parameters (including activity coefficients) are given in table form. The pure HMD separation experiments were performed on a 1500-mm high, 30-mm diameter rectification column. The reaction mixture was introduced with $\approx 15\%$ by weight of water.

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ACCESSION NR: AP5008652

The first fractionation at atmospheric pressure and 95.5C removed a mixture of HMI and water (50% HMI); the second at 20-25 mm Hg contained 1,2-diaminocyclohexane and traces of H₂O and HMD; the third fractionation at 20 mm Hg and 94C yielded pure HMD as determined by ~~the~~ crystallization temperature of 40.9C. The ADN had to be cleaned by the permanganate method before using to obtain pure HMD. An industrial rectification method for obtaining pure HMD is recommended as shown in Fig. 1 on the Enclosure. Technical HMD with 15% H₂O is introduced in Column I where HMI and H₂O are removed. H₂O, low boiling point impurities and 1,2-diaminocyclohexane are removed in Column II. After a secondary purification pass in Column III the pure HMD is obtained from Column IV. Orig. art. has: 4 figures and 4 tables.

ASSOCIATION: none

SUBMITTED: 00

ENCL: 01

SUB CODE: 00

NO REF SOV: 005

OTHER: 002

Card 2/3

FRIDMAN, V. I.
CA

15

Composition for preventing boiler scale. V. I. Fridman and A. A. Rantlov. U.S.S.R. 64,401, Feb. 23, 1945. Brown coal is ground in an aq. soln. of 8-10% (on the wt. of coal) of alkali to form a colloidal suspension. The suspension is allowed to settle and the solids are sepd. To the filtrate is added Na phosphate and the product is used to prevent boiler scale. The grinding in an alk. medium cats. substances of the lignite type, which possess anti-scale properties and are also stabilizers for the colloidal particles of the coal. M. Hosh

ASACSLA METALLURGICAL LITERATURE CLASSIFICATION

ZAGORODNAYA, G.A.; FRIDMAN, V.M.

Elimination of magnetic vibration in turbogenerator stators.
Elektrosila no.19:15-18 '60. (MIRA 15:2)
(Turbogenerators--Vibration)

FRIDMAN, V.M., inzh.; ZAGORODNAYA, G.A., inzh.; KOZHEVNIKOV, I.F.,
inzh.; KURILOVICH, L.V., inzh.

Vibration of the rotors of turbogenerators with flexible
frames. Elektrotehnika 34 no.10:47-51 0 '63.

(MIRA 16:11)

FRIDMAN, V.M.

Modification of the Galerkin method for the solution of the
problem of mutual vibrations of turbine disks and blades.
Trudy LPI no.235:23-32 '64. (MIRA 17:11)

L 28908-66 EWP(k)/EWT(m)/T-2/EWP(w)/EWP(v) IJP(c) EM/WW

ACC NR: AT6019156

SOURCE CODE: UR/2563/65/000/252/0087/0094

AUTHOR: Fridman, V. M.

48
B+1

ORG: none *

TITLE: Bending ²⁶oscillations of a packet of naturally bent rods in a centrifugal force field

SOURCE: *Leningrad. Politeknicheskii institut. Trudy, no. 252, 1965, 87-94

TOPIC TAGS: turbine blade, bending strength, elastic oscillation

ABSTRACT: An analysis of free bending ³⁶oscillations of turbine blades, considering that one end of each blade is infinitely rigidly fastened to a rigid rotating disk, the other end connected with the other blades by banding. The method used is a variation of Galerkin's method, with the difference that not only the form of the oscillations, but also the form of the bending moment is approximated. This allows an increase in the accuracy of computation of the frequencies of the free oscillations without increasing the volume of computation. Orig. art. has: 2 figures and 20 formulas. [JPRS]

SUB CODE: 13, 20 / SUBM DATE: none / ORIG REF: 007

Card 1/1 CC

L 28083-66 EWI(m)/ETC(f)/EWG(m)/EWP(t)/ETI IJP(c) RDW/JD

ACC NR: AP6015609

SOURCE CODE: UR/0020/66/168/002/0318/0319

AUTHOR: Korsunskiy, M. I. (Academician AN KazSSR); Fridman, V. M.

61
B

ORG: Institute of Nuclear Physics, Academy of Sciences KazSSR (Institut yadernoy fiziki Akademii nauk KazSSR)

TITLE: Spectral distribution of the high voltage photoelectric effect in CdTe thin films

27 27

SOURCE: AN SSSR. Doklady, v. 168, no. 2, 1966, 318-319

TOPIC TAGS: photoelectric effect, photo emf, heat effect, cadmium telluride

ABSTRACT: An investigation was made of the effect of the substrate temperature during the deposition of a CdTe thin film on the spectral distribution of the short-circuit current. It was found that with substrate temperatures higher than 310C, no sign inversion occurs when the incident light wavelength is varied in the range of 450-900 mμ. At substrate temperatures of 250-300C, the sign reverses when the wavelength is shortened; with decreasing temperatures, the inversion can be obtained at increasing wavelengths. The above results are compared with those of Adirovich (E. I. Adirovich, V. M. Rubinov, and Yu. M. Yubov. Izv. AN UzSSR, ser. fiz-matem., no. 6, 63, 1964), who obtained sign inversion by changing the angle of the deposition of the molecular beam. In order to establish whether it is the substrate temperature or the oblique deposition that is primarily responsible for the

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UDC: 539.293

L 28083-66

ACC NR: AP6015609

0

sign inversion, the same experiments were repeated at a substrate temperature of 240C and a film deposition angle of only 20° (conditions which Adirovich and other researchers felt should preclude inversion). It was established that sign inversion can be observed when the substrate is kept at 240C during the film's deposition. The authors propose that the angle of film deposition may affect the temperature of the substrate; this would explain the apparent inconsistencies between the authors' and Adirovich's experimental results. Orig. art. has: 2 figures. [ZL]

SUB CODE: 20/ SUBM DATE: 29Nov65/ ORIG REF: 002/ ATD PRESS: 4261

Card 2/2 CC

PANASYUK, A.I.; FRIDMAN, V.M.; KHVOROSTETSKIY, V.I.

Synthetic diamonds at the Kiev Automatic Machine-Tool Plant.
Mashinostroitel' no.10:34-35 0 '64.

(MIRA 17:11)

EBIDMAN, V.M.

5

Diazotype viscous films. V. M. Fridman. *Kosmos*
Mag. Press, 1968, No. 2, 38-40; *A.Sim. Referat. Zhur*
1, No. 10, 67 (1968). The basic diazotype film is a viscous
 film to which light sensitivity is imparted by an introduc-
 tion of diam compounds. It is a nonflammable film, and
 is very inexpensive (7 times cheaper than the cellulose
 nitrate, and 13.8 times cheaper than the cellulose acetate
 film). Since it is unstable in the presence of moisture,
 it must be covered after drying with a layer of lacquer.
 The diazotype light-sensitive film is obtained by treating
 the viscous film for 5 min. in a diazotype soln. This
 soln. consists of the Na 1,2,4-diazonaphtholsulfonate,
 phloroglucinol, lactic acid, glycerol and Na Ti citrate
 or tartrate. The film is dried in cylindrical driers on
 cylinders heated with hot H₂O. Cellulose nitrate and
 cellulose acetate lacquers are used for protecting the film
 against moisture. W. R. Henn

FRIDMAN, V.M.
Ca

5

Preparation of three color positives with dichromated gelatin V. M. Fridman, *Nesobolokino* From 1939, No. 10, 48-52, of C. A. 33, 70819. -The Mosfilm studios have elaborated a dichromated gelatin process for 3-color motion picture prints. In 1939, approx. 500,000 m. of positive film was produced. In making the negative, 3 exposure through 3-color filters are made for each frame on 1 panchromatic film. Three intermediate pos. matrices representing the 3 series of pictures taken through the 3 filters are printed from this negative. Blank film containing the sound record in black and white is used as a stock for the final color print because the shrinkage of this film is very slight. The blank film is first perforated and then the sound record is printed and developed. The film is then hardened in 3% Cr alum and coated with a soln. of dichromated gelatin. Next, the hardened and coated film is printed in contact with one of the sep. positives in a special printer. The light source consists of 4 lamps of 1000 w

each and the speed of the film is 20 m. per hr. The blue record is printed 4 times and the yellow and red are printed 3 times. If a 11g quartz lamp is used, the film passes the light only once for each color at a speed of 250 m. per hr. The latter yields a print of much better quality. Expts. in treating the exposed film with org. reducers showed that this exposure may be reduced 4 times. The exposed film is then allowed to remain in the dark for the dark reaction at 40° for 18-20 hrs., to increase the tanning of the exposed portions. The resulting blank film contains an image tanned to different degrees. The film is then passed through a dye soln. in which the untanned and swollen gelatin is dyed the more heavily, as in the Pina-swollen process. The excess dye is then washed off and the film is dried. The final step of the process is hardening in 3% Cr alum to prevent diffusion of the dye. Then the film is again washed and dried. The red and yellow prints are obtained on the blue print by applying, exposing and drying soln. coatings as described. The last hardening after the yellow is omitted.

W. R. Eichler and M. W. Seymour

ADD-SEA DETAILBUCKAL LITERATURE CLASSIFICATION

FRIDMAN, V.M.; RAU, N.I., redaktor; VORONTSOVA, L.M., tekhnicheskiy redaktor.

[Photography; black and white, color, and stereoscopic] Fotografii;
cherno-belaia, tsvetnaia, stereoskopicheskaia. Izd. 2-oe, ispr. 1
dop. Moskva, Gos.izd-vo mestnoi promyshl. RSFSR, 1957. 283 p.

(MLRA 10:4)

(Photography)

BUDNIKOVA, T.V.; FRIDMAN, V.M.

Choice of the points of support for a telescope mirror.
Izv. GAO 24 no.1:119-124 '64. (MIRA 18:3)

1. Kafedra dinamiki i prochnosti mashin Leningradskogo
politekhničeskogo instituta imeni Kalinina.

FRIDMAN, V.M.

Determining the deflection of a telescope mirror due to strain
on the casing. Izv. GAO 24 no.1:138-144 '64. (MIRA 18:3)

L 15644-66 ENT(1)/ENT(m)/ETC(F)/EWG(m)/EWP(t)/EWP(b) IJP(c) REW/JD/AT
ACC NR: AP6003808 SOURCE CODE: UR/0181/66/008/001/0263/0264

AUTHOR: Korsunskiy, M. I.; Fridman, V. M.

ORG: Institute of Nuclear Physics, AN KazSSR, Alma-Ata (Institut yadernoy fiziki AN KazSSR)

TITLE: On some properties of a high-voltage photoelectric effect in thin CdTe layers

SOURCE: Fizika tverdogo tela, v. 8, no. 1, 1966, 263-264

TOPIC TAGS: photoelectric effect, photoelectromotive force, photoelectric cell, cadmium telluride

ABSTRACT: An investigation was made of the high-voltage photoelectric effect in cadmium telluride thin layers. Two methods were used to measure the capacity C of the layers: 1) The quantity of electricity Q in a specimen was determined by charging (by illuminating) to a potential V_{ph} , and discharging (after illuminating) on a ballistic galvanometer calibrated with the aid of a normal solenoid. The ratio Q/V_{ph} represented the capacity C . 2) A known capacity C_0 (electrostatic voltmeter) was connected to a layer charged to a potential V_{ph} . The potential difference V was then measured. C was calculated from the relationship $V(C + C_0) = V_{ph} C$. The values obtained by both methods coincided. The C of the specimens appeared to be of the order of 10 cm, thus considerably exceeding the capacity expected on the basis of geometrical conditions. The large capacity of CdTe layers indicates that these

Card 1/2

L 15644-66

ACC NR: AP6003808

layers have many thin interlayers on whose surfaces charges of opposite signs can accumulate. These interlayers serve as separate photoelements. Their subsequent connection causes the formation of a high-voltage photo emf. A relaxation of V_{ph} during the switching on and switching off of the light was clearly seen in the CdTe specimens. The relaxation time of V_{ph} at illumination τ_{ill} depends on the light intensity L ; when L increases τ_{ill} decreases. Furthermore, at all illumination intensities $\tau_{ill} \approx r_{ph} C$ and $\tau_{dark} = r_{dark} C$, where r is the specimen's resistance. In all cases investigated it was possible to represent the relaxation of V_{ph} as the relationship $dV/dt = \beta L/C - V_{ph}/RC$, where β is a constant differing from specimen to specimen. From this relationship it follows that: 1) The short circuit current i_{sh} must be equal to βL , i.e., it should be proportional to the light intensity. 2) The dependence of V_{ph}/L on L and r_{ph} on L should coincide. 3) The stationary value of V_{ph} should be equal to $\beta L r_{ph}$. 4) The ratio $i_{sh}/(dV_{ph}/dt)_{t \rightarrow 0}$ should be equal to C . All these relations hold true for a light intensity range from 10^{-4} to $1.2 \times 10^{-2} \text{ w} \cdot \text{cm}^{-2}$. Orig. art. has: 1 formula and 1 table. [JA]

SUB CODE: 20/ SUBM DATE: 30Jul65/ ORIG REF: 002/ OTH REF: 002/ ATD PRESS:

4201

OC
Card 2/2

L 40843-66 EWT(1) IJP(c) AT

ACC NR: AP6020199 SOURCE CODE: UR/0056/66/050/006/1464/1471 ^{6/}_B

AUTHOR: Polvakova, G. N.; Tatus', V. I.; Strel'chenko, S. S.; Fogel, Ya. M.; Fridman, V. M.

ORG: Physicotechnical Institute, Academy of Sciences, Ukrainian SSR
(Fiziko-tekhnicheskly Institut Akademii nauk Ukrainiskoy SSR)

TITLE: Distribution by rotational energy level of molecules excited by ion impact ^{7/}

SOURCE: Zh eksper i teor fiz, v. 50, no. 6, 1966, 1464-1471

TOPIC TAGS: molecular spectrum, proton reaction, hydrogen atom reaction, spectral energy distribution, Boltzmann distribution, ion impact, rotation energy

ABSTRACT: The experimental apparatus and methodology are described for investigating the intensity distribution in the rotational structure of molecular spectrum bands. The intensity distributions of rotational lines of the $\lambda = 3914$ and $\lambda = 4278 \text{ \AA}$ bands have been investigated in the spectrum of the first negative system of N_2^+ excited by impact of the mixed beam of 30-keV protons and hydrogen atoms. It has been observed that the distribution of the rotational line

Card 1/2

L 40843-66

ACC NR: AP6020199

intensity deviates from the Boltzmann distribution by an amount which exceeds the allowable measurement error. Orig. art. has: 4 figures and 1 formula. [Based on authors' abstract] [NT]

SUB CODE: 20/ SUBM DATE: 06Jan66/ ORIG REF: 003/ OTH REF: 009

Card 2/2 *MLP*

SUBJECT USSR/MATHEMATICS/Integral equations CARD 1/1 PG - 451
 AUTHOR FRIDMAN V.M.
 TITLE The method of successive approximations for the Fredholm
 integral equation of first kind.
 PERIODICAL Uspechi mat. Nauk 11, 1, 233-234 (1956)
 reviewed 12/1956

The author proves the following theorem: Let $K(x,s)$ be a symmetric positive definite kernel which is summable with square. Let the equation

$$(1) \quad \int_a^b K(x,s) \varphi(s) ds = f(x), \quad f(x) \in L_2(a,b)$$

be solvable. Let the sequence $\{\varphi_n(x)\}$ be defined by

$$\varphi_n(x) = \varphi_{n-1}(x) + \lambda [f(x) - f_{n-1}(x)],$$

where $\varphi_0(x) \in L_2(a,b)$, $f_{n-1}(x) = \int_a^b K(x,s) \varphi_{n-1}(s) ds$, $0 < \lambda < 2\lambda_1$, λ_1 - the

smallest characteristic number of the kernel $K(x,s)$. Then the sequence $\{\varphi_n(x)\}$ in the mean converges to the solution of (1).

New Methods of Solving a Linear Operator Equation SOV/20-128-3-13/58

The velocity of convergence is given. §2. Direct method for separable H. Let

$$(6) \quad x_n = x_0 + \sum_{j=1}^n \mu_j A^* \varphi_j,$$

where $\{\varphi_j\}$ is a complete system in H and μ_j are determined from

$$(7) \quad \sum_{j=1}^n \mu_j (A^* \varphi_j A^* \varphi_k) + (Lx_0, \varphi_k) = 0.$$

Theorem 2: The sequence $\{x_n\}$ is unique and converges monotonely and strongly to x^* . §3. Multiple-step iteration, the convergence of which is not slower than that one of (5). There are 5 Soviet references.

PRESENTED: May 25, 1959, by V.I.Smirnov, Academician

SUBMITTED: May 21, 1959

Card 2/2

FRIDMAN, V.M.

Iterative process with minimum errors for a nonlinear
operator equation. Dokl. AN SSSR 139 no.5:1063-1066 Ag '61.
(MIRA 14:8)

1. Predstavleno akademikom V.I. Smirnovym.
(Differential equations)
(Operators (Mathematics))

FRIDMAN, V.M.

Convergence of methods of steepest descent. Usp.mat.nauk 17
no.3:201-204 My-Je '62. (MIRA 15:12)
(Differential equations, Linear)

ACC NR: AP7002240

SOURCE CODE: UR/0280/66/000/006/0101/0109

AUTHOR: Blazhkin, K. A. (Leningrad); Fridman, V. M. (Leningrad)

ORG:: none

TITLE: An algorithm of instructing a linear perceptron

SOURCE: AN SSSR. Izvestiya. Tekhnicheskaya kibernetika, no. 6, 1966, 101-109

TOPIC TAGS: pattern recognition, linear ^{function} perceptron, learning ^{mechanisms} ~~perceptron, teaching~~

~~process~~ *programmed teaching*

ABSTRACT:

A method of instructing a linear perceptron whose output element is taken in the form of an adder to separate input situations into classes (to recognize the objects) is proposed. A mathematical model of the process of instruction and recognition is presented which consists in establishing in the perceptron the correspondence between the object (α_j) to be recognized and a certain number

$$\lambda_j = (\beta_j, V) - \delta \tag{1}$$

Card 1/2

UDC: none

PROCESSING AND PROPERTIES INDEX

B-1-8

BC

Preparation of soda by carbonation of sodium chloride in liquid ammonia. B. B. VASILEV, J. K. SARANOVITCH, and V. M. FIDMAN (Khim. Ind. Russ. 1957, 64, 618-624).—Max. yields: (90%) of NH_4Cl , (80%) of Na_2CO_3 . (Specs): obtained by adding twice as much NaCl as is required for saturation of $\text{NH}_3\text{-CO}_2$ at 0° , and filtering after 1 hr. At 20° the amount of NaCl should be 1 g. per 100 g. of NH_3 , when the yield of (I) is 80–84%. The ppt. of (I) is washed with NH_3 and steam is passed through the mass at $200\text{--}220^\circ$, when (I) is converted into Na_2CO_3 (90% pure). The NH_4Cl obtained as a by-product contains 6–7% of NaCl . The solutions may be filtered in Al or cast-Fe apparatus. R. T.

ASB-316 METALLURGICAL LITERATURE CLASSIFICATION

SEARCHED INDEXED SERIALIZED FILED

MAY 1958

18

ca

Reaction of hydrogen sulfide with salts of sulfurous acid.

1. Formation of sodium dithionate in the reaction of hydrogen sulfide with solutions of sodium sulfite and sodium bisulfite (in the production of sodium thiosulfate). Ya. I. Zil'berman and V. M. Fridman. *J. Gen. Chem.* (U. S. S. R.) 10, 347-58(1940).—The investigation was begun with a study of the com. production of $\text{Na}_2\text{S}_2\text{O}_8$ according to the summation reaction: $2\text{Na}_2\text{SO}_3 + 2\text{NaHSO}_3 + 2\text{H}_2\text{S} = 3\text{Na}_2\text{S}_2\text{O}_8 + 3\text{H}_2\text{O}$. To this end, solns. of Na_2SO_3 and NaHSO_3 and their mixts. were treated with a H_2S current at 20-100° until the reaction was completed. The reaction was followed by removing samples at definite intervals and analyzing Na_2SO_3 , NaHSO_3 , $\text{Na}_2\text{S}_2\text{O}_3$, $\text{Na}_2\text{S}_2\text{O}_4$ and polythionates in the mist, by the method of Kurtenacker and Goldbach (*C. A.* 22, 392). The unreacted H_2S was absorbed in 2 flasks contg. KOH and analyzed. Contrary to the literature data, the reaction forms also $\text{Na}_2\text{S}_2\text{O}_4$. Since it is not oxidized by Br in a neutral soln., it was detd. in the filtrate from the BaSO_4 by the method of Bassett and Henry (*C. A.* 29, 7286). At the optimum ratio of Na_2SO_3 and $\text{NaHSO}_3 = 1:1$, no polythionates ($\text{Na}_2\text{S}_2\text{O}_4$) are formed and max. yields of 79.5% $\text{Na}_2\text{S}_2\text{O}_8$ and 7.2% $\text{Na}_2\text{S}_2\text{O}_4$ are obtained. With increasing and decreasing ratio of the reactants the yields of $\text{Na}_2\text{S}_2\text{O}_8$ decrease and become zero with Na_2SO_3 and NaHSO_3 alone. The yields of Na_2SO_3 increase with greater acidity (NaHSO_3) of the mixts. With an increase of temp. above 20° the yield of $\text{Na}_2\text{S}_2\text{O}_8$ decreases and that of $\text{Na}_2\text{S}_2\text{O}_4$ increases.

Chas. Blanc

ASS. S.L.A. METALLURGICAL LITERATURE CLASSIFICATION

1	2	3	4	5	6	7	8	9	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
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PROCESSES AND PROPERTIES INDEX

18

A

The reaction of hydrogen sulfide with the salts of sulfuric acid. III. The effect of the concentration of hydrogen ions on the direction of the process. Ya. I. Zil'berman and V. M. Fridman. *J. Gen. Chem.* (U. S. S. R.) 11, 361-70 (1941); *cf. C. A.* 35, 2985. The methods and analytical control were the same as in the previous papers, except the pH was detd. potentiometrically. The effects of pH of the initial soln. on the course of the reaction between H_2S and Na_2SO_3 and $NaHSO_3$ solns. were investigated at 80° and 20°. At 80° the side reactions are more pronounced. An optimum yield of $S_2O_3^{2-}$ is obtained at 20°. A max. yield of thiosulfate is obtained at pH 6.2, i. e., at an equimolar ratio of Na_2SO_3 and $NaHSO_3$ in the initial soln. Excess SO_3^{2-} in the initial soln. decreases the yield more than does an excess of H_2S . The pH value increases uniformly until H_2SO_3 disappears from the soln., after which the acidity increases, first slowly and later very rapidly, until the content of SO_3^{2-} in the soln. becomes very small. The acidity then remains unchanged. The points at which the pH is at the min. correspond to the max. amts. of $S_2O_3^{2-}$. In the last stage of the process the pH value increases at a rate that is directly proportional to the acidity of the initial soln. Thirteen references. W. R. Henn

A 13-55A METALLURGICAL LITERATURE CLASSIFICATION

FROM SOURCE

100000 H13 000 000

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A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

PROCESSES AND PROPERTIES INDEX

OK

**Reaction between hydrogen sulfide and sulfites. IV
Mechanism of the reactions taking place in the preparation
of sodium thiosulfate.** Ya. I. Zil'berman and V. M.
Frikhman, *J. Gen. Chem. (U.S.S.R.)* 16, 2897-2911
(1949); *Ch. C.A.* 35, 6307. The reaction of H₂S with
sulfite-bisulfite solns. was studied in a small stirred reac-
tion vessel so that sampling and consequent errors were
eliminated, with each charge constituting a sep. expt.
The overall reaction of H₂S with Na₂SO₃ is represented by
 $4Na_2SO_3 + 4H_2S = 3Na_2S_2O_3 + 2NaHS + 3H_2O$. Na
trithionate reacts with NaHS in 2 ways: $Na_2S_2O_3 + 2Na-$
 $HS = 2Na_2S_2O_3 + H_2S$ and $4Na_2S_2O_3 + 6NaHS = 7Na_2-$
 $S_2O_3 + 4S + 3H_2O$, which condition the formation of H₂S
and S at the end of interaction of H₂S with sulfite-bisulfite
solns. The formation of thiosulfate is a two-step process:
 $2Na_2SO_3 + 2H_2S = 2NaHSO_3 + 2NaHS$ and $4NaHSO_3 +$
 $2NaHS = 3Na_2S_2O_3 + 3H_2O$; the 1st step proceeds up to
the point of disappearance of bisulfite and is characterized
by simultaneous formation of trithionate; the 2nd pro-
ceeds after disappearance of bisulfite and is characterized
by slow disappearance of trithionate. G. M. Kosolapoff

L

A S B - S L A METALLURGICAL LITERATURE CLASSIFICATION

GROUP	CLASS	INDEX	SYMBOL	ALPHABETIC	NUMERIC	ALPHABETIC	NUMERIC
1	2	3	4	5	6	7	8

1ST AND 2ND ORDERS

PROCESSING AND PROPERTIES INDEX

18

CA

Preparation of sodium thiosulfate by the hydrogen sulfide method. Ya. I. Zil'berman and V. M. Fridman (Leningrad State Inst. Applied Chem.). *J. Applied Chem. (U.S.S.R.)* 19, 65-62(1946)(English summary). In the reaction $2Na_2SO_4 + 2NaHSO_4 + 2H_2S = 3Na_2S_2O_4 + 3H_2O$, optimum temp. is 20-40°. The yield is lowered by higher temps. The initial concn. of the reagents must be equimolar, as the increase of either concn. by more than 10% leads to a serious drop of thiosulfate yield. Under the above conditions the $Na_2S_2O_4$ yield is 0.5-0.7. The mother liquors can be recycled in the process. G. M. Kosolapoff

350.55.4 METALLURGICAL LITERATURE CLASSIFICATION

GENERAL INDEX

Chemical Abstracts Index

ZIL'BERMAN, Ya.I.; FRIDMAN, V.M.

Production of anhydrous sodium thiosulfate. Stor.rab.Inst.prikl.
khim. no.39:47-51'47. (MLRA 7:3)
(Sodium thiosulfate)

ZIL'BERMAN, Ya.I.; FRIDMAN, V.M.

Production of sodium pyrosulfite. Sbor.rab.Inst. prikl.khim.
no.39:52-68 '47. (MIRA 7:3)
(Sodium pyrosulfite)

FRIDMAN V.M.

USSR/ Chemistry - Physical chemistry

Card 1/1 : Pub. 147 - 1/22

Authors : Kogan, V. B., and Fridman, V. M.

Title : Method of calculating phase equilibriums of binary liquid-vapor systems

Periodical : Zhur. fiz. khim. 28/11, 1889-1895, November 1954

Abstract : A new method for the calculation of phase equilibriums of binary liquid-vapor systems was introduced. The new method requires experimental determination of vapor pressures of pure components of only two mixtures containing 1/3 and 2/3 of molar fractions from one of the components. The calculation and formulation of a nomographic chart, which warrant proper accuracy and simplicity of calculation, was announced. Seven references: 3-German; 1-English and 3-USSR (1895-1953). Tables; Graph.

Institution : State Institute of Applied Chemistry, Leningrad

Submitted : December 29, 1953

FRIDMAN, V.M.

USSR/Thermodynamics. Thermochemistry. Equilibria. Physico-Chemical B-8
Analysis. Phase Transitions.

Abs Jour : Ref Zhur - Khimiya, No 8, 1957, 26178

Author : V.B. Kogan, I.V. Deyzenrot, T.A. Kul'dyayeva, V.M. Fridman
Title : Solubility in Systems Consisting of Methanol, Water and Normal Paraffin Hydrocarbons.

Orig Pub : Zh. prikl. khimii, 1956, 29, No 9, 1387-1392

Abstract : The mutual solubility (MS) in binary systems consisting of methanol I and n-hexane II, n-heptane III n-octane and n-nonane, as well as in ternary systems containing water besides the above mentioned components was studied at 2 to 45°. The MS of methanol, water and normal hydrocarbons at temperatures between 20 and 10° decreases with the increase of the molecular weight of the hydrocarbon and changes very little with the temperature drop within the range of from 20 to 10°.

Card : 1/1

FRIDMAN

V.M.

KOGAN, Vladimir Borisovich; ~~FRIDMAN, Viktor Mikhaylovich~~; KAFAROV, V.V.,
doktor tekhn.nauk, prof., redaktor; TOMARCHENKO, S.L., redaktor;
LEVIN, S.S., tekhnicheskij redaktor; ~~KRLIKH, Ye.Ya.~~, tekhnicheskij
redaktor.

[Manual on equilibria between fluids and vapors in binary and
multicomponent systems] Spravochnik po ravnovesiiu mezhd
zhidkost'iu i parom v binarnykh i mnogokomponentnykh sistemakh.
Pod red. V.V.Kafarova. Leningrad, Gos.nauchno-tekhn.izd-vo khim.
lit-ry, 1957. 497 p. (MIRA 10:11)
(Systems (Chemistry)) (Chemical equilibrium)

FRIDMAN, V. M.

5
4E4J

Separation of mixtures obtained in the production of alcohols containing 7-9 carbon atoms. V. D. Kozin, V. M. Fridman, and I. V. Delicarov, U.S.S.R. 106,651, July 26, 1957. The sepn. is accomplished by azeotropic distn. To the mixt. is added water sufficient to form a tri-component azeotropic mixt. of H_2O - H_2O -hydrocarbon. This is distd. off as an azeotropic mixt., and to the distillate is added anhyd. MeOH in a quantity sufficient to form binary azeotropic mixts. of MeOH and all the hydrocarbons. The binary mixts. are distd. off, and to the distillate is added 15% by wt. of water. Then the hydrocarbons are distd. off.

M. Hesch

RM for
0016

KOGAN, V.B.; FRIDMAN, V.M.

Determining the composition of tricomponent systems by measuring one property. Zhur.prikl.khim. 30 no.8:1141-1147 Ag '57. (MIRA 11:1)

1.Gosudarstvennyy institut prikladnoy khimii.
(Systems (Chemistry))

FRIDMAN, V. M.

Distr: 4E1j/4E2c(j)/4E3d

Azeotropic mixtures of fatty alcohols, normal paraffin hydrocarbons and water. V. B. Kozlov, V. M. Fridman, and I. V. Detsenrot. *Zhur. Priklad. Khim.* 30, 1333-34 (1957); *cf. C.A.* 50, 7631g. — The properties of azeotropic mixts. were studied by rectification and by the method that requires exptl. detns. of vapor pressures of 2 mixts. (*loc. cit.*). BuOH forms azeotropic mixts. with $C_{16}H_{34}$, $C_{18}H_{38}$, $C_{20}H_{42}$, and $C_{22}H_{46}$, the b.p. and the BuOH contents of which are (in the order given): 83.2, 3.2; 83.85, 18; 103.45, 43.3; and 116.9, 71.6%. The d. of the azeotropic mixts. of EtOH- $C_{16}H_{34}$ and BuOH- $C_{16}H_{34}$ exhibit a neg. deviation from additivity and a pos. deviation from ideality. The b.p. and % MeOH of MeOH azeotropic mixts. with the same hydrocarbons are: 49.5, 26.4; 54.8, 46.1; 62.75, 67.5; and 64.1°, 83.4%. The b.p. and the wt. % of BuOH and H_2O of the ternary azeotropic mixts. of the same hydrocarbons are: 61.5, 2.9, 10.2; 78.1, 7.6, 41.4; 89.1, 14.6, 60.0; and 89.6°, 13.3, 69.9%. Comparison of the compn. of the azeotropic mixts. BuOH- $C_{16}H_{34}$ and those of BuOH- H_2O with the compn. of the ternary mixts. shows that the latter contain a higher relative proportion of $C_{16}H_{34}$ and H_2O . This agrees with the regularity previously suggested (C.A. 50, 9137d). The b.ps. of the ternary azeotropic mixts. are lower than those of the pure components and of the corresponding binary mixts.; this suggests the presence of ternary azeotropes in the ternary mixts. I. Benecquitt...

5
3 May
3

State Inst
Applied Chem.

SOV/8C-32-4-25/47

5(3)

AUTHORS: Kogan, V.B., Fridman, V.M. and Romanova, T.G.

TITLE: The Separation of Mixtures of Alcohols and Hydrocarbons by the Method of Extraction (Razdeleniye smesey spirtov i uglevodorodov metodom ekstraktsii)

PERIODICAL: Zhurnal prikladnoy khimii, 1959, Vol 32, Nr 4, pp 847-852 (USSR)

ABSTRACT: Mixtures of alcohols and hydrocarbons are obtained in some technological processes, and this necessitates finding an effective method of their separation. In the present investigation the authors studied a possibility of such a separation by means of extraction. Ethylene glycol was chosen as a solvent. To estimate quantitatively the effectiveness of separation by this method, data on equilibria between the liquid phases in the system alcohol - hydrocarbon - ethylene glycol were necessary. The system consisting of butyl alcohol, heptane and ethylene glycol was taken as an example. Data on the composition and specific weight of saturated solutions in this system were compiled in Table 1, these data were used for plotting the curves of relationship in Figure 1, and a triangular diagram of equilibria, pictured in Figure 2, was drawn. The

Card 1/2

SOV/80-32-4-25/47

The Separation of Mixtures of Alcohols and Hydrocarbons by the Method of
Extraction

composition of equilibrium phases and of a mixture at a critical point, found by Alekseyev's method, are shown in Table 2. The analysis of the results has shown that the application of pure ethylene glycol, as well as its aqueous solution ensures a complete separation of initial mixtures after a single or double rinsing. Pure hydrocarbon is obtained directly in the process of extraction; alcohol can be separated from the lower layer by means of mere rectification.

There are 3 graphs, 3 tables and 3 Soviet references.

SUBMITTED: December 21, 1957

Card 2/2

5 (4)

AUTHORS:

Kogan, V. B., Fridman, V. M.
Romanova, T. G.

SOV/76-33-7-12/40

TITLE:

Phase Equilibria in Systems Formed by Paraffin Hydrocarbons
and Alcohols of the Aliphatic Series

PERIODICAL:

Zhurnal fizicheskoy khimii, 1959, Vol 33, Nr 7, pp 1521 - 1525
(USSR)

ABSTRACT:

Among other methods, hydrogenation of aliphatic esters yields aliphatic alcohols, thus forming mixtures of the alcohols with hydrocarbons. For this reason, the physico-chemical properties of these mixtures are important. The authors investigated the liquid-vapor phase of the systems butanol (I) - heptane (II); (I) - octane (III), and (I) - nonane (IV). Data on the initial substances are given (Table 1). The above equilibrium was investigated by means of a circulation apparatus (Fig 1); and the composition of the samples (liquid and condensate of the vapor phase) was simultaneously determined by the method (Ref 11). The results (Tables 2-4) showed that there was a linear dependence between the logarithm of the ratio of activity coefficients of the components, on the one hand, and the composition, on the other; i.e. the solutions were almost regular.

Card 1/2

Phase Equilibria in Systems Formed by Paraffin
Hydrocarbons and Alcohols of the Aliphatic Series

SOV/76-33-7-12/40

Explanation of data available in publications on the equilibrium between methanol (V) and ethanol (VI), on the one hand, and paraffin hydrocarbons (liquid-vapor), on the other, leads to the conclusion that these solutions are almost regular as well. The degree of deviation from Raoult's law is reduced by an increase in the molecular weight of the alcohol (for the system with (V), the constant $A = 0.970$, with (VI), $A = 0.905$, and with (I), $A = 0.710$). Calculation of the composition of the azeotropic mixture of the system isopropanol - heptane (the experimental part was carried out by T. S. Tolstova) indicates that the resultant dependence of the above data on the equilibrium in the systems "aliphatic alcohol - paraffin hydrocarbon" permit predictions of the phase equilibrium. There are 4 figures, 4 tables, and 13 references, 3 of which are Soviet.

ASSOCIATION: Gosudarstvennyy institut prikladnoy khimii, Leningrad (Leningrad State Institute of Applied Chemistry)

SUBMITTED: December 18, 1957
Card 2/2

KOGAN, Vladimir Borisovich; FRIDMAN, Viktor Mikhaylovich; KAFAROV, Viktor Vyacheslavovich; SUSHKOVA, T.I., red. izd-va; BLEYKH, E.Yu., tekhn. red.

[Manual on solubility] Spravochnik po rastvorimosti. Moskva, Izd-vo Akad. nauk SSSR. Vol.1. [Binary systems] Binarnye sistemy. Book. 1. 1961. 595 p. (MIRA 15:1)

1. Akademiya nauk SSSR. Institut nauchno-tekhnicheskoy informatsii. (Solubility) (Systems (Chemistry))

KOGAN, Vladimir Borisovich; FRIDMAN, Viktor Mikhaylovich; KAFAROV,
Viktor Vyacheslavovich; SUSHKOVA, T.I., red. izd-va;
BLEYKH, E.Yu., tekhn. red.

[Manual on solubility] Spravochnik po rastvorimosti. Moskva,
Izd-vo Akad. nauk SSSR. Vol.1. [Binary systems] Binarnye
sistemy. Book 2. 1962. 1959 p. (MIRA 15:4)

1. Akademiya nauk SSSR. Institut nauchnoy informatsii.
(Solubility) (Systems (Chemistry))

KOGAN, Vladimir Borisovich; FRIDMAN, Viktor Mikhaylovich; KAFAROV, Viktor Vyacheslavovich; SUTKOVA, T.I., red.izd-va; GALIGANOVA, L.M., tekhn. red.

[Handbook on solubility]Spravochnik po rastvorimosti. Moskva, Izd-vo Akad. nauk SSSR. Vol.2. [Ternary multicomponent systems] Troinnye, mnogokomponentnye sistemy. Book 1. 1963. 943 p.
(MIRA 16:1)

1. Moscow. Vsesoyuznyy institut nauchnoy i tekhnicheskoy informatsii.

(Systems (Chemistry)) (Solubility)

KOGAN, Vladimir Borisovich; FRIDMAN, Viktor Mikhaylovich; KAFAROV,
Viktor Vyacheslavovich; SUSHKOVA, T.I., red.izd-va;
SOROKINA, V.A., tekhn. red.

[Manual on solubility]Spravochnik po rastvorimosti. Moskva,
Izd-vo Akad.nauk SSSR. Vol.2.[Ternary multicomponent systems]
Troinnye, mnogokomponentnye sistemy. Book 2. 1963. 2066 p.
(MIRA 16:4)

1. Moscow. Vsesoyuznyy institut nauchnoy i tekhnicheskoy in-
formatsii.

(Systems (Chemistry)) (Solubility)

KOTLYARSKIY, L.B.; NOVITSKIY, B.G.; FRIDMAN, V.M.

Cavitation phenomena due to the action of an acoustic hydrodynamic emitter. Akust. zhur. 9 no.4:434-440 '63. (MIRA 17:3)

1. Vsesoyuznyy nauchno-issledovatel'skiy i konstruktorskiy institut khimicheskogo mashinostroyeniya, Moskva.

DEYZENROT, I.V.; KOGAN, V.R.; FRIDMAN, V.M.

Method of separation of pure hexamethylenediamine. Khim. prom. 41 no. 3:
178-180 Mr '65. (MIRA 18:7)

USSR/Chemistry - Leather

11 Sep 53

"Investigation of the Effects of Ultrasound Vibrations on Processes of Leather Production," V. M. Fridman, A. L. Zaydes, A. N. Mikhaylov, N. N. Dolgoplov, N. M. Karavayev, Corr Mem Acad Sci USSR; Cent Sci-Res Inst of the Leather Ind; Cent-Sci-Res Lab of Phys Methods for Investigation of Materials

DAN SSSR, Vol 92, No 2, pp 399-400

The investigation described shows that ultrasound expedites dehairing and tanning processes. Authors express the opinion that it can also be used in other processes of the leather industry.

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532.72
5339. Action of ultrasound on diffusion-controlled heterogeneous processes. N. N. DOZOROV, V. M. FRIDMAN AND N. M. KARAYEV. Dokl. Akad. Nauk SSSR, 93, No. 1, 93-5 (1953) In Russian.

Ultrasound considerably increases the rate of dissolution of a crystal of $K_4Fe(CN)_6$ in water, and of Cu in HNO_3 , even above the rate attained at high rates of rotation (1200 r.p.m.) of the dissolving body.
R. C. MURRAY

RAW
2/22

F. R. [unclear] [unclear]

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The effects of ultrasonic vibrations on diffusional processes. N. N. Dolgonov, V. M. Fridman, and N. M. Karavaev. *Doklady Akad. Nauk S.S.S.R.* 93, 305-8 (1953).—The effect of ultrasound on the diffusion rate was studied for the diffusion of CuSO_4 in 5% gelatin, and the results were compared with results obtained with varying hydrodynamic conditions (using mixers at various r.p.m.); also the diffusion of $\text{Na}_2\text{S}_2\text{O}_8$ through a swollen gelatin film 0.015 cm. thick was studied. A higher stirring rate increased the diffusion rate, but less than did ultrasonic vibrations. The diffusion rate consts. rose from 0.51×10^{-4} with no stirring in the first test to 0.60×10^{-4} with ultrasound, and in the 2nd test from 2.0×10^{-4} to 11.7×10^{-4} ; this shows that ultrasonic vibrations change the value and the nature of diffusional resistance at the solid-liquid interface.

W. M. Sternberg

WMS (1)

FRIDMAN, V. M.

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Utilization of ultrasonic vibrations for accelerating proc-
esses of leather tanning. V. M. Fridman, A. L. Zales, N.
N. Dolanovoy, and A. N. [unclear] Prom. 14,
No. 2, 48-4 (1954).—Depilation was easily accomplished
during subjection of specimen in soda. (Kind not stated) to
supersonic vibrations for 6 hrs. With supersonic vibrations,
tanning with oak ext. was complete in 19 hrs.; without, in
114 hrs. Leather was full.
B. Z. Kamich

205
b 13-55

FRIDMAN, Viktor Mironovich; VARSHAVSKAYA, L.S., redaktor; MEDVEDEVA, L.A.,
tekhničeskii redaktor

[Sonic and ultrasonic waves and their use in light industry]
Zvukovye i ul'trazvukovye kolebania i ikh primenenie v legkoi
promyshlennosti. Moskva. Gos. nauchno-tekhn. izd-vo Ministerstva
legkoi promyshlennosti SSSR, 1956. 283 p. (MLRA 10:3)
(Ultrasonic waves--Industrial applications)
(Sound waves)

FRIDMAN, V.M., kandidat khimicheskikh nauk; MESHKOV, K.V., kandidat
tekhnicheskikh nauk; KARAVAYEV, N.M.,

The effect of sonic and ultrasonic waves on fur processing.
Leg.prom. 15 no.4:42-43 Ap '55. (MIRA 8:7)

1. Chlen-korrespondent Akademii nauk SSSR.
(Fur) (Sound waves) (Ultra sonic waves--Industrial application)

SOV/124-57-5-5930

Translation from: Referativnyy zhurnal. Mekhanika, 1957, Nr 5, p 131 (USSR)

AUTHOR: Fridman, V. M.

TITLE: On One Approximate Method for Determining Vibration Frequencies
(Ob odnom priblizhennom metode opredeleniya chastot kolebaniy)

PERIODICAL: V sb.: Kolebaniya v turbomashinakh. Moscow, AN SSSR, 1956,
pp 69-76

ABSTRACT: The author proposes an approximate method for determining the frequencies of the free bending vibrations of a variable-section rod, allowing for various differing modes of end constraint (clamped, simply supported, free end). For solving the problem's differential equations

$$M''(x) = [\lambda^2 \rho(x) + k(x)] Y(x) \quad (0 < x < l) \quad \text{and} \quad Y''(x) = M(x)/EI(x)$$

the author recommends specifying not only the geometric shape of the vibration $Y(x)$, as is customary under the Bubnov method, but also that of the bending moment $M(x)$; this latter, as the author affirms, increases the accuracy of the calculation results. Thus, approximate

Card 1/2

SOV/124-57-5-5930

On One Approximate Method for Determining Vibration Frequencies

determination of the first n frequencies of the rod's free bending vibrations reduces to determining those values of the parameter λ which will cause the determinant of the system of n linear homogeneous equations (obtained by the method in question) to go to zero. The author adduces two examples to illustrate the use of the proposed method: 1) determination of the first vibration frequency of a turbine blade, and 2) determination of the critical speed of the rotor of an electric motor.

I. M. Volk

Card 2/2

FRIDMAN, V.M.; KUT'IN, V.A., kandidat tekhnicheskikh nauk.

Effect of sonic and ultrasonic waves on the mechanical properties
of pelts. Leg.prom. [16] no.11:19-20 N '56. (MLRA 10:1)
(Ultrasonic waves--Industrial applications) (Hides and skins)

FRIDMAN, V.M., kandidat khimicheskikh nauk.

The use of sonic and ultrasonic vibrations in fabric dyeing processes.
Tekst.prom. 16 no.12:34-36 D'56. (MIRA 10:1)
(Ultrasonic waves--Industrial applications) (Dyes and dyeing)

FRIDMAN, V.M.
AUTHOR: Novitskiy, B.G. and Fridman, V.M. 46-1-19/20
TITLE: An ultra-sonic instrument for measuring certain physico-mechanical properties of leather, rubber, plastic and high-molecular weight materials. (Ultrazvukovoy pribor dla izmereniya nekotorykh fiziko-mekhanicheskikh svoystv kozhi, plasticheskikh i vysokomolekularnykh materialov.)
PERIODICAL: "Akusticheskiy Zhurnal" (Journal of Acoustics), 1957, Vol. III, No. 1, pp. 92 - 94, (U.S.S.R.)
ABSTRACT: A schematic diagram, photographs of the clamp and of the instrument itself, cross-sectional drawing of the I-cut Seignette salt disc grip are given. Constructional details are described and discussed. So are the principles and methods of measurements for various materials.
2 photographs, 2 figures.
ASSOCIATION: Supersonic Laboratory of the Ministry of Light Industry. (Ultrazvukovaya Laboratoriya Ministerstva Legkoy Promyshlennosti, Moskva).
SUBMITTED: April, 5, 1956.
AVAILABLE:
Card 1/1

FRIDMAN, V.M., kandidat khimicheskikh nauk; NOVITSKIY, B.G., inzhener.

Ultrasonic method for measuring the degree of leather
tanning. Leg. prom. 17 no.1:23-24 Ja '57. (MLRA 10:2)

(Tanning)

(Ultrasonic waves--Industrial applications)