MIRSKOVA, V.N.; VOYUTSKAYA, M.I.; STARKOVA, G.A.; TARASOVA, N.I.; TRET'YAKOVA, K.I.; RAYKHER, I.I.

Study of antitoxin losses in the purification and concentration of sera by the diapherm-3 method. Zhur.mikrobiol.epid.i immun. 31 no.8:139-141 Ag '60. (MIRA 14:6)

1. Iz Permskogo instituta vaktsin i syvorotok.
(SERUM)

BULENKOV, T.I.; STARKOVA, G.A.

Photocolorimetric determination of some 10-substituted phenothiazine [derivatives] in tablets. Med. prom. 16 no.3:31-35 Mr '62. (MIRA 15:5)

1. Institut farmakologii i khimioterapii AMN SSSR.
(PHENOTHIAZINE) (COLORIMETRY)

STARKOVA, Irena; VOTRUBEC, Ctibor

Map of population distribution in Czechoslovakia 1 : 1 mil.
Sbor zem 68 no.1:84-86 '63.

STARKOVA, K. P.

20820. Starkova, K. P. Metody proizvodstva kumyga. Sbornik dokladov Pervoy Vsesoyuz. Konf-tsii po moloch. delu. M., 1949, s. 229-35.

SO:L. OPIS ZHURNAL STATEY - Vol. 28, Moskva, 1949.

STARKOVA, K. P.

"The Effect of Maintainance Conditions on the Development of Romanov Lambs and on Their Skin Characteristics." Cand Agr Sci, (No Inst Given), Moscow, 1954. (RZhBiol, No 2, Jan 55)

Survey of Scientific and Technical Dissertations Defended at USSR Higher Educational Institutions (13)
SO: Sum, No. 598, 29 Jul 55

BAYVAROVSKAYA, Yu.V.; PREOBRAZHENSKAYA, A.I.; STARKOVA, L.M.; SEVAST'YANOVA, Ye.S.

Obtaining a growth stimulant from the oils of Perm Province. Neftepер. i neftekhim. no.7:8-9 '63 (MIRA 17:7)

1. Permskiy neftepererabatyvayushchiy zavod.

KOLYANDR, L.Ya.; FOMENKO, G.M.; STARKOVA, L.S.

Obtaining industrial carbon disulfide of a higher quality. Koks i khim. no.9:44-46 '62. (MIRA 16:10)

1. Ukrainskiy uglekhimicheskiy institut.
(Carbon disulfide) (Coke industry--By-products)

KOLYANDR, L.Ya.; FOMENKO, G.M.; STARKOVA, L.S.

Ways to increase the yield and improve the quality of dicyclopentadiene. Koks i khim. no.12:29-34 '63. (MIRA 17:1)

1. Ukrainskiy uglekhimicheskiy institut.

AUTHOR: Starkova, M.D., Engineer SOV-91-58-9-8/29

TITLE: Ammonium-Sodium Cationizing of Limed Water (Ammoniynatriy-kationirovaniye izvestkovannoy vody)

PERIODICAL: Energetik, 1958, Nr 9, pp 17 (USSR)

ABSTRACT: For softening limed water for use in turbines, ammonium-sodium cationizing can be effectively used. Experiments have shown that the filters may best be regenerated by treatment with a solution of sodium chloride and ammonium chloride. The processed water must always have a residual caustic soda content and the feed water to the turbines must contain caustic soda and ammonium 1.5-2.5 mg/l. There is 1 table.

1. Feed water--Impurities 2. Water softeners--Applications
3. Water filters--Regeneration 4. Sodium chloride--Applications
5. Ammonium chloride--Applications

Card 1/1

APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001652920013-2

8 (6) SOV/91-59-4-10/28

AUTHOR: Starkova, M. D., Engineer

TITLE: Treating Feed Water With Ammonia
(Obrabotka pitatel'noy vody ammiakom)

PERIODICAL: Energetik, 1959, Nr 4, pp 16 - 17 (USSR)

ABSTRACT: The author's power plant performed the ammonia treatment of boiler (85 atm.) feed water for about 5 years and obtained good results. Prior to adding ammonia, the iron content of the boilers had increased to 0.2 mg/l at pH=6.8-6.9, due to the introduction of injection regulators of the superheating temperature, whereby it was necessary to abandon the phosphatization of the boiler water. By adding an ammonia solution of 0.03-0.035% to the boiler water, the iron content was reduced to 0.05 mg/l. The experience showed that it is possible to maintain an ammonia content of 0.7-1.5 mg/l. The brass tubes of the condenser were not effected by corrosion and the copper content of the boiler water amounted to 0.004-0.007 mg/l.

Card 1/1

ACCESSION NR: AP4025736 S/0184/64/000/001/0009/0011

AUTHORS: Popandopulo, Yu. G. (Engineer); Samarin, A. A. (Engineer); Starkova, M. G. (Engineer)

TITLE: Installation for the regeneration of hydrogen

SOURCE: Khimicheskoye mashinostroyeniye, no. 1, 1964, 9-11

TOPIC TAGS: hydrogen, hydrogen regeneration, nichrome catalyst, silica gel, drying unit, heating unit, reduction furnace, cooling unit

ABSTRACT: NIIkhimmash has developed an installation for the regeneration of hydrogen from reduction ovens of tungsten and molybdenum recovery plants. The estimated capacity of the unit was 200 m^3/hr hydrogen with a residual moisture content of 0.15 gm/m^3, which corresponds to a dew point of -40C. The hydrogen from the reduction ovens is passed through a contact apparatus containing nichrome catalyst to bring the oxygen content down to 10^{-8}%. It is then mixed with hydrogen from the system's leak traps. From there hydrogen moves to a cooler where most of the moisture is condensed at 12-14C and is subsequently pumped by a rotary blower to an electric oven where it is heated to 300C. The final step consists in

Card 1/2

ACCESSION NR: AP4025736

passing the hydrogen through two drums of 0.75m^3 capacity, filled with silica gel. The first drum contains hydrous silica gel, while the second, separated from the first by a cooling device, is filled with anhydrous silica gel. During passage through the first drum the hot hydrogen removes the moisture from the silica gel and deposits it in the condenser. The capacity of this installation under working conditions was 420-450 m^3/hr, the oxygen content of the inflowing hydrogen averaged 0.4%, and the moisture content of the regenerated hydrogen amounted to 1-2%. Orig. art. has: 6 figures and 1 table.

ASSOCIATION: NIIkhimmash

SUBMITTED: 00 DATE ACQ: 14Feb64 ENCL: 00

SUB CODE: IE, CH NO REF SOV: 000 OTHER: 000

Card 2/2

POPANDOPULO, Yu.G., inzh.; STARKOVA, M.G., inzh.

Separation of secondary steam in evaporation apparatus. Khim. mashinostr. no.4:17-19 Jl-Ag '63. (MIRA 16:9)
(Evaporating appliances)

STARKOVA, M.I.

Changes in the number of thrombocytes and in the thrombocytic formula in initial forms of cancer of the cervix uteri. Akush. i gin. no.1:112-115 '65. (MIRA 18:10)

1. Kafedra akusherstva i ginekologii (zav.- doktor med. nauk prof. V.A. Lositskaya) Zaporozhskogo instituta usovershenstvovaniya vrachey imeni Gor'kogo.

STARKOVA, N. (Leningradskaya obl., pochtovoye otdeleniye Mel'nichnyy Ruchey)

Protection of television receivers from certain types of interference. Radio no.4:59 Ap '61. (MIRA 14:7)
(Television--Interference)

STARKOVA, N. T.

ATABEK, A.A.; STARKOVA, N.T. (Moskva)

Clinical significance of the cortisone test in diagnosing virilizing syndromes.. Probl. endok. i gorm, 2 no.6:3-7 N-D '56. (MLRA 10:2)

1. Iz kafedry endoktrinologii (zav. - zasluzhennyy deyatel' nauki prof. AN A. Shereshevskiy) TSentral'nogo instituta usovershenstvovaniya vrachey.

(ADRENOGENITAL SYNDROME, diagnosis,
cortisone test (Rus))
(CORTISONE,
test in diag. of adrenogenital synd. (Rus))

MOSKOVICH, M.G., STARKOVA, N.I.

Treatment of diabetes mellitus with sulfanilamide preparations
Sov.med. 22 no.7:34-42 Jl '58 (MIRA 11:10)

1. Iz kafedry endokrinologii TSentral'nogo instituta usovershenstvovaniya vrachey (zav. prof. N.A. Shereshevskiy) na baze Moskovskoy gorodskoy ordena Lenina Klinicheskoy bol'nitsy imeni Botkina (glavnyy vrach - prof. A.N. Shabanov).
(ANTIDIABETICS, in various dis.
sulfanilamides (Rus))

STARKOVA, N.T., assistent

Diagnosis and treatment of the Itsenko-Cushing syndrome. Kaz.-med.zhur. 40 no.2:29-35 Mr-Ap '59. (MIRA 12:11)

1. Iz kliniki endokrinnykh zabolevaniy (zav. - prof.N.A. Zherezhevskiy) TSentral'nogo instituta usovershenstvovaniya vrachey, na baze endokrinologicheskogo otdeleniya bol'nitsy imeni S.P.Botkina (glavvrach - prof.A.N.Shabanov).
(CUSHING SYNDROME)

STARKOVA, N.T.

Problem of hirsutism. Probl. endok. i gorm. 6 no. 3:104-110 My-Je '60. (MIRA 14:1)
(HYPERTRICHOSIS)

STARKOVA, N. T., CAND MED SCI, "CLINICO-PATHOGENETIC description ~~CHARACTERISTIC~~ AND DIAGNOSIS OF VIRAL SYNDROME." MOSCOW, 1961. (SECOND MOSCOW STATE MED INST IM N. I. PIROGOV). (KL, 3-61, 235).

STARKOVA, N.T.

Diagnosis and therapy of the virilizing syndromes. Sov. med. 25 no.5:16-22 My '61. (MIRA 14:6)

1. Iz kliniki endokrinnykh zabolevaniy (zav. - zasluzhennyy deyatel' nauki prof. N.A.Shereshevskiy [deceased]) TSentral'nogo instituta usovershenstvovaniya vrachey (dir. M.D.Kovrigina) na baze endokrinologicheskogo otdeleniya bol'nitsy imeni S.P.Botkina (glavnyy vrach - prof. A.N.Shabanov).

(VIRILISM)

KRYMSKAYA, M.L.; STARKOVA, N.T.

Some forms of sterility and their treatment with prednisolone. Akush. i gin. no.1:3-8 '63. (MIRA 17:6)

1. Iz endokrinologicheskogo otdeleniya (zav. - prof. Ye.I.Kvater), Nauchno-issledovatel'skogo instituta akusherstva i ginekologii (dir.-prof. O.V. Makeyeva) i kafedry endokrinologii (zav. - dotsent D.N. Anosov) TSentral'nogo instituta usovershenstvovaniya vrachey (dir. M.D. Kovrigina).

STARKOVA, N.T.; URANOVA, Ye.V.

Stein-Leventhal syndrome. Akush. i gin. no.1:48-52 '63.
(MIRA 17:6)

1.Iz kliniki endokrinnykh zabolevaniy (zav. - prof. N.A. Shereshevskiy [deceased]), kafedry patologicheskoy anatomii (zav.- prof. N.A. Krayevskiy) TSentral'nogo instituta usovershenstvovaniya vrachey na baze bol'nitsy imeni Botkina (glavnyy vrach - prof. N.A. Shabanov), Moskva.

STARKOVA, N.T.

Pathogenesis and diagnosis of virilism. Kaz.med. zhur. no.3: 53-58 My-Je '63. (MIRA 16:9)

1. Klinika endokrinnykh zabolevaniy (zav. - prof. M.A. Shereshevskiy [deceased] TSentral'nogo instituta usovershenstvovaniya vrachey.
(VIRILISM)

STARKOVA, N.T.

Malignant and benign hormone-producing tumors of the adrenal cortex and ovaries. Trudy TSIU 62:338-345 '63. (MIRA 18:3)

1. Kafedra endokrinologii (ispolnyayushchiy obyazannosti dotsenta L.N.Anosova) TSentral'nogo instituta usovershenstvovaniya vrachey.

STARKOVA, N.T.; KONAREVA, M.V.; MAROVA, Ye.I.; RYNDINA, M.G.

Urinary metabolites of corticosteroids in primary toxic goiter. Probl. endok. i gorm. 11 no.5:34-37 S-O '65.

(MIRA 19:1)

1. Kafedra endokrinologii (zav. - prof. Ye.A. Vasyukova) TSentral'nogo instituta usovershenstvovaniya vrachey, Moskva. Submitted August 21, 1964.

STARKOVA, N.V. (Yudino)

Changes in the concentration of penicillin in blood serum caused by the combination of penicillin with corticosteroids. Kaz. med. zhur. no.5:86 S-O'63 (MIRA 16:12)

STARKOVA, M.V.

Dynamics of the titers of antistreptolysin-O and C-reactive protein following commissurotomy. Nauch. trudy Kaz. gos. med. inst. 14:553-554 '64. (MIRA 18:9)

1. Kafedra fakul'tetskoy terapii (zav. - prof. Z.I.Malkin) Kazanskogo meditsinskogo instituta.

STARKOVA, T. A.

"Use of Liquid Media for the Isolation of Koch Bacillus Cultures From Pleural Exudates," Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii No 1, 1953

Chair of Microbiology of the 1st Leningrad Medical Institute imeni I. P. Pavlov

STARKOVA, T.G.; METER, I.D.

Hyaluronidase in tuberculous pleural exudates; author's abstract.
Zhur.mikrobiol.epid.i immun. no.11:44 N '53. (MLRA 7:1)

1. Iz kafedry mikrobiologii (zaveduyushchiy - professor V.N.Kosmodamianskiy) I Leningradskogo meditsinskogo instituta im. akad. I.P.Pavlova.
(Tuberculosis) (Enzymes)

STARKOV, I.P., SHUVALOVA, Ye.P., dots., BASHMAKOVA, M.A.

Increase in the resistance of dysentery bacteria to synthomycin and levomycetin. Trudy LMI 2:258-266 '55 (MIRA 11:8)

1. Kafedra mikrobiologii (zav. - prof. V.N. Kosmodamianskiy) i Kafedra infektsionnykh bolezney (zav. - prof. K.T. Glukhov [deceased]) Pervogo Leningradskogo meditsinskogo instituta imeni akademika I.P. Pavlova.
(SHIGELLA PARADYSENTERIAE)
(CHLOROMYCETIN)

SHUVALOVA, Ye.P., dots. STARKOVA, T.G.

Clinical and bacteriological data on the treatment of dysentery with synthomycin. Trudy LMI 2:251-257 '55 (MIRA 11:8)

1. Kafedra infektsionnykh bolezney (zav.-prof. K.T. Glukhov [deceased] i Kafedra mikrobiologii (zav. - prof. V.N. Kosmodamianskiy) Pervogo Leningradskogo meditsinskogo instituta imeni I.P. Pavlova.
(DYSENTERY)
(CHLOROMYCETIN)

STARKOVA, T.G.; SHUVALOVA, Ye.P.; SOLDATOVA, V.M.; TKACHEVA, T.V.
(Leningrad)

Leucocyte reaction and immunological indices in rabbits in response to teh action of X rays. Med.rad. no.7:87-88 '61.
(MIRA 15:1)

(X RAYS—PHYSIOLOGICAL EFFECT) (LEUCOCYTES)
(IMMUNITY)

STARKOVA, T.G.

Study of the immunobiological reaction complex following the administration of tetravaccines during hypothermia. Zhur. mikrobiol., epid. i immun. 33 no.12:130-138 D '62. (MIRA 16:5)

1. Iz Pervogo Leningradskogo meditsinskogo instituta imeni I.P. Pavlova.
(VACCINATION) (HYPOTHERMIA) (IMMUNOLOGY)

STARKOVA, V. N.

"Influence of Meteorological Factors and Ground Water Level on the Growth in Diameter of Oak and Ash Trees, Ordinary and Pennsylvania Under the Conditions of Kamennaya Steppe." Thesis for degree of Cand. Biological Sci. Sub 30 Mar 50, Inst of Forestry Acad Sci USSR

Summary 71, 4 Sep 52, Dissertations Presented for Degrees in Science and Engineering in Moscow in 1950. From Vechernyaya Moskva, Jan-Dec 1950.

STARKOVA, V.N., kandidat biologicheskikh nauk.

Pine plantations on sandy soils in Syktyvdinskiy District of the Komi A.S.S.R. Trudy Komi fil. AN SSSR no.3:70-82 '55. (MLRA 9:10)
(Komi A.S.S.R.--Pine) (Reforestation)

USSR / Forestry. Forest Crops. K-3

Abs Jour: Ref Zhur-Biol., No 6, 1958, 24896.

Author : Starkova, V. N.
Inst : Not given.
Title : Development of Pine Seedlings in P antings on the Clearing of Lichen Pine Forests.

Orig Pub: Tr. Komi fil. AN SSSR, 1957, No 5, 115-125.

Abstract: The morphologo-habitual changes of the pine seedlings at the age of 1 - 7 were studied on the sandy soils of the Syktyvdinskiy region, Komi ASSR. It was established that during the first seven years, the growth of the separate parts of the plant in the whole takes place irregularly. In

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STARKOVA, V.N.

Effect of conifer moths (Evetria) on the formation of the pine trunk. Trudy Komi fil.AN SSSR no.8:154-159 '59. (MIRA 13:11)
(Pine—Diseases and pests)

VAVILOV, P.P., kand. sel'khoz. nauk, glav. red.; LAZAREV, N.A., kand. sel'khoz. nauk, zam. glav. red.; GALAS'YEV, V.A., red.; MOISEYEV, K.A., kand. biol. nauk, red.; PODOPLELOV, V.P., kand. ekon. nauk, red.; STARKOVA, V.N., kand. biol. nauk, red.; TARASENKOV, G.H., kand. geogr. nauk, red.; TON, D.S., kand. ekon. nauk, red.; TIKHONOVA, N.V., red.izd-va; VDOVINA, V.M., tekhn. red.

[Forests and the lumbering industry in the Komi A.S.S.R.] Lesa i lesnaia promyshlennost' Komi ASSR. Moskva, Goslesbumizdat, 1961. 394 p. (MIRA 16:4)

1. Akademiya nauk SSSR. Komi filial, Syktyvkar.
(Komi A.S.S.R.--Forests and forestry)

STARKOVA, V.N.

New data on the resin gallmoth (Evetria resinella). Izv.Komi fil.Geog.ob-va SSSR no.7:127-128 '62. (MIRA 15:12)
(Moths)

PTASHKIN, A.A.; STARKOVA, V.Ye.; LI, A.B.

Determining the real assimilation of feed calcium by karakul sheep with the help of Ca^{45}. Uzb. biol. zhur. 6 no.1:57-62 '62. (MIRA 15:3)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut karakulevodstva.

(KARAKUL SHEEP—FEEDING AND FEEDS)
(CALCIUM—ISOTOPES)

SAZYKINA, O.P., aspirant; AKONINA, Yu.N., kand. tekhn. nauk, dotsent; STARKOVA, Ye.S., inzh.

Effect of active dyes on the physicomechanical properties of the fur hair covering. Report No.3. Nauch. trudy MTILP no.30: 91-95 '64. (MIRA 18:6)

1. Kafedra tekhnologii kozhi i mekha Moskovskogo tekhnologicheskogo instituta legkoy promyshlennosti.

STARKOVA, Z.

Starka, J.; Starkova, Z. "The Microbiology of Frozen Custards." p. 170 (Prumysl Potravin, Vol. 4, no. 4, Apr. 1953, Praha)

SO: Monthly List of East European Accessions, Vol. 3, no. 2, Library of Congress, Feb. 1954, Uncl.

COUNTRY : CZECHOSLOVAKIA
CATEGORY : Chemical Technology. Chemical Products and Their Applications. Pharmaceuticals. Vitamins. Antibiotics
ABS. JOUR. : RZhKhim., No 19, 1959, No. 68766

AUTHOR : Barcar, M.; Rasik, A.; Starkova, Z.; Matoskova, A.
INSTITUTE : -
TITLE : Application Possibilities of Mucin Derived from Flax-Seed in Certified Medicines.
ORIG. PUB. : Farmacia (CSR), 1958, 27, No 12, 361-368

ABSTRACT : As a result of experiments performed on animals it is demonstrated that hydrogel of mucin, derived from flax-seed, lengthens considerably the effect of insulin. Employment of the pentamethonium in suspensions with hydrogels of mucin prolongs its action as well. The action of mucin on blood pressure and on the digestive organs and also toxicity of the pentamethonium in this remains unchanged. The bibliography covers 11 titles.
--D. Yakesh

Card: 1/1

STARKOVSKAYA, V. Ye.

Tube-type gauges with a contraction at the exit point, which produces resistance. Vop. gidr. no.4:29-35 '62. (MIRA 15:10)

(Irrigation canals and flumes)
(Water meters)

Use of pulse-number telemetering in hydrometric stations. Vop. gidr. no.16:59-65 '63. (MIRA 17:11)

STARKUS, K.

Effectiveness of the use of powdered stabilized vitamin A concentrate in mixed feeds for chicks. Vit. res. i ikh isp. no.6:168-171 '63. (MIRA 17:1)

1. Litovskiy nauchno-issledovatel'skiy institut zhivotnovodstva.

Starky, P.;Novak, K.; Skuhravy, V.

Entomofauna of the clover and its development. p. 3.

ROZPRAVY. TAKA MATEMATICKO-PRIRODOVEDECKA. Praha, Czechoslovakia. Vol. 69, no. 7, 1959.

Monthly List of East European Accessions, (EEAI) LC, Vol. 8, no. 10, 1959. -Oct. Uncl.

STARMACH, Janusz (Krakow)

Spawning of Cottus poecilopus Heckel as observed in an aquarium.
Wszechswiat no.4:100-103 Ap '62.

STARMACH, Janusz, mgr

Tadpoles of the Carpathian rivers. I. Acta hydrobiol 4 no.3/4: 321-343 '62.

1. Zaklad Biologii Wod, Polska Akademia Nauk, Krakow.

STARMACH, Janusz, mgr

Occurrence and characteristics of the minnow (Phoxinus phoxinus L.) in the basin of the Mszanka stream. Acta hydrobiol 5 no.4: 367-381 '63.

1. Zaklad Biologii Wod. Polska Akademia Nauk, Krakow.

STARMACH, Janusz, dr

Cottidae of the Carpathian rivers. Pt.2. Acta hydrobiol 7 no.1:109-140 '65.

1. Institute of Hydrobiology, Krakow, of the Polish Academy of Sciences. Submitted April 6, 1964.

S ARNACH, K.

Rivers from the point of view of biology and fishery. p. 308.
(POLSKIE ARCHIWUM HYDROBIOLOGII. Vol. 3, 1956, Warszawa, Poland)

SO: Monthly List of East European Accessions (EEAL) LC. Vol. 6, no. 12, Dec.1957.
Uncl.

STARMAKH

POLAND/Microbiology. Sanitary Microbiology. F-3

Abs Jour: Ref. Zhur.-Biol., No 7, 1958, 28956.

Author : Starmakh.
Inst : Not given.
Title : Purification of Sewage Water by Biological Methods.

Orig Pub: Ochistka stochnykh vod biologicheskimi metodami.
Chronmy przyr. ojcz., 1956, 12, No 6, 3-8.

Abstract: No abstract.

Card : 1/1

STARZACH, K.

The training of cadres for sanitary hydrobiology. p.140.
GAZ, WODA I TECHNIKA SANITARNA (Polskie Zrzeszenie Gazowników, Wodociągowców i Techników Sanitarnych) Warszawa
Vol. 30, no. 4, Apr. 1956

So. East European Accessions List Vol. 5, No. 9 September 1956

STARMACH, K.

"Hydrobiological bases of the use of water from shallow river reservoirs by water-works"

p. 9 (Polskie Archiwum Hydrobiologii, Vol. 4, 1958, Warsaw, Poland)

Monthly Index of East European Accessions (EEAI) LC, Vol. 8, No. 1, Jan. 59.

STARMACH, K.

Hydrobiological studies of surface water and their relationship with microbiology. Acta Microb.polon. 8:21-26 1959.
(WATER POLLUTION)

STARMACH, Karol, prof., dr.

Communities of algae in the stream Piekielnik near Jablonka. Acta hydrobiol 3 no.2/3:143-149 '61.

1. Zaklad Biologii Wod, Polska Akademia Nauk, Krakow, ul. Slawkowska 17, albo Katedra Hydrobiologii, Uniwersytet Jagiellonski, Krakow, ul. Grodzka 53. Naczelny redaktor "Acta Hydrobiologica".

STARMACH, Karol, prof., dr.

Blue-green algae in drying out puddles on the road. Acta hydrobiol 3 no.4:213-215 '61.

1. Zakład Biologii Wod, Polska Akademia Nauk, Krakow, ul. Slawkowska 17, albo Katedra Hydrobiologii, Uniwersytet Jagiellonski, Krakow, ul. Grodzka 53.

(Poland—Algae)

STARMACH, Karol, prof., dr.; ROSOL, Edward

Morphometric characteristics of barbels Barbus petenyi Heckel from the waters of Upper Vistula. Acta hydrobiol 3 no.4:217-224 '61.

1. Zaklad Biologii Wod, Polska Akademia Nauk, Krakow, ul. Slawkowska 17.

(Poland—Barbel(Fish))

STARMACH, Karol

The Institute of Hydrobiology of the Polish Academy of Sciences in Krakow. Kosmos biol 11 no.3:368-373 '62.

STARMACH, Karol, prof. dr

New and rare blue-green algae in the plankton of a fish pond. Acta hydrobiol. 4 no.3/4:229-244 '62.

1. Zaklad Biologii Wod, Polska Akademia Nauk, Krakow, ul. Slawkowska 17, and Katedra Hydrobiologii, Uniwersytet Jagiellonski, Krakow.

STARMACH, Karol, prof.

The work of the Research Center for Hydrobiology. Review Pol Academy 7 no.4:45-48 O-D '62.

1. Head, Research Centre of Hydrobiology, Krakow, Slawkowska 17.

STARMACH, Karol, prof.

Activities of the Laboratory of Hydrobiology. Nauka polska 10 no.5:67-74 S-O '62.

1. Kierownik Zakladu Biologii Wood, Krakow.

STARMACH, Karol, prof. dr

New species of the order Dinococcales (Pyrrhophyta) from the Twardowski Cave in Krakow. Acta hydrobiol 5 no.4:337-342 '63.

1. Zaklad Biologii Wod, Polska Akademia Nauk, Krakow.

STARMACH, Karol

Blue-green algae from the Tremadocian of the Gory Swietokrzyskie in Poland. Acta paplaeont Pol 8 no. 4: 451-463 '63.

1. Department of Hydrobiology, Jagiellonian University, Krakow.

STARMACH, Karol, prof. dr

Algae on damp coastal rocks at Varna, Bulgaria. Acta hydrobiol 6 no.3:159-170 '64.

1. Department of Hydrobiology, Jagiellonian University, Krakow.

STARMACHOWA, BOLESLAWA,

Starmachowa, Boleslawa, Biologia owocow i nasion. Wroclaw, Ksiaznica-Atlas, 1950. 84 p. (Biblioteczka biologiczna, z. 16) (Biology of fruit and seeds, Illus.)

SO: Monthly list of East European Accessions, LC, Vol. 3, No. 1, Jan. 1954, Uncl.

STARMACHOWA, Boleslawa (Krakow)

Tropism and taxis in fungi. Wszechswiat 7/8:152-156 Jl-Ag '64

STARNOVSKIY, L.N.

Organization of rapid mining of raises in the Tashtagol mine. Gor. zhur. no.3:8-12 Mr '55. (MLRA 8:7)
(Tashtagol--Mining engineering)

STAFEYEV, Aleksey Nikiforovich; STARNOVSKIY, Lev Nikolayevich; SHALIMOV, Aleksandr Petrovich, retsenzent; GOLUBYATNIKOVA, G.S., red.izd-va; KONDRAT'YEVA, M.A., tekhn. red.

[Comprehensive labor organization in mines] Kompleksnaia organizatsiia truda na rudnikakh. Moskva, Gosgortekhizdat, 1963. 22 p. (MIRA 17:2)

STARNZAS, M.S.

533.275

6425. MEASUREMENT OF AIR HUMIDITY WITH THE AID OF SEMICONDUCTING THERMOCOUPLES. N.V.Kolomoets, M.S.Starnzas, L.S.Stil'bans and N.P.Fateev. Zh. Tekh. Fiz., Vol. 26, No. 3, 686-92 (1956). In Russian.

A dew-point type hygrometer is described. Cooling of the polished surface by 25 to 30°C, based on the Peltier effect, is obtained by means of semiconducting thermoelements of unspecified material. Details of auxiliary apparatus and circuitry are given.

LFH

STAROBA, J. [Staroba, J.]; SHIMORDA, Y. [Šimorda, J.]; SPINADEL', V.L. [translator]; SMIRNOV, V.A., red.; TIMOKHINA, V.I., red.; BORUNOV, N.I., tekhn.red.

[Static electricity in industry] Statisticheskoe elektrichestvo v promyshlennosti. Pod obshchei red. V.A.Smirnova. Moskva, Gos.energ.izd-vo, 1960. 247 p. Translated from the Czech. (MIRA 13:12)

(Electrostatics)

STAROBA, Josef

Radioactive air ionizers usable in processing plastics.
Jaderna energie 9 no.9:293-294 S '63.

1. Vyzkumny ustav gumarenske a plastikarske technologie, Gottwaldov.

L 36734-65 EWT(m)/EWP(t)/EWP(b) IJP(c) JD/GS

ACCESSION NR: AT5007820 S/0000/64/000/000/0088/0091

15
B+1

AUTHOR: Morachevskiy, Yu. V. (Deceased); Prokof'yeva, R. V.; Starobina, N. V.

TITLE: Separation of lithium from potassium by ion exchange

SOURCE: Leningrad. Universitet. Metdoy kolichestvennogo opredeleniya elementov (Methods for the quantitative determination of elements). Leningrad, Izd-vo Leningr. univ., 1964, 88-91

TOPIC TAGS: lithium separation, potassium separation, column chromatography, cation exchange resin

ABSTRACT: A method was developed for separating lithium from potassium by ion exchange on the NH_4^+ form of cation resin KU-2. The separation was studied with 5 g air-dried resin, used in 1.0-1.2 cm diameter layers of 10 cm height for 50 ml solution containing 0.638 meq LiCl and 0.64 meq KCl. The ions of both metals were adsorbed from neutral ammonia or acetic acid solutions but separation was feasible by elution of Li before K by hydrochloric acid solutions (see Fig. 1 of the Enclosure). Optimum results were obtained with solutions of 0.08-0.10 N aqueous HCl and with 0.20 N HCl in 30% methanol. Orig. art. has: 3 figures.

Card 1/3

MEDVEDEVA, E.; STAROBINA, T.M.; GROMOV, B.V.

Studying the U^{6+} extraction by the tri-n-octylamine solution in the presence of Fe^{2+} and Mn^{2+} ions. Trudy MKHTI no.47:145-150 '64. (MIRA 18:9)

ZHENILOV, B., instruktor uchebnoy yezdy, (Yaroslavl'); STAROBAKIN, N.; LUK'YANTSEV, P., prepodavatel' mashinovedeniya i avtodela (Slutsk); MALOFEYEV, Yu., shofer-ekskavatorshchik (Lodeynoye pole); IVANOV, N.; slesar'; OLEYNIK, N. (Yoshkar-Ola); IVANOV, B., mayor militsii; BORODIN, M., sportsmen 1-go razryada, gvardii starshina; YEMEL'YANOV, Yu., sud'ya Vsesoyuznoy kategorii (Moskva); STREL'CHIK, M. (Moskva); YEMEL'YANOV, I., shofer (Astrakhan').

Our discussions. Za rul. 19 no.4:8-9 Ap '61. (MIRA 14:7)

1. Nachal'nik 2-go gruzovogo avtokhozyaystva, g. Tomsk (for Starobakin).
2. Starshiy inspektor Gosavtoinspektsii Leningrada (for B.Ivanov).
3. Predsedatel' Federatsii vodnomotornogo sporta SSSR, (for Yu. Yemel'yanov).

(Automobile drivers) (Automobile racing)

VOLODIN, Boris Grigor'yevich; GANIN, Mikhail Pavlovich; DINER, Isay Yakovlevich; KOMAROV, Lazar' Borisovich; SVESHNIKOV, Aram Arutyunovich, doktor tekhn. nauk, prof.; STAROBIN, Kalman Berkovich; GINZBURG, R.I., kand.tekhn.nauk, retsenzent; CHEREDNICHENKO, N.Ya., kand. tekhn.nauk; retsenzent; SHAYKEVICH, I.A., red.; KONTOROVICH, A.I., tekhn.red.

[Manual for engineers on the solving of problems in probability theory; collection of basic formulas, typical solutions, and problems for exercises] Rukovodstvo dlia inzhenerov po resheniiu zadach teorii veroiatnostei; sbornik osnovnykh formul, tipovykh reshenii i zadach dlia uprazhnenii. [By] B.G.Volodin i dr. Leningrad, Sudpromgiz, 1962. 422 p. (MIRA 15:7)
(Probabilities)

VOLODIN, B.G.; GANIN, M.P.; DINER, I.Ya.; KOMAROV, L.B.; SVESHNIKOV, A.A., zasl. deyatel' nauki i tekhniki RSFSR, doktor tekhn. nauk, prof.; STAROBIN, K.B.; DONCHENKO, V.V., red.; BLAGOVESHCHENSKIY, Yu.N., red.

[Problems in probability theory, mathematical statistics, and theory of functions of random variables] Sbornik zadach po teorii veroiatnostei, matematicheskoi statistike i teorii sluchainykh funktsii. Moskva, Nauka, 1965. 632 p. (MIRA 18:10)

STAROBIN, M.

Miscalculations in designing and organization. Prom.koop. 13 no.11:14 N '59. (MIRA 13:3)

1. Glavnyy inzhener artsli "Stankoinstrument," Leningrad. (Leningrad--Machinery industry)

L 26469-66 EPF(n)-2/EWT(m)/EWA(d)/T/EWP(t)/ETC(m)-6 IJP(c) RM/JH/WW/JD/JW/JG

ACC NR: AP6017368 SOURCE CODE: UR/0363/66/002/003/0413/0417

AUTHOR: Veselaya, G. N.; Dubinin, G. N.; Ruzinov, L. P.; Starobina, T. M.

ORG: Moscow Aviation Institute (Moskovskiy aviatsionnyy institut); Giredmet

TITLE: Thermodynamics of the chemical reactions occurring during the surface saturation of metals with certain elements

SOURCE: AN SSSR. Izvestiya. Neorganicheskiye materialy, v. 2, no. 3, 1966, 413-417

TOPIC TAGS: chemical reaction, thermodynamics, equilibrium constant, tungsten, rhenium, titanium, iron, silicon, aluminum, chromium, zirconium

ABSTRACT: At the present time the application of diffusion saturation is being principally developed in studies on gas saturation. This method of saturation permits the creation of initial conditions most suitable for the process, which are characterized by a high percentage yield of the diffusion element from its halogenide compound on a saturated surface.

Thus, the equilibrium constants for chemical reactions occurring during surface saturation of tungsten, rhenium, or titanium with iron, silicon, aluminum chromium and zirconium from the gas phase were calculated.

An analytic calculating method for the equilibrium transformation based on the Descartes theorem and McLauren method is proposed.

Data are recommended for conducting the diffusion saturation technical process.

Orig. art. has: 3 formulas and 1 table. [JPRS]

SUB CODE: 07, 20 / SUBM DATE: 28Jun65 / ORIG REF: 005 / OTH REF: 004

UDC: 66-971

Card 1/1 PB

STAROBINETS, A.Ye.

Problem of the existence of the Murgab transversal uplift. Neftegaz. geol. i geofiz. no.8:44-49 '63. (MIRA 17:3)

1. Nauchno-issledovatel'skaya Sredne-Aziatskaya geofizicheskaya ekspeditsiya.

STAROBINETS, A.Ye.

Concerning the distribution of the Upper Jurassic saline-gypsum-anhydrite formations on the territory of northern, central, and southeastern Turkmenistan; according to materials from refraction correlation investigations. Neftegaz.geol. i geofiz. no.12:27-32 '64. (MIRA 18:3)

1. Nauchno-issledovatel'skaya Sredne-Aziatskaya geofizicheskaya ekspeditsiya kontory "Spetsgeofizika".

ACCESSION NR: AP4040291 S/0202/64/000/003/0032/0038

AUTHORS: Starobinets, A. Ye.; Starobinets, M. Ye.

TITLE: The wave field in Turkmenia from seismic prospecting data

SOURCE: AN TurkmSSR. Izv. Ser. fiz.-tekhn., khim. i geol. n., no. 3, 1964, 32-38

TOPIC TAGS: wave field, seismic wave, geophysical prospecting, geology

ABSTRACT: The authors point out that refracted waves may not only give information on the nature of interfaces but may also shed light on lithofacies variations. Several refracted waves have been recorded during refraction surveys across Turkmenia. The authors tabulate these, showing where they are found and what their velocities, intensities, attenuation characteristics, and related properties are. From this information, five regions in Turkmenia may be distinguished. The authors outline these on a map. Within each region the picture of refracted waves remains unchanged, and, in comparison with the geology known from surface work and from deep borehole examination, interpretation of rock types and geologic structure is possible. The authors describe in some detail the specific rock sequences that underlie each region and that give rise to the individual refracted waves. Orig. art. has: 1 figure and 1 table.

Card 1/2

ACCESSION NR: AP4040291

ASSOCIATION: Sredneaziatskaya geofizicheskaya ekspeditsiya "Spetsgeofiziki" (Central Asian Geophysical Expedition of "Spetsgeofizika")

SUBMITTED: 18Jul63

SUB CODE: ES

NO REF SOV: 009

ENCL: 00

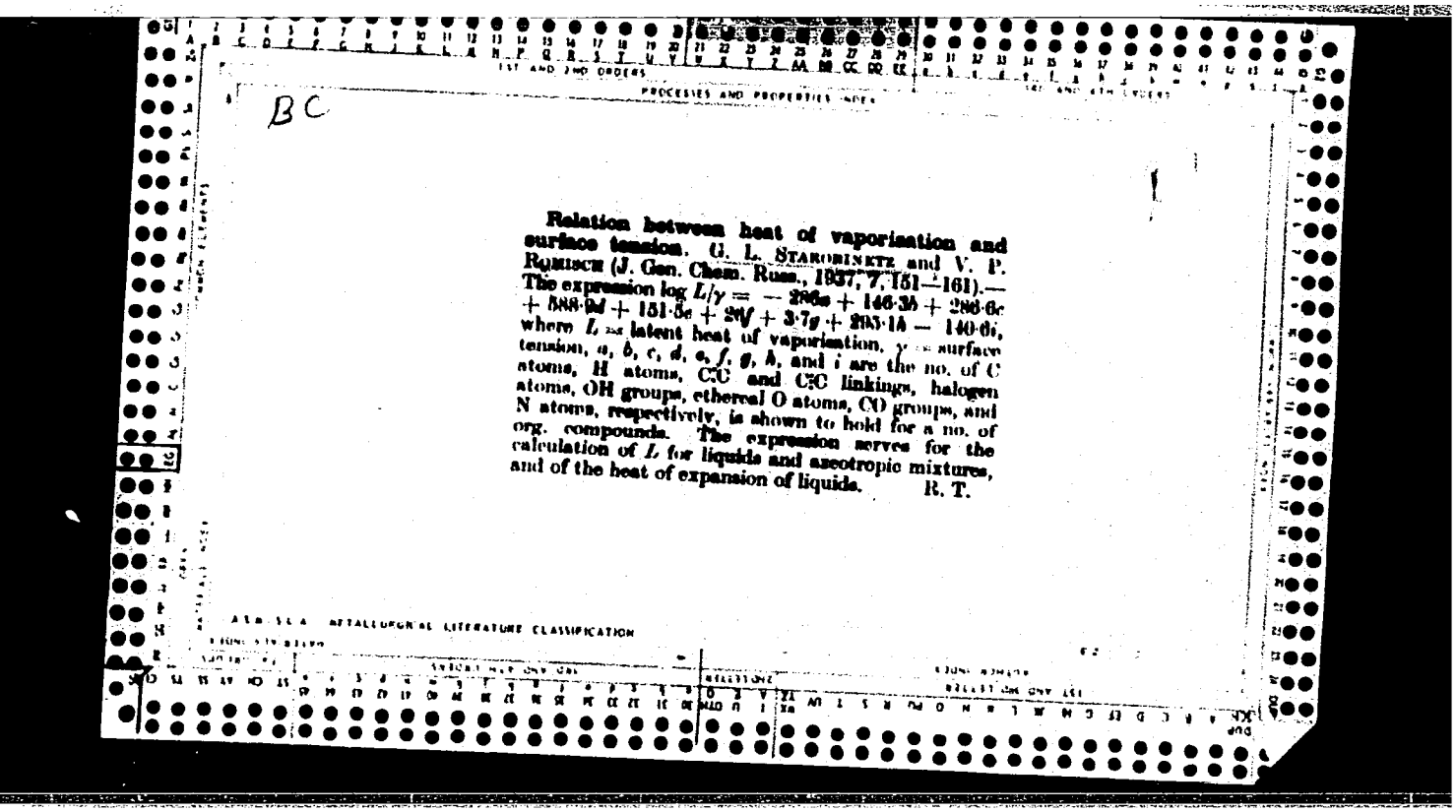
OTHER: 000

Card 2/2

GILIN, I.F.; STARCHENETS, G.L.

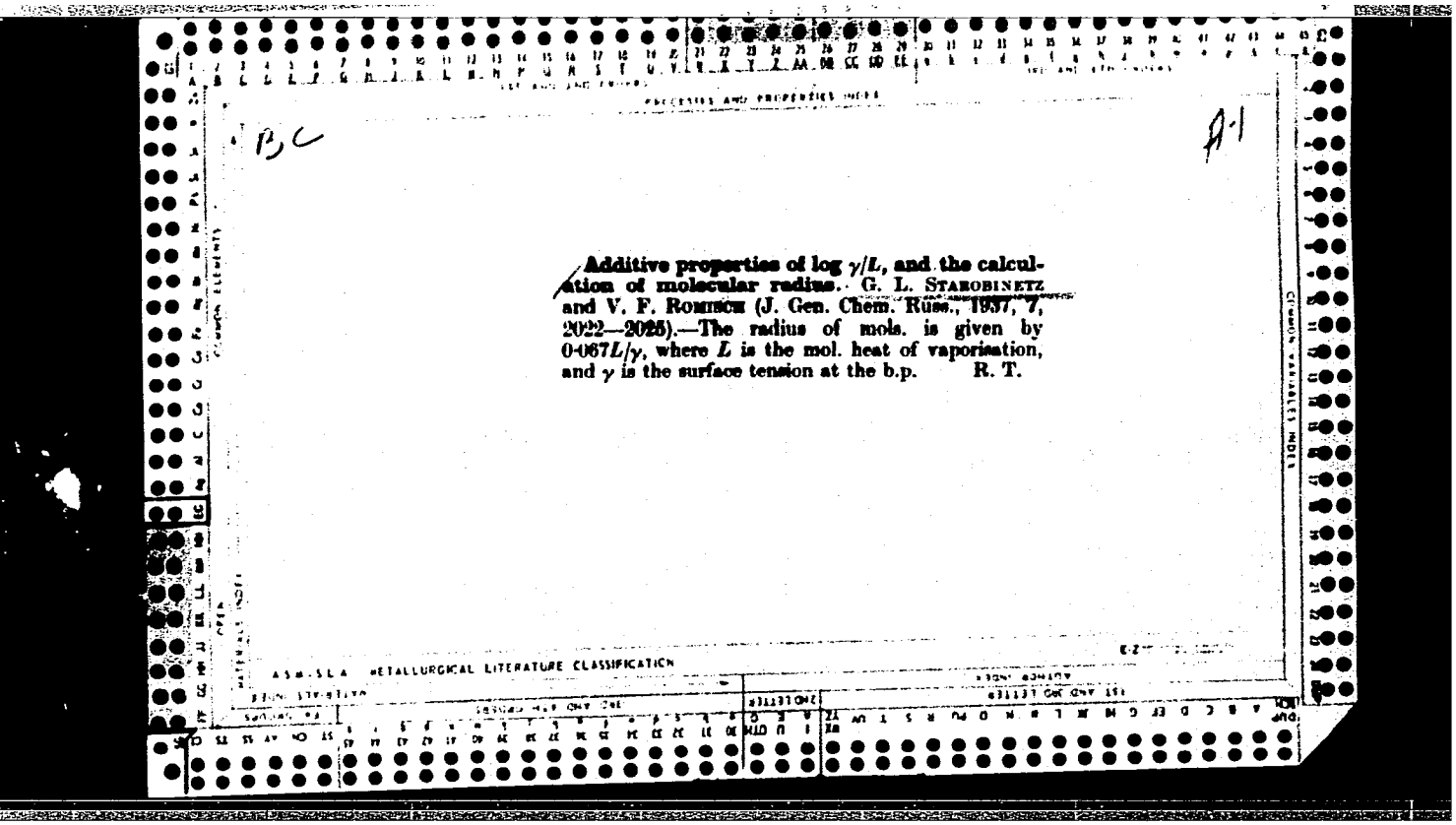
Anion exchange of fatty acids of normal structure. Dokl. AN BSSR 8 no.12:799-801 D '64. (MIRA 18:4)

1. Institut obshchey i neorganicheskoy khimii AN BSSR.

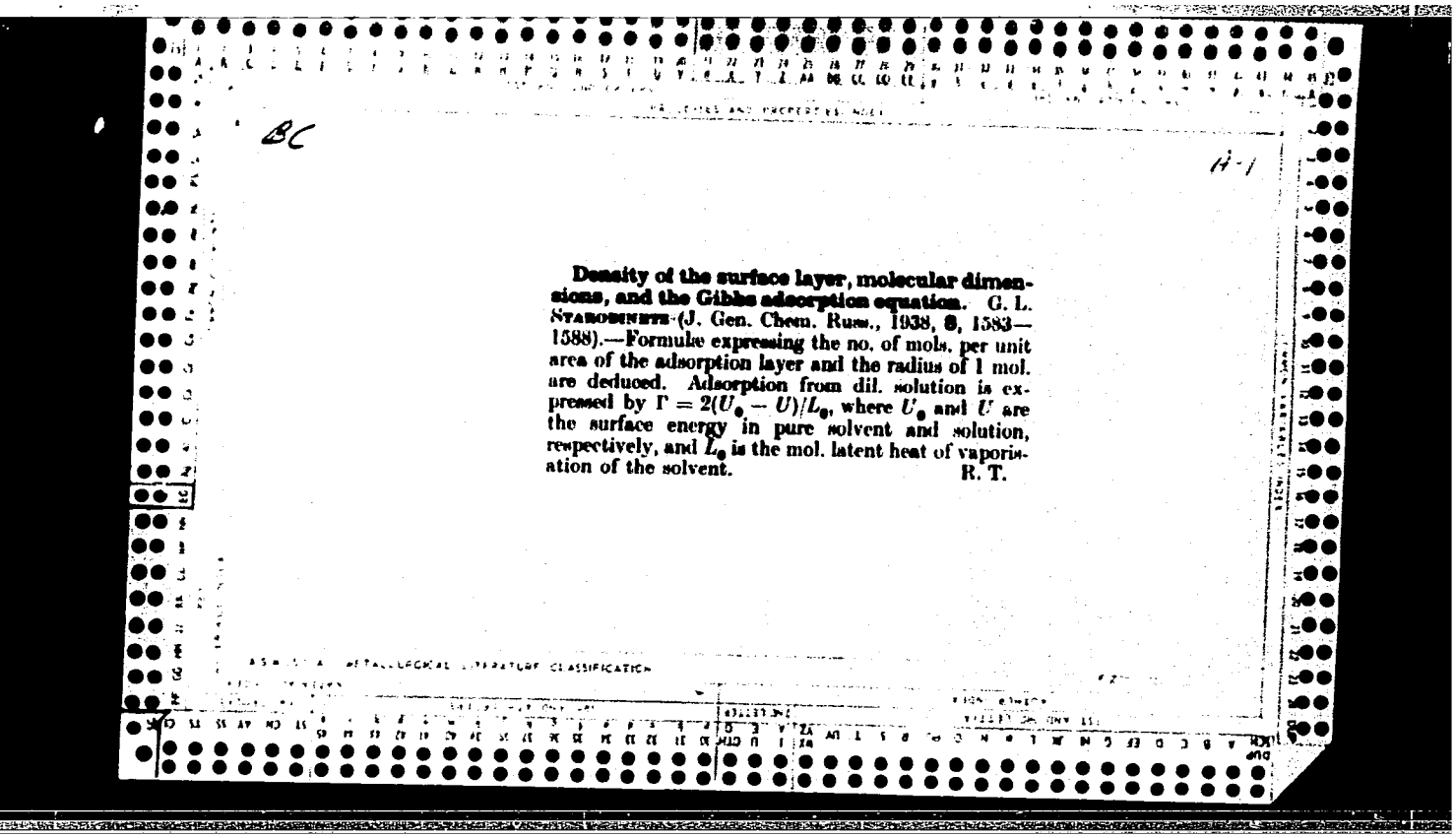


BC

Relation between heat of vaporisation and surface tension. G. L. STAROBINETZ and V. P. ROMISCH (*J. Gen. Chem. Russ.*, 1937, **7**, 151—161).—The expression $\log L/\gamma = -286a + 146{\cdot}3b + 286{\cdot}6c + 588{\cdot}9d + 151{\cdot}5e + 2{\cdot}9f + 3{\cdot}7g + 285{\cdot}1h - 140{\cdot}6i$, where L = latent heat of vaporisation, γ = surface tension, a, b, c, d, e, f, g, h, and i are the no. of C atoms, H atoms, C:C and C:C linkings, halogen atoms, OH groups, ethereal O atoms, CO groups, and N atoms, respectively, is shown to hold for a no. of org. compounds. The expression serves for the calculation of L for liquids and azeotropic mixtures, and of the heat of expansion of liquids. R. T.



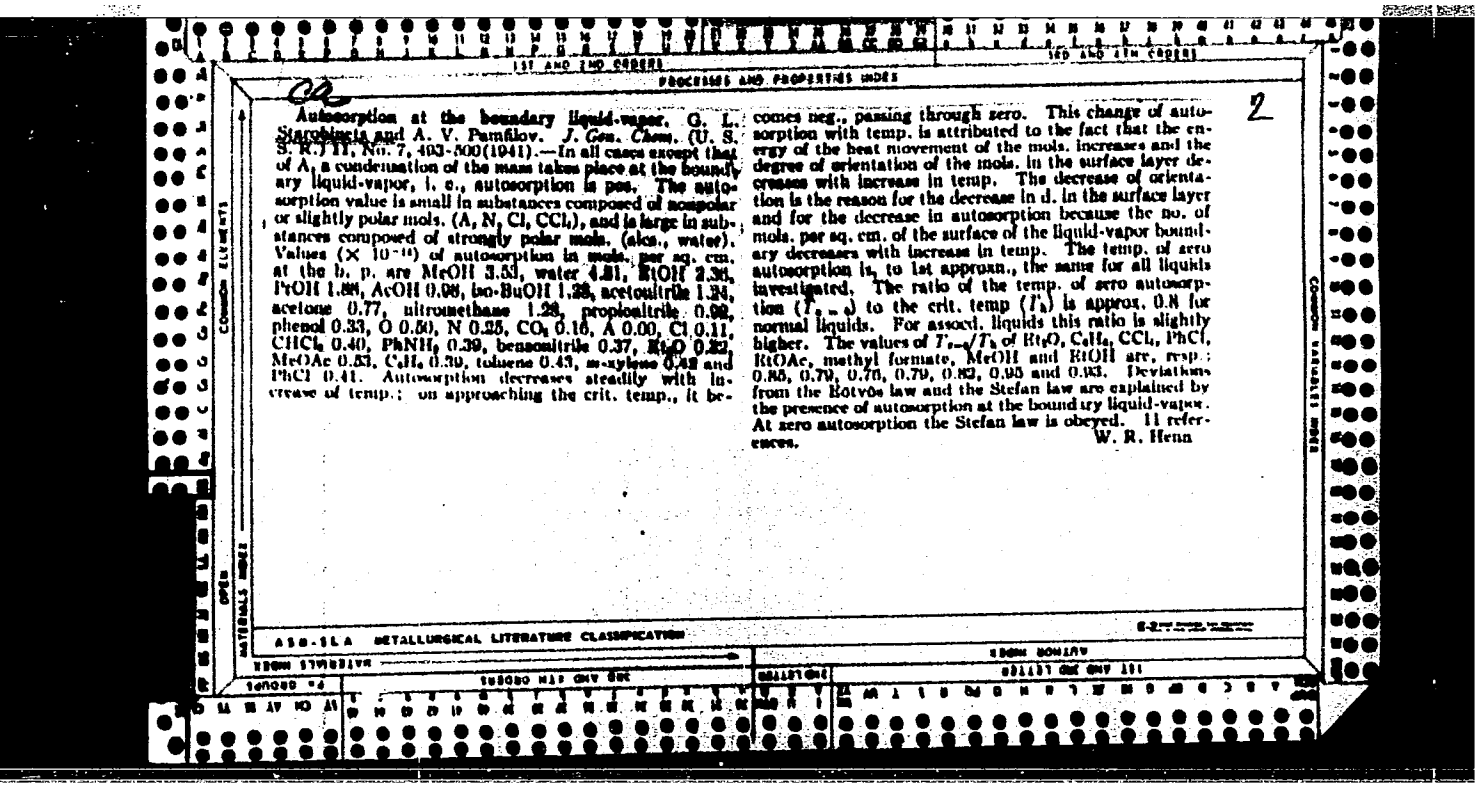
Additive properties of log γ/L, and the calculation of molecular radius. G. L. STAROBINETZ and V. F. ROMNICH (J. Gen. Chem. Russ., 1937, 7, 2022—2025).—The radius of mols. is given by $0{\cdot}067L/\gamma$, where L is the mol. heat of vaporisation, and γ is the surface tension at the b.p. R. T.



BC

H-1

Density of the surface layer, molecular dimensions, and the Gibbs adsorption equation. G. L. STAROBINETS (J. Gen. Chem. Russ., 1938, **8**, 1583—1588).—Formulæ expressing the no. of mols. per unit area of the adsorption layer and the radius of 1 mol. are deduced. Adsorption from dil. solution is expressed by $\Gamma = 2(U_0 - U)/L_0$, where U_0 and U are the surface energy in pure solvent and solution, respectively, and L_0 is the mol. latent heat of vaporisation of the solvent. R. T.



1ST AND 2ND CARDS

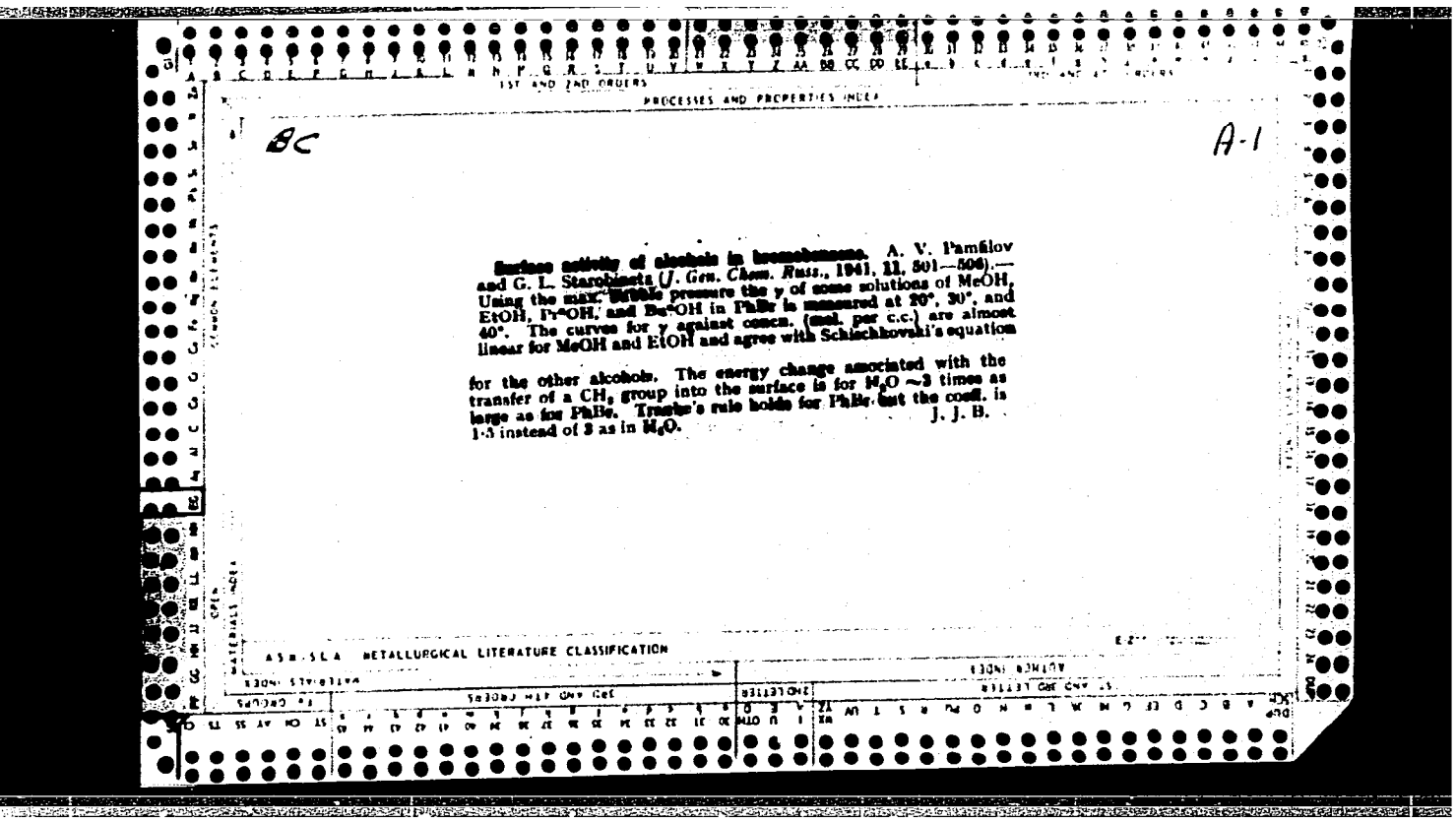
PROCESSES AND PROPERTIES INDEX

2

Autosorption at the boundary liquid-vapor. G. L. Starobinets and A. V. Pamfilov. *J. Gen. Chem.* (U. S. S. R.) 11, No. 7, 493-500(1941).—In all cases except that of A, a condensation of the mass takes place at the boundary liquid-vapor, i. e., autosorption is pos. The autosorption value is small in substances composed of nonpolar or slightly polar mols. (A, N, Cl, CCl_4), and is large in substances composed of strongly polar mols. (alcs., water). Values ($\times 10^{-10}$) of autosorption in mols. per sq. cm. at the b. p. are MeOH 3.53, water 4.81, EtOH 2.36, PrOH 1.88, AcOH 0.98, iso-BuOH 1.28, acetonitrile 1.34, acetone 0.77, nitromethane 1.28, propionitrile 0.92, phenol 0.33, O 0.50, N 0.25, CO_2 0.16, A 0.00, Cl 0.11, $CHCl_3$ 0.40, $PhNH_2$ 0.39, benzonitrile 0.37, Et_2O 0.32, MeOAc 0.53, C_6H_6 0.30, toluene 0.43, *m*-xylene 0.42 and PhCl 0.41. Autosorption decreases steadily with increase of temp.; on approaching the crit. temp., it becomes neg., passing through zero. This change of autosorption with temp. is attributed to the fact that the energy of the heat movement of the mols. increases and the degree of orientation of the mols. in the surface layer decreases with increase in temp. The decrease of orientation is the reason for the decrease in d. in the surface layer and for the decrease in autosorption because the no. of mols. per sq. cm. of the surface of the liquid-vapor boundary decreases with increase in temp. The temp. of zero autosorption is, to 1st approxn., the same for all liquids investigated. The ratio of the temp. of zero autosorption (T_0) to the crit. temp (T_k) is approx. 0.8 for normal liquids. For associd. liquids this ratio is slightly higher. The values of T_0/T_k of Et_2O, C_6H_6, CCl_4, PhCl, EtOAc, methyl formate, MeOH and EtOH are, resp.: 0.85, 0.79, 0.76, 0.79, 0.82, 0.95 and 0.93. Deviations from the Eötvös law and the Stefan law are explained by the presence of autosorption at the boundary liquid-vapor. At zero autosorption the Stefan law is obeyed. 11 references.

W. R. Henn

ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION



BC

A-1

Surface activity of alcohols in benzobenzene. A. V. Pamfilov and G. L. Starobinets (*J. Gen. Chem. Russ.*, 1941, 11, 501—506).—Using the max. bubble pressure the γ of some solutions of MeOH, EtOH, Pr$^{\alpha}$OH, and Bu$^{\alpha}$OH in PhBr is measured at 20°, 30°, and 40°. The curves for γ against concn. (mol. per c.c.) are almost linear for MeOH and EtOH and agree with Schischkovski's equation for the other alcohols. The energy change associated with the transfer of a CH_2 group into the surface is for H_2O ~3 times as large as for PhBr. Traube's rule holds for PhBr but the coeff. is 1·5 instead of 3 as in H_2O. J. J. B.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

STAFORINETS G. L.

21/49T6

USSR/Chemistry - Fatty Acids, Absorption Oct 49
Chemistry - Diphenylamine

"Adsorptive Layers in Nonaqueous Systems: III, Aliphatic Acids on the Diphenylamine-Air Boundary," G. L. Starobinets, A. V. Pamfilov, G. G. Devyatykh, G. A. Lazerko, Belorussian U, Inst Chem, Minsk, 5½ pp

"Zhur Fiz Khimii" No 10

Measures surface tension of solutions of propionic, butyric, isovaleric, isocaproic and oleic acids in diphenylamine in the neighborhood of its MP. Determines depression of FP of solutions studied, and calculates thermodynamic activity of its components. Calculates adsorption of aliphatic acids on [illegible] 21/49T6

USSR/Chemistry - Fatty Acids, Absorption Oct 48
(Contd)

diphenylamine-air boundary from curves $\Delta\sigma$-- a_2 using Gibbs' equation. Calculates constants of saturated adsorption layers. Submitted 20 Oct 47.

21/49T6

IC

STARABINETS, G. L.

G. G. Deviatykh, A. V. Pamfilov, G. L. Starabinets, Adsorption layers in anhydrous systems. II Alcohols on the boundary diphenylamine-air. P. 1072.

The surface tensions of solutions of ethyl, isopropyl, butyl, isobutyl, isoamyl, octadecyl and benzyl alcohols and cyclohexanone in diphenylamine over a wide range of concentrations from N_2 = 0 to N_2 = 0.9 at temperature 60°C have been measured. The freezing point lowerings for these systems have been determined and from these data the thermodynamic activity of the solution has been estimated.

The A. A. Zhdanov Industrial Institute
Gorki
September 17, 1947

SO: Journal of Physical Chemistry (USSR) 22, No. 9, 1948

STAROBINETS, G. L.

Mbr., Industrial Inst. im. A. A. Zhdanov, Gor'kiy, -c1948-. Mbr., Inst. Chem., Belorussian Univ., Minsk, -1947-. "Absorption Layers in Nonaqueous Systems: II. Alcoholds between Diphenylamine and Air," Zhur. Fiz. Khim., 22, No. 9, 1948; "Absorptive Layers in Nonaqueous Systems: III. Aliphatic Acids on the Diphenylamine-Air Boundary," ibid., No. 10, 1948.

STAROBINETZ, G. L.

G. L. Starobinetz, A. V. Pamfilov, G. G. Deviatykh, and G. A. Lazerko, Adsorption layers in anhydrous systems. III. Fatty acids on the surface diphenyl-amine-air. Pp. 1249-5.

The surface tension of solutions of propionic, butyric, isovaleric, isocaproic, and oleic acids in diphenyl amine were measured near the melting temperature of diphenyl amine. The lowerings of the freezing point of the solutions were determined and the thermodynamic activities of their components were calculated.

Byelorussian University
Institute of Chemistry, Minsk
October 20, 1947.

SO: Journal of Physical Chemistry (USSR) 22, 10, 1948.

2

Solubility of diphenylamine in water. G. L. Starobinets and K. S. Fridman. *Zhur. Obshchei Khim.* (J. Gen. Chem.) **20**, 219–20(1950).—By interferometric detns., the soly. at 10, 15, 20, 25, and 30°, is 1.06, 1.35, 1.75, 2.11, and 2.61×10^{-4} moles/liter. The exptl. data fit the empirical formula $\log c = 1.5786 - (1571/T)$. N. T.

CA

2

Adsorption layers and dielectric polarization in the system *p*-dichlorobenzene–ethyl alcohol. G. L. Starobinets and K. S. Starobinets (Lenin Univ., Minsk). *Zhur. Fiz. Khim.* 29, 783–8(1955); cf. following abstr.—In order to elucidate both mol. assocn. and adsorption, measurements of surface tension, dielec. const., and d. were made at 50° with a complete series of solns. of EtOH in *p*-dichlorobenzene. The activity a_1 of the solvent is calcd. from the relation: $\log a_1 = -0.0[illegible]\theta - 0.0[illegible]\theta^2$, where θ is the lowering of the m.p. of the soln. The adsorption Γ_2 of EtOH is obtained by Gibbs' equation. Empirical and calcd. values are given in tables. The max. value of Γ_2 (mol./sq. cm.) at the soln.–air interface is 12.4×10^{-10}, thus twice the value of Γ_2 (6.45×10^{-10}) in EtOH–H_2O solns. at 20°. The polarization P_2 (cc.) passes through a max. (74.3) exceeding the value for pure EtOH (52.8). The rising branch of the P_2–N_2 curve (N_2 = mole fraction of EtOH) is due to the formation of complexes the square of the dipole moment of which is greater than the sum of the squares of the dipole moments of their constituents. In more concd. solns., antiparallel alignment of the dipoles of these complexes prevails and P_2 decreases. It is thus likely that at the max. for $N_2 = 0.40$, the mols. of alc. or their complexes have the highest dipole moment. Moreover, the Γ_2–N_2 curve also presents a max. at the same value of $N_2 = 0.40$. Thus the same complexes with max. dipole moment present the highest adsorption. The assocn. of polar surface-active mols. in a solvent without dipole moment gives way to oriented adsorption layers differing in structure from those obtained in systems where solvation predominates. Michel Boudart

CA

2

Adsorption layers and dielectric polarization in nonaqueous systems: aliphatic alcohols in *p*-dichlorobenzene. G. L. Starobinets and K. S. Starobinets (Lenin Univ., Minsk). *Zhur. Fiz. Khim.* **25**, 750-67(1951); cf. preceding abstr.—Surface tension, dielec. const., and d. of solns. of various alcs. in *p*-dichlorobenzene were detd. at 55°. The alcs. used were propyl (I), isopropyl (II), isobutyl (III), isoamyl (IV), heptyl (V), and octadecyl (VI). Data are obtained between $N_1 = 0$ and $N_1 = 1$ for all binary solns. except for VI (up to $N_1 = 0.3$). The activity of the components, the Gibbs adsorption Γ at the soln.-air interface and the polarization P of the solns. and solutes are calcd. Exptl. and calcd. values are given in 14 tables. All systems have a pos. deviation from Raoult's law which is stronger for the short-chain alcs. No appreciable solvation takes place. The dipole moment μ (in D.) of the various alcs. is calcd. by extrapolation (Hedestrand, *C.A.* **23**, 3009): 1.68 (I), 1.73 (II), 1.65 (III), 1.64 (IV), 1.72 (VI). For EtOH, $\mu = 1.66$. These values of μ coincide with the values obtained in the gas phase. The adsorption passes through a max. which is very pronounced for EtOH, less important for IV and is absent in the case of V and VI. The max. values of the adsorption $\Gamma_m \times 10^{10}$ mol./sq. cm. are 9.7, 10.0, 5.9, and 4.4 for I, II, III, and IV, resp. Thus, as in the case of EtOH, surface-active mol. complexes are formed. Indeed, when a max. is present on the Γ curve, it is also found on the P curve: max. values of P in cc. are: $P_m = 80.5, 81.0, 85.0, 90.5$ for I, II, III, and IV, resp. No max. in P is observed for V and VI. In the series EtOH, I, II, III, IV, the ratio $(\Gamma_m - \Gamma_0)/(P_m - P_0)$, where the subscript 0 refers to the pure alc., is approx. const.: 0.24, 0.28, 0.30, 0.26, 0.32, resp. These findings can be explained as in the case of EtOH.

Michel Boudart

CA

General & Physical Chemistry-2

47-5b

Adsorption layers and dielectric polarization of solutions of aliphatic alcohols in benzene. G. L. Starobinets, K. S. Starobinets and L. A. Ryabikova (Byelorussian State Univ., Minsk). *Zhur. fiz. Khim.* 25, 1180-97(1951).—Surface tensions σ, densities d, and dielec. consts. ϵ, were measured at 25° over the whole mole-fraction (N) range from 0 to 1, for binary solns. of MeOH, EtOH, PrOH, and BuOH, in C_6H_6. From the measured σ, the amts. Γ_2 of the alc. in the adsorbed surface layer were calcd. by $\Gamma_2 = (N_2 a_1/N_1 RT)(d\sigma/da_1)$, where a = activity, and the subscripts 1 and 2 refer to C_6H_6 and the alc., resp. By applying to the measurements of ϵ Kirkwood's (*C.A.* **33**, 9064[1]) equation which, in this instance, is of the form $[(\epsilon - 1)(2\epsilon + 1)/9\epsilon][(N_1M_1 + N_2M_2)/d] = N_1 P_1 + N_2 P_2$ [where the polarization of the alc. $P_2 = P_{\infty} + P_{at} + (4/3)\pi N \mu^2 g/3kT$], the correlations parameters g were calcd. and plotted as a function of N_2, along with curves of a_2 as a function of N_2. All $a_2(N_2)$ curves show a continuous bend-over to a more nearly horizontal portion with a slow slope relative to the axis of abscissas. At about the same N_2 at which a_2 bends over, the curve of g changes its slope, going over into a rectilinear portion. The portions of the curves below the bend-over are taken to correspond to the low-concn. range where the usual chain structure of the liquid alc. is disrupted by the solvent; along the more nearly horizontal branch, the no. of mol. groups of the alc. changes only very slowly, and the main change is that of the dimensions of the groups. In MeOH the structure is particularly pronounced and is disrupted only on addn. of 45 mol. % C_6H_6; with the higher alcs., this disruption of the structure occurs at lower concns. of C_6H_6. No minimum appears on the $g(N_2)$ curves, at least not above $N_2 = 0.1$; this indicates that the assocn. is of the same nature as in the pure alcs., i.e. in the form of mol. groups with parallel dipoles. Despite the very little and approx. const. (about 5 dynes/cm.) difference of σ of the pure components the max. Γ_2 at the soln./air boundary varies from 11.8×10^{-10} for MeOH to 2.6×10^{-10} mole/sq. cm. for BuOH. This trend parallels the tendency, decreasing from MeOH to BuOH, to layering into 2 phases, which parallels the trend of the slope of the nearly horizontal portion of the $a_2(N_2)$ curve, which increases from MeOH to BuOH. High Γ_2, consequently, means high tendency to formation of mol. groups. In the expression for surface activity $G = (\partial\sigma/\partial N_2)/(\partial a_2/\partial N_2)$, the numerator varies very little for the different alcs., whereas the denominator as a function of N_2 passes through a min. at the N_2 at which Γ_2 is at its max., and Γ_2 is greater, the deeper is the min. of $\partial a_2/\partial N_2$. Consequently, in systems in which assocn. predominates overwhelmingly over solvation, Γ_2 can be very high even if the σ of the components differ very little. The max. Γ_2 for EtOH in the temp. range 10–78°, increases linearly with $1/T$, which parallels the analogous temp. dependence of g. This means that with rising temp., max. adsorption decreases as the structure is increasingly disrupted. The Γ_2 of EtOH at 46°, and of BuOH at 25°, are approx. equal ($\sim 3 \times 10^{-10}$), which means that the structure is preserved to about the same degree at these 2 different temps.

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Rubber Abstracts
March 1954
Vulcanised
Natural Rubber

1173. Distribution of components of binary solution between high polymer and the solution phases. G. L. STAROBINETS and V. S. KOMAROV. *Doklady Akad. Nauk S.S.S.R.*, 1952, 86, 771–4; *Battelle Tech. Rev.*, 1953, 2, abs. 1308.). Various vulcanised rubbers were used as the high polymer phase and normal alcohols in benzene as the homologous solution phase. Distribution in the entire region of composition variation of the binary mixtures at 20° C. was studied. 63-1165

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USSR

3008. Kinetics of swelling of natural rubber in binary mixtures of saturated vapours. G. L. STAROBINETS and I. V. LUBYANITSKII. *Uchenye Zapiski Belorussk. Univ.*, 1953, No. 14, 64-71; *Referat. Zhur., Khim.*, 1954, No. 28641; *Chem. Abs.*, 1955, 49, 4319. The capacitance-weight method outlined is based on determining, in the course of swelling, the changes of the capacitance of a condenser of which the dielectric is the studied liquid mixture. The ratio between the quantity of liquid taken and the weight of rubber is such that the changes in capacitance do not exceed the limits of the straight line section of a curve for the relation between capacitance and composition of the binary mixture. The swelling of rubber in the saturated vapours of mixtures of benzene with ethyl and with butyl alcohol is studied. 64461

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