

YUGOSLAVIA

OLUJIC, M., B. MARKOVIC, D. MARINKOVIC, M. ILIC, and D. MILETIC /affiliations not given/.

"Clinical Alterations and the Spread of Str. Agalactiae in the Udder of the Cow on Large Livestock Farms in the Vicinity of Belgrade."

Belgrade, Veterinarski Glasnik, Vol 17, No 6, 1963, pp 511-516.

Abstract: /Authors' English summary modified/ The authors examined a total of 2340 cows. Clinical alterations in the udder (atrophy and induration) were most common in Red Danish cows (57.4 percent), less common in Siementhal cows (49.1 percent), and least common in Friesian cows (26.1 percent). Str. agalactiae was isolated in 28.1 percent of the Friesian cows, 9 percent of Red Danish cows, and 7.4 percent of Siementhal cows. Yugoslav references.

1/1

SIMIC, M.; CIRKOVIC, D.; MARINKOVIC, D.; SLJIVIC, V.

Incorporation of Na-formiates-C into bases of desoxyribonucleinic acid and ribonucleinic acid of the spleen cells in vitro after primary antigenic stimulation. Bul sc Youg 7 no.1/2:14 F-Ap '62.

1. Institut "B. Kidric," Vinca, Beograd.

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YUGOSLAVIA / Plant Diseases. Forest Trees. O

Abs Jour: Ref Zhur-Biol., No 13, 1958, 58851.

Author : Marinkovic, Pr.; Marinkovic, B.

Inst : Not given.

Title : The Effect of Rot on the Quality of Wood in Brush Plantings of the Scrub Oak in Srem.

Orig Pub: Shumarstvo, 1957, 10, Nos 3-4, 168-178.

Abstract: The effect of tree-destroying fungi on the quality of lumber was investigated. The clear loss of wood pulp constituted 1.74% (by volume, at the expense of the kerf). Among discovered species, the most widely distributed and most energetic destroyers of wood pulp are Polyporus sulphureus and P. dryophilus. It is recommended to discount the role played by the tree-destroying fungi at the determination of tree-felling rotation, taking it into

Card 1/2

MARINKOVIC, B.

Is it better to afforest the Karst areas with isolated or grouped Aleppo pines and cypresses? p. 101.

(GLASNIK, Vol. 80, No. 3/4, Mar./Apr. 1956

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

MARINKOVIC, B.

Is the time for felling trees in the Mediterranean area of Dalmatia correctly planned? p.308. SUMARSKI LIST. Zagreb. Vol. 79, no. 9/10, Sept./Oct. 1955.

SOURCE: East European Accessions List (EAL), Library of Congress Vol. 5, No. 6, June 1956

MARINKOVIC, B.

Contribution to the knowledge of the plant Opuntia ficus indica Mill. p. 42.
SUMARSKI LIST, Zagreb, Vol. 79, no. 1/2, Jan./Feb. 1955.

SO: Monthly List of East European Accessions, (SEAL), LC, Vol. 4, no. 10, Oct. 1955,
Uncl.

MARINKOVIC, B.

"The use of wood in shipbuilding." p. 1. (Drvna Industrija. Vol. 4, no. 7/8, July/August, 1953. Zagreb)

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

WERNER, D.

"Problem of the deterioration of hair socks (*Q.terens alex L.*) in Dalmatia." p. 412
(*SRPACNE LIT*, Vol. 76, no. 1/11, Oct./Nov. 1953, Zagreb, Yugoslavia)

SI: Monthly List of East European Accessions, Vol. 3, #3, Library of Congress
August, 1953, Incl.

MARINKOVIC, B.

"Desulfurization of cast iron."

Kemija U Industriji, Zagreb, Vol 3, No 1, Jan 1954, p. 32

SO: Eastern European Accessions List, Vol 3, No 10, Oct 1954, Lib. of Congress

KOVACEVIC, Zoran; MARINKOV, Strahinja

5-hydroxytryptamine (serotonin) and clot retraction. Med. pregl.
17 no.7:339-345 '64

1. Institut za medicinska istrazivanja u Novom Sadu (Direktor:
Prof. dr. Strahinja Marinkov).

YUGOSLAVIA/Human and Animal Physiology. Blood

T-4

Abs Jour : Ref Zhur - Biol., No 14, 1958, No 65148

Author : Marinkov S., Kapamadzhiya V.

Inst

Title : The Serum Factor Associated with Retraction of the Blood Clot. Its Nature and Mechanism of Formation.

Orig Pub : Acta med. jugosl., 1956, 10, No 3, 273-279

Abstract : The Serum retraction factor is absent in stabilized citrated plasma containing thrombocytes. Retraction activity appears when CaCl_2 is added to it. If prothrombin is removed from the plasma by adsorption on $\text{Al}(\text{OH})_3$, then the addition of CaCl_2 no longer restores retraction activity. However, neither prothrombin or thrombin possesses retraction activity. Probably in the activation of prothrombin one of the components necessary for retraction is formed, the so-called serum retraction factor.--A.T. Platonova

Card : 1/1

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YUGOSLAVIA/Human and Animal Physiology - Blood. Blood Coagulation. T

Abs Jour : Ref Zhur Biol., No 3, 1959, 12676

Author : Marinkov, S., Kostich, D., Kapamatsija, B.

Inst : ~~.....~~

Title : Anticoagulatory Action of Heparin and the Blood Platelets

Orig Pub : Med. pregled, 1956, 9, No 4, 221-224

Abstract : Heparin (I) manifested an inhibitory action on the coagulation factor in blood platelets (P). Coagulation of bovine plasma with the addition of solution I and CaCl_2 did not take place for 20 minutes. Addition to this mixture of P, which possess an anti-heparin action, curtailed the coagulation time to 2 minutes 15 seconds. Heparinized thromboplastin and thrombin were completely reactivated by the addition of suspension I. -- V.Ye. Pastorova

Card 1/1

- 47 -

MARENKOV, Strahinja, dr.

Determination of the protein fractions in urine and its significance for the evaluation of the blood protein changes. Srpski arh. celok. lek. 82 no.7-8:963-967 July-Aug 54.

1. Klinicki laboratorijum Vojne bolnice u Novom Sadu, nacelnik:
dr. Strahinja Marinkov.

(PROTEINS, in urine
determ., relation to blood protein changes)

(URINE
proteins, determ., relation to blood protein changes)

B.A. MARINKOV, S.

AIII-5

Mechanism of blood-clot retraction. S. Marinkov (Acta med. Scand., 1981, 6, 297-308).--In clot retraction, retractosyme first forms under the influence of Na⁺ plus two enzyme factors, T-factor in thrombocytes and S-factor present in plasma. The second phase of retraction occurs when retractosyme acts on fibrin.
S. S. B. Gilson.

MOLLOV, Stoil, inzh.; MARINKOV, Stefan, inzh.

Automation of the Plovdiv Northern Pumping Station. Khidrotskn
i melior 9 no.9:269-270 '64.

COUNTRY: : Bulgaria
CATEGORY :
ABS. JOUR. : RZKhim., No. 5 1960, No. 17523
AUTHOR :
INST. :
TITLE :
ORIG. PUB. :
ABSTRACT : 50-100 ml water, 3 ml of 1% AgNO₃ solution, and 1.0 gms (NH₄)₂S₂O₈, the resulting solution is refluxed for 30-45 min, cooled, 20 ml of conc H₂SO₄ are added, followed by an excess of 0.2 N Mohr salt solution, and the resulting solution is titrated with 0.1 N KMnO₄ (the total Cr content is determined). The Cr(3+) content is obtained by difference.
N. Turkevich
CARD: 2/2

COUNTRY : Bulgaria E-2
CATEGORY :
ANN. SER. : RZKhtn., No. 5 1960, No. 17423
AUTHOR : Mestudzhliyan, I., Marinkov, N., and Kozarev, Ko.
INST. : Not given
TITLE : The Precise Determination of Chromium in Chromium-Containing Electrolytes
CONF. PUB. : Leka Promishlenost, 3, No 5, 17-19 (1959)
ABSTRACT : 50 ml of sample are diluted with water to 1 liter (solution A) and 20 ml of the solution obtained are treated with about 250-300 ml water, heated to boiling with 20 ml conc H_2SO_4 , the resulting solution is treated with an excess of 0.2 N Mohr salt (the required amount of Mohr salt is determined graphically by the sp gr of the sample), and titrated with 0.1 N $KMnO_4$ solution (the content of $Cr(6+)$ is determined). A second 20-ml sample of solution A is treated with 10-12 ml conc H_2SO_4 .
CAPD: 1/2 104

MARINKOV, N.

Distr: 4E2c

5
1-MJC (JD)

/ Hard chroming. Khr. Kozarev, N. Marinkov, and N. Marinkov. Laha Prom. (Sofia) 8, No. 2, 22-4(1959).
 Increasing the concn. of CrO₃ did not increase the hardness. Foreign matter, different cations, and anions in the chromium bath did not significantly affect the hardness. Org. matter, mainly alkaloids of the morphine group: morphine, papaverine, codeine, opium, etc. increased the hardness. After varying the temp. and c.d., the optimum conditions were: CrO₃ 250, H₂SO₄ 2.5, Cr₂O₃ 8-10, and powd. opium 0.5 g./l., temp. 45-55°, and c.d. 25-60 amp./sq. dm. The plate hardness was 1500-1600 Vickers units, which decreased to 1000-1300 units, after 30-40 days aging at room temp. V. Himelblom

COUNTRY : Bulgaria H-12
CATEGORY : Chemical Technology--Chemical Products and Their
Applications--Electrochemical industries. Elec-
ABS. JOUR. : RZKhim., No. 21 1959, No. 75456

AUTHOR : Marinkov, N. D., Kozarev, Kh. N., and Mardirosov,
INST. : Not given
TITLE : Electrolytes for the Nickel Plating of Cast Iron
and Steel Articles

ORIG. PUB. : Leka Promishlenost, 7, No 12, 19-21 (1958)

ABSTRACT : A study of the effect of the addition of organic acids to nickel plating baths has shown that optimum results are obtained with a bath of composition (in gms/liter): $\text{NiSO}_4 \cdot 7\text{H}_2\text{O}$ 250, NaCl 10, H_3BO_3 10, Na_2SO_4 30, sulfanilic acid 0.5, pH 4-5, temperature 30-35°, D_c [cathodic current density] 2-3.5 amps/dm², rate of deposition of Ni 30-35 μ per hr. The deposits adhere well to the base metal and have a low porosity (about 1 pore per 1 cm²).

CARD: 1/1 * plating. Galvanic cells.
180

MARINKOV, N.; MARDIROSOV, N.; KOZAREV, KH.

TECNOLOGY

Periodical: LEKA PROMISHLENOST. Vol. 7, No. 9, 1958.

MARINKOV, N.; MARDIROSOV, N.; KOZAREV, KH. Glazenickel bath, MKM-11, p. 21.

Monthly List of East European Accession (EEAI), LC., Vol. 8, No. 2,
February 1959, Unclass.

MARINKOV, N.

Distr: 4E2c(1)

Preparation of 2-mercaptobenzothiazole (Kaptar). M. Vodenicherov, Izv. Dyakovska, N. Marinkov. Khim. i Ind. (Soha) 29, No. 2, 22-5 (1957). 2-mercaptobenzothiazole (I) can be prepd. from a large no. of raw materials. This paper limits itself to the synthesis of I from aniline (II), CS₂ (III), and S (IV). Powd. IV (163.3 g.) is dissolved in 407.3 g. III in an autoclave, 455.6 g. II added to the soln. which is uniformly heated so that at the end of 1 hr. the reaction mass attains a temp. of 200°, this temp. maintained 110-20 min., the contents transferred to an agitator, the products dissolved in a quantity of cold 2% NaOH soln. equiv. to I, the soln. filtered, and I pptd. with 10% H₂SO₄ in such quantity that the pH of the resulting medium is about 4. The ppt. is in the form of a large, white, flaky sediment. After 4-6 hrs. settling, the ppt. is filtered off, washed with cold distd. H₂O, and dried at 70°. A yield of 86-7% is claimed with a resinous residue of 3.5-8%, and about 10% unreacted products. C.P. grade I m. 179°, tech. grade I m. 170-2°. I obtained by the above method 176°. I is used as an accelerator for vulcanization of rubber.

5 May

16/1

JP

MARINKOV, L.G.; ZUPANCIC, M.T.

Circuits of the level 1920s. Bul Inst Nucl 13 no.2:8-16 J1
'62.

1. The Boris Kidrich Institute of Nuclear Sciences, Department
of Physics, Vinca.

MARINKOV, Lazar G.; MLADENOVIC, Milorad S.; ZUPANCIC, Mladen T.; STEPIC, Rista S.

Internal conversion spectrum of Pt-192 and Os-192. Bul Inst Nucl 10:
7-13 Mr '60. (EEAI 10:5)

1. Institute of Nuclear Sciences "Boris Kidrich" Laboratory of
Physics.
(Spectrum analysis) (Magnetism) (Platinum) (Osmium)

MARINKO, Ivan Leont'yevich; YEMEL'YANOV, A.N., red.

[Business accounting and profitability on state farms]
Khozaschet i rentabel'nost' v sovkhozakh. Moskva, univ.
1964. 269 p. (NIRA 181)

MARINKO, I.

Problems in strengthening business accounting on state farms.
Vop. ekon. no.9:60-67 S '62. (MIRA 15:9)
(State farms--Finance)

VASHENTSEVA, V.M.; VOLKOV, M.I.; ZHMIN, V.A.; ZHUKOV, F.G.; CHUBUK, I.F.;
KAPUSTIN, Ye.I.; KOZLOVA, N.G.; KORONKIN, V.V.; KUL'KOV, A.V.;
MARINKO, I.L.; MOLCHALOV, B.M.; ROMANOV, B.V.; FEDOROV, V.I.;
SHIRINSKIY, I.D.; GRINGAUZ, A., red.; SHLYK, M., tekhn. red.

[How to study the economics of socialism] Kak izuchat' politicheskuu ekonomiu sotsializma; posobie dlia rukovoditel' seminarov sistemy partinogo prosveshchenia. Moskva, Mosk. rabochii, 1961.
239 p. (MIRA 14:8)

1. Dom politicheskogo prosveshcheniya, Moscow.
(Economics—Study and teaching)

SKIPETROV, P.A.; SOKOLOVSKIY, T.Ya.; PERENKOV, A.P.; ROMANOV, B.V.;
FEDOROV, V.P.; MARINKO, I.L.; dotsent; AGANBEGYAN, A.G.;
YUZIRA, V.Yu., red.; YERMAKOV, M.S., tekhn.red.

[Increasing labor productivity is the main factor in expanding
agricultural production under the seven-year plan] Povyshenie
proizvoditel'nosti truda - glavnoe uslovie rosta sel'skokhoziaist-
vennogo proizvodstva v semiletke. Moskva, Izd-vo Mosk.univ., 1960.
134 p. (MIRA 14:1)

1. Moscow. Universitet.
(Agriculture--Labor productivity)

MARINKO, Ivan Leont'yevich; RABINOVICH, Vladimir Mikhaylovich

[Economic accountability and production costs on state farms]
Khoziaistvennyi raschet i sebestoimost' produktii v sovkhozakh.
Moskva, Sel'khozgis, 1960. 118 p. (MIRA 14:7)
(State farms—Accounting)

MARINKO, I.; RABINOVICH, V.

Regulating wages and bonuses on state farms. Vop. ekon. no. 6:
152-155 Je '59. (MIRA 12:9)
(State farms) (Wages)

MARINKO, Ivan Leont'yevich, kandidat ekonomicheskikh nauk; ZAYTSEV, V.P.,
redaktor; ATROSHCHENKO, L.Ye., tekhnicheskiy redaktor

[State farms and their role in effecting a sharp raise in agriculture]
Sovkhozy i ikh rol' v osushchestvlenii krutogo pod'ema sel'skogo
khoziaistva. Moskva, Izd-vo "Znanie," 1956. 31 p. (Vsesoiuznoe obshche-
stvo po rasprostraneniю politicheskikh i nauchnykh znaniy. Ser. 3,
Ekonomika sel'skogo khoziaistva. Vyp. 2, no.10) (MLRA 9:12)
(State farms)

MARINKO, I.

In every way possible strenthen business accounting on state farms. Sov. profsoiuzy 3 no.5:22-27 My '55. (MLRA 3:8)
(State farms--Accounting)

MARINKEVICH, P.T.

Criteria of reliability and their determination in driving motor vehicles under variable operating conditions. Avt.prom. 31 no.5: 1-4 My '65. (MIRA 18:5)

1. Ul'yanovskoye oblastnoye upravleniye avtomobil'nogo transporta.

MARINKEVICH, P., inzh.

Causes for an uneven breakdown of bodies and suspension
parts of the LiAZ-158 motorbus. Avt. transp. 41 no.6:49-51
Je '63. (MIRA 16:8)

WARINKOVICH, P., inzh.

Applying new TO-1 service regulations in the Ural Mountain region.
Avt. transp. 37 no.8:22-23 Ag '59. (MIRA 12:12)
(Ural Mountain region--Automobiles--Maintenance and repair)

Marinkevich, P.

MARINEVICH, P.

Current repair of cars operated under difficult conditions.
Avt.transp. 35 no.11:11 N '57. (MIRA 10:12)

1.Glavnyy inzhener avtoupavleniya kombinata "Kizelugol'."
(Automobiles--Repairing)

KORITSKIY, K.I.; Primalni uchastiye: SHISHKINA, R.M., ispolnyayushchaya
obyazannosti starshego nauchnogo sotrudnika; YAGUBOVA, Yu.G.;
MARININA, Yu.S., mladshiy nauchnyy sotrudnik

Core yarn, its structure and properties. Nauch.-issl.trudy
TSNIKHBI '60 [publ. '62]:25-55 (MIRA 18:2)

L 15689-63

ACCESSION NR: AR3003594

was 5 and 7 times. The final desiccation was at a temperature of 270-300° over course of 2 hr. until the moment of the disappearance of stickiness. The coating had the color of various tones of gold. For better adhesion of the lubricant with steel it was expedient to use as a sublayer a 3% aqueous solution of monosubstituted ammonium phosphate. The coating should be applied in a thin layer 1-2 times. I. Mikhaylova

DATE ACC: 12Jun63

SUB CODE: CH,MA

ENCL: 00

Card 2/2

L 15689-63 EPR/EPF(c)/EWP(q)/EWT(m)/BDS AFFTC/AS9 Fq-l/Ps-l/
Pr-l BW/WW/WH/K

ACCESSION NR: AR3003594

S/0081/63/000/008/0501/0501

SOURCE: RZh. Khimiya, Abs. 8487

73

AUTHOR: Marinina, V. T.

TITLE: Coatings which prevent the adhesion of a melt of glass to a mold

CITED SOURCE: Steklo. Byul. Gos. n.-1. in-ta stekla, no. 1 (114), 1962, 21-29

TOPIC TAGS: glass mold lubricant

TRANSLATION OF ABSTRACT: As a result of laboratory investigations, better types of suspensions were determined which have higher adhesion temperatures: aqueous silicon suspensions of type GKZh and 5L and aqueous suspensions of mono- and disubstituted ammonium phosphate with additions of colloidal graphite. Under manufacturing conditions, suspensions of 5L and disubstituted ammonium phosphate with additions of colloidal graphite were tried. The best results for a mold lubricant were shown by an aqueous silicon suspension of type 5L in 50% concentration with the addition of 1.5% aqueous colloidal graphite. Coating

Card 1/2

The influence of the...

S/190/61/003/005/013/014
B110/B230

(present in this examination). Contrary to the strength of metals, inorganic glasses etc., the strength of polymers is largely dependent on temperature (Fig. 4), particularly within and above the range of vitrification. With a rise of temperature, tensile strength decreases sharply. At 95°C, adhesive and cohesive strength are equal. There are 4 figures and 4 references: 3 Soviet-bloc and 1 non-Soviet-bloc. The reference to the English-language publication reads as follows: W. Weibull: A Statistical Theory of the Strength of Materials, Stockholm, 1939.

ASSOCIATION: Gosudarstvennyy institut stekla Moskva (State Institute of Glass, Moscow)

SUBMITTED: October 10, 1960

Card 3/6

22576

22510

S/190/61/003/005/013/014

B110/B230

The influence of the...

present work, the influence of the size factor (area of contact) and temperature upon the adhesion of polyvinyl butyral to glass was examined, because the influence of the size factor had not been taken into consideration up to this time. Its role in adhesion is, however, more important than in strength tests. As the results of measurement are widely spread, the mean value of 10 to 15 measurements was taken. Fig. 1 shows the characteristic distribution curve of the values of adhesive strength, where $q(\sigma)$ = function of distribution which enters into the equation $\Delta N = Nq(\sigma) \cdot \Delta\sigma$, ΔN being the number of tests yielding strength values within the range from σ to $\sigma + \Delta\sigma$, and N the total number of tests. Similar curves are obtained by tensile tests of solid bodies. Dependence of the adhesive strength on the nominal contact area S as shown in Fig. 2 is analogous to the Weibull formula for solid bodies expressed by the following law: $\sigma = C/S^{1/n}$. Since for the polymer tested $n = 2$, $\sigma = K/D$, where D = diameter of the contact area. When σ is expressed in kg/cm^2 and D in cm , the constant $K = 107$. The statistical character of adhesive strength is ensured by the augmentation of defects with an increase of the contact area. Like in the case of solids there is also a difference between the theoretical and technical strength

Card 2/6

22570

S/190/61/003/005/013/014
B110/B230

15.1000 1407,1436

AUTHORS: Bartenev, G. M., Marinina, V. T.

TITLE: The influence of the size factor and temperature upon the adhesive strength between polymers and glass

PERIODICAL: Vysokomolekulyarnyye soyedineniya, v. 3, no. 5, 1961, 783-786

TEXT: For testing the adhesion between two surfaces of different character there exist two mechanical methods: 1) pulling-off method which, like the tensile test, determines the pulling-off force b in kg/cm^2 . 2) The frequently applied method of layer separation measures the specific energy A in kg/cm and depends on the rate of separation as well as on other factors. Since, in the case of 2) a complex and non-uniform state of stress exists in the polymer film, numerous forces act in the crack, and part of the energy applied is consumed by mechanical losses, the authors believe method 1) to be more reliable. The pulling-off force determined by method 1) is called henceforward the adhesive strength of two materials, which depends only on the adhesion between the polymer and the solid body, and on the conditions of manufacture and testing. In the

Card 1/6

USSR/Chemical Technology - Chemical Products and Their Application. Silicates.
Glass. Ceramics. Binders, I-9

Abst Journal: Referat Zhur - Khimiya, No 19, 1956, 62236

Abstract: carbon dioxide somewhat better, in low vacuum ($4 \cdot 10^{-4}$ mm Hg) better than in argon and carbon dioxide but less than in air. Wetting takes place best in air which is due to active part of oxygen. The most important factor of good wetting, all other conditions being equal, is the presence of oxidic films of corresponding metals.

Card 2/2

MARININA, V. T.

USSR/Chemical Technology - Chemical Products and Their Application. Silicates.
Glass. Ceramics. Binders, I-9

Abst Journal: Referat Zhur - Khimiya, No 19, 1956, 62236

Author: Marinina, V. T.

Institution: None

Title: Wetting of Solid Surfaces by Fused Borate in Different Atmospheres

Original

Periodical: Tr. Vses. n.-i. in-ta stekla, 1956, No 36, 27-38

Abstract: The tested sample of borate melt is placed on a freshly cleaned surface of the solid and is held in the furnace for a definite length of time at the temperature of the experiment; after the given length of time the outer contact angle of wetting is measured. Experiments were conducted in an atmosphere of air, argon, carbon dioxide and in vacuum. As a result of the work it was ascertained that: wetting in different atmospheres depends on forces of interaction between atmosphere under study, melt and solid. In an atmosphere of argon solids are poorly wetted, in

Card 1/2

MARININA, V. T.

Marinina, V. T. - "Investigation of the Phenomenon of the Adhesion of Glass to the Surfaces of Solid Bodies." Acad Sci USSR. Inst of physical Chemistry. All-Union Sci Res Inst of Glass. Min Construction Materials Industry USSR. Moscow, 1956 (Dissertation for the Degree of Doctor in Chemical Sciences).

So: Knizhnaya Letopis', No. 10, 1956, pp 116-127

MARININA, V. T.

USSR/ Chemistry - Glass

Card 1/1 Pub. 104 - 4/12

Authors : Marinina, V. T.

Title : The investigation of the adhesion of glass fusion for forming processes on the RV machine

Periodical : Stek. i ker. 1, 9 - 11, Jan 1955

Abstract : The adhesion of glass fusion to metal molds during the forming process is described, and technical data is given on the chemical composition of glass fusions, glass-drop-temperature, and the grade and type of metals used. Tables.

Institution:

Submitted:

USSR/ Chemistry - Physico chemistry

Card 1/1 Pub. 104 - 4/11

Authors : Marinina, V. T.

Title : Adhesion intensity of melted glass to a solid body

Periodical : Stek. i ker. 4, 9-11, Apr 1954

Abstract : Several methods for the determination of the intensity of adhesion of melted glass to solid surfaces are presented. The methods are based on the determination of the forces necessary for the separation of the solid body from the glass (and vice versa) in the hot and cold states. The new methods make it possible to determine the adhesion point (temperature of adhesion), and to establish the optimum temperature range for the adhesion between the glass melt and the solid surface and also to find the specific adhesion force at this temperature range. Three USSR references (1935-1949). Drawings.

Institution:

Submitted:

MARININA, V. T.

3

4

Study of wetting and adhesion of fused silicates to solid surfaces. V. T. Marinina and O. K. Potvinkin. *Trudy Vsesoyuz. Nauch.-Issledovatel. Inst. Stekla* No. 33, 3-11 (1953); *Referat. Zhur., Khim.* 1953, No. 7259.—This study was carried out with fused silicate and borate glasses, enamel, and enamel base. The solid surfaces used were ceramic, Pt, and Cu. Wetting was detd. at 450-850° by measuring the contact angle. Best wetted were Pt and Cu. Enamel base and enamel wetted best, followed by borate glass, and finally by ordinary glass. The degree of wetting depended on the temp., compn. of the fused material, and the kind of solid surface. The ceramic surface was not wetted by glasses below 950°, while enamel and enamel base started wetting a ceramic surface at 750°. Pt was wetted by glass at 850-900° and by enamel base at 700°. Cu was wetted by glass starting at 850° and by enamel and enamel base at 650°. Cu and Pt had the best adhesion to fused silicates. The temp. of adhesion of ordinary glass to a ceramic surface was 700°, to Pt 650°, and to Cu 645°. The adhesion temp. of borate glass was 600°, 620°, and 615°, resp., while for enamel base it was 600°, 655°, and 600°. resp. M. H.

MARININA, V. T.

0 3
Adhesion temperature of glass to metal. V. T. Marinina (*Sleklo i Keramika*, 1952, 8, 8; *Glass Ind.*, 1954, 86, 78-79).—The method

of measurement is not exactly described. The temp. at which adhesion occurs increases with the oxidation resistance of the metal. The temp. of adhesion of a window glass and a borate glass to cast iron are given. J. A. SUGDEN.

Journal of Applied Chemistry
June 1954
Industrial Inorganic Chemistry

MF
11-10-54

MARININA, S. F.

Marinina, S. F. Estimation of the number of irregular L -functions of a quadratic field. Ukrain. Mat. Z. 8 (1956), 319-324. (Russian)

Let K be an imaginary quadratic field of class number h and discriminant $-d$. Suppose that

$$\epsilon > 0, \frac{5}{6} \leq \Delta < 1, -\infty < T < \infty, T_1 = |T| + \frac{\sqrt{5}}{2}$$

It is shown that there is a constant $c(\epsilon)$, depending only on ϵ , with the following property: if Q is the number of L -functions over K having at least one zero in the region $\Delta \leq \sigma \leq 1, |t - T| \leq \frac{1}{2}$, then

$$Q < c(\epsilon) (T_1)^{3/2} d^{2/3} \delta^{(1+\epsilon-\Delta)/(2\Delta-1)}$$

The proof depends on weighted character sums, which were used earlier by K. A. Rodosski [Ukrain. Mat. J. 3 (1951), 399-403; MR 15, 202] and I. P. Kubilyus [Mat. Sb. N.S. 31(73) (1952), 507-542; MR 14, 847].

W. J. LeVeque (Ann Arbor, Mich.)

Emil
MT

1-FW

MARININA, N.

New projects, uniform prices, better collectives. Obshchestv.
pit. no.12:43-44 D '61. (MIRA 16:12)

MARININA, L. S.; GORELOV, Yu. K.

Third All-Union Conference on the Zoogeography of Land. Izv. AN
Turk. SSSR. Ser. biol. nauk no. 6:91-92 '63. (MIRA 17:5)

1. Institut zoologii i parazitologii AN Turkmenskoy SSSR.

NURGEL'DYEV, O.N.; BABAYEV, Kh.; MARININA, L.S.

Notes on the fauna and ecology of animals in the takyr-ridge
complex of the Karakum. Izv. AN Turk. SSR. Ser. biol. nauk no.2:
51-56 '62. (MIRA 17:4)

1. Institut zoologii i parazitologii AN Turkmenskoy SSR.

TEREKHOVA, Yu.P.; MARININA, K.M.; SUKHORUKOVA, L.L.; CHERNOV, Yu.P.,
kand. fiz.-mat. nauk, otv. red.

[Programming methods for the "Minsk-1" computer] Metodika
programirovaniia na mashine "Minsk-1". Frunze, Ilim,
1965. 113 p. (MIRA 18:12)

ISHADOV, N., nauchnyy sotrudnik; MARININA, L., nauchnyy sotrudnik;
SHENKMAN, F., starshiy nauchnyy sotrudnik; LUPPOVA, A.N.
nauchnyy sotrudnik

Labor's friends and enemies in the desert. Tekh.mol. 29
no.10:24-25 '61. (MIRA 14:10)

1. Sektor mlekopitayushchikh AN Turkmenskoy SSR (for Ishadov,
Marinina). 2. Akademiya nauk Turkmenskoy SSR (for Shenkman,
Luppova).

(Kara Kum--Rodentia) (Turkmenistan--Fish culture)
(Turkmenistan--Termites)

MARININA, B T

Index Aeronauticus, Vol. 10, No. 8, August 1954
Translation Issued By A.C.S.I.I.

Transl.No.
& Country

649
OT/204
U.S.S.R.

The Temperature of Adhesion
of Glass to Ferrous Metals
Steklo i Keram., 2(8), 8-9,
1952

Author

B. T. Marinina

BT

Marinin, Z.
MARININ, Z.

Creative initiative. Stroi.mat. 3 no.10:37-39 0 '57. (MIRA 10:10)
(Bryansk--Asbestos cement)

MARININ, Z. (g. Voskresensk).

Sources of production achievements. Stroil. mat. 3 no.4:7-8 Ap '57.
(Voskresensk--Cement industries) (MLRA 10:6)

MARININ, Z.

Labor heroism. Stroi.mat. 3 no.3:8-10 Nr '57.
(Moscow--Brick industry)

(MIRA 10:4)

MARININ, Z.(g.Vol'sk)

Skillful kiln liners of Vol'sk. Stroim. 3 no.1:24-26 Ja '57.

(Vol'sk--Kilns, Rotary)

(MIRA 10:3)

ACC NR: AN7003744

SOURCE CODE: UR/9026/67/000/029/0003/0003

AUTHOR: Marinin, Yu. (Scientific commentator AP?)

ORG: none

TITLE: Why the Cape Kennedy tragedy?

SOURCE: Turkmenskaya iskra, no. 29, 3 Feb 67, p. 3, col. 3-7

TOPIC TAGS: space flight simulation, space hazard

ABSTRACT:

After describing various aspects of the US space program, the author writes that there apparently occurred a breakdown in the electrical system followed by the burning of the wires; then there was a sudden flash in the atmosphere of pure oxygen, and death. However, one should not expect an early finding of the cause, since it is a very complex problem. If it is only chance that saved the Mercury and Gemini spacecraft from fire, it will be necessary to abandon the use of an oxygen atmosphere in the Apollo spacecraft. This would necessitate the radical modification of the spacecraft, which would require, without any exaggeration, several years. It may turn out that the oxygen atmosphere was not at fault, in which case it will only be necessary to correct the defect.

SUB CODE: 22/ SUBM DATE: none/ ATD PRESS: 5112
Card 1/1 UDC: none

MARININ, Yu.

How rockets are made. NTO 5 no.5:60-61 My '63. (MIRA 16:7)

(Rockets (Aeronautics))

~~MARTIN, Yu.~~

Rocket fuel. NTO 5 no.3:60-61 Mr '63.

(MIRA 16:4)

1. Akademiya pedagogicheskikh nauk RSFSR.
(Rockets (Aeronautics)—Fuel)

MARININ, Ye.S., kapitan 1-go ranga; NIKOLAYEV, N.K., podpolkovnik

The Atlantic Fleet of the U.S.A. Mor. sbor. 49 no.11:82-88
N '65. (MIRA 18:12)

MARININ, Ye.S., kapitan 1-g σ ranga

The Pacific Fleet of the U.S.A. Mor. sbor. 4 σ no.9:78-83 3 '64.
(MIRA 18:7)

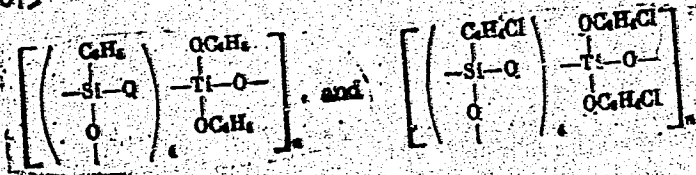
AVILOVA, T.P.; BYKOV, V.T.; GLUSHCHENKO, V. Yu.; MARININ, V.P.

Synthesis of polyzirconoörganosiloxane. Vysokom. soed. 8 no. 1:
11-13 Ja '66 (MIRA 19:1)

1. Dal'nevostochnyy gosudarstvennyy universitet. Submitted
February 3, 1965.

L 11524-66

ACC NR: AP6001875



The proposed structure was confirmed by IR spectroscopy. It was found that the chlorinated derivative has a slightly higher thermo-stability as compared with the initial polymer. Orig. art. has: 3 tables and 2 formulas.

SUB CODE: MIL/ SUBM DATE: 03Feb65/ ORIG REF: 003/ OTH REF: 001

A L 11524-66 EWT(m)/EWP(s)/T RM

ACC NR: AP6001875

SOURCE CODE: UR/0190/65/001/012/2168/2170

AUTHORS: ^{4/4/55} Avilova, T. P.; ^{4/4/55} Bykov, V. T.; ^{4/4/55} Marinin, V. F.; ^{4/4/55} Shapkin, N. P.ORG: Far-Eastern State University (Dal'nevostochnyy gosudarstvennyy universitet) ⁷⁷ ⁷⁶TITLE: Synthesis of chlorinated polytitaniumphenylsiloxane ^{74/55} ^B

SOURCE: Vysokomolekulyarnyye soyedineniya, v. 7, no. 12, 1965, 2168-2170

TOPIC TAGS: polymer, organometallic compound, organosilicon compound, organotitanium compound, chlorinated organometallic compound, *thermal stability*

ABSTRACT: The synthesis of a chloro-derivative of polytitaniumphenylsiloxane is described. The starting material (polytitaniumphenylsiloxane) was prepared after the method of K. A. Andrianov, T. N. Ganina, and Ye. N. Khrustaleva (Izv. AN SSSR, Otd. Khim. n., 1956, 798), and the chlorination was carried out in CCl_4 solution by means of activated chlorine. The resultant mixture of chlorinated polymers was subjected to a fractionation analysis. An elemental analysis and molecular weight determination for each fraction was also carried out. The thermal stability of the initial polymer and of its chlorinated derivative, and their solubility in benzene, acetone, and CCl_4 were determined. The experimental results are presented in tables. A structure for the initial polymer and its chloro-derivative is shown by

Card 1/2

UDC: 678.01.54+678.84

KALMYKOV, A.O. [Kalmykov, A.O.]; MARYNIN, V.G. [Marynin, V.G.]; SYVAGIN, P.V.
[Syvagin, P.V.]; TIMOFEYEV, A.D. [Tymofieiev, A.D.]

Effect of the geometry of the electrodes of a coaxial gun
on the parameters of plasma clots. Ukr. fiz. zhur. 9 no.9.
1023-1025 S '64. (MIRA 17:11)

1. L'vovskiy gosudarstvennyy universitet im. I. Franko.

L 13160-66

ACC NR: AP6002450

experimentally by injecting electrons of different energies into an asymmetric bi-conical cusped field, and reasonable agreement was found. It is concluded that the proposed method of particle injection will be reasonably efficient in strong fields, provided the ratio of the field strengths is properly chosen. Orig. art. has: 10 formulas and 1 figure

SUB CODE: 20

SUBM DATE: 10May 65

ORIG. REF: 002 OTH REF: 000

Card

2/2

DL

L 13460-66 ~~ELT~~(L)/T IJP(c)

ACC NR: AP6002450

SOURCE CODE: UR/0057/65/035/012/2232/2234

AUTHOR: Akshanov, B.S.; Marinin, V.G.; Strel'tsov, A.I.; Sinel'nikov, K.D.

ORG: none

52
B

TITLE: Injection of charged particles into a magnetic mirror trap

SOURCE: Zhurnal tekhnicheskoy fiziki, v. 35, no. 12, 1965, 2232-2234

TOPIC TAGS: magnetic mirror, cusped magnetic field, charged particle, particle injection, ~~nonhomogeneous magnetic field~~, magnetic field intensity, magnetic trap

ABSTRACT: This "brief communication" is a continuation of another paper by two of the authors, K.D. Sinel'nikov and B.S. Akshanov (Sb. "Fizika plazmy i problemy upravlyayemogo termoyadernogo sinteza", No. 4, p. 103, Izd. AN USSR, Kiev, 1965), in which a method was proposed for injecting charged particles into a magnetic mirror system by allowing them first to pass through a magnetic field with cusped geometry, part of which forms one of the mirrors of the trap. It is shown that a criterion given by K.D. Sinel'nikov, N.A. Khizhnyak, et al. (Ibid, p. 388) for penetration by the injected particles of the second magnetic mirror in the case of equal magnetic field strength in the two mirrors becomes more stringent (particles are captured over a wider range of energy and injection radius) provided the magnetic field strength in the second mirror is greater than that in the first. The theoretical conclusion was tested.

Card 1/2

UDC: 533.9

L 51972-65

ACCESSION NR: AP5012050

kinetic energy of the plasma. "In conclusion, I express my gratitude to B.G. Safronov for his interest in the work and for fruitful discussions." Orig. art. has: 3 formulas and 5 figures.

ASSOCIATION: None

SUBMITTED: 26Jun64

ENCL: 00

SUB CODE: ME

NR REF BOV: 000

OTHER: 002

ml
Card 3/3

L 51972-65

ACCESSION NR: AP5012050

admission and firing of a coaxial plasma source is less than a certain critical value (which was approximately 300 μ sec for the present apparatus) the plasma is emitted in two parts, of which the first has several times the velocity of the other. The present experiments were performed under these conditions of short delay. The plasmas were found to contain large numbers of iron and other foreign ions. The number of heavy ions decreased rapidly with increasing delay time, and under the conditions of most of the present experiments the numbers of hydrogen and iron ions in the plasma burst were of the same order of magnitude. The total number of hydrogen ions in the plasma burst, the mean energy of the hydrogen ions, and the total energy of the burst were determined as functions of the length of the inner electrode, and the results are compared with calculations based on the theory of V. Yu. Baranov and A. K. Musin (Radiotekhnika i elektronika, 9, 2281, 1964) in which the increase of the plasma mass during acceleration due to sputtering of the electrodes is taken into account. Good qualitative agreement was found. There was found to be an optimum electrode length at which the velocity of the plasma was maximum and the energy of the capacitor was most efficiently transformed into

Card 2/3

L 51972-65 EWT(l)/EWT(m)/EPF(c)/EPF(n)-2/EWG(m)/EPA(w)-2/EWP(t)/EWP(b)

Pz-6/Ro-4/Pab-1G/Pr-4/Pi-4 IJP(c) JD/WW/AT

ACCESSION NR: AP5012050

UR/0057/65/035/005/0858/0884

AUTHOR: Timofeyev, A.D.; Marinin, V.G.; Shevchuk, B.A.; Kalmykov, A.A.

74
73
B

TITLE: Investigation of the operation of a coaxial plasma source under conditions of fast particle production

21

SOURCE: Zhurnal tekhnicheskoy fiziki, v. 35, no. 5, 1965, 858-864

TOPIC TAGS: plasma, plasma source, plasma acceleration, ion distribution, hydrogen, iron, helium

ABSTRACT: The operation of a coaxial plasma source was investigated experimentally. The stainless steel cylindrical electrodes were 5.4 and 2 cm in diameter, and the outer electrode was 25 cm long. After admission of 0.9 cm³ of H₂ (or in some cases of He) by means of a fast-acting valve the source was fired by the 20 kV discharge of a 4 μfd capacitor. The period of the discharge circuit was 3.2 μsec. After traversing a 10 cm diameter 1.5 m long drift tube, the plasma was either collected in a calorimeter or the velocity and mass distribution of its ions was determined with a mass spectrometer. It has been found (A.A. Kalmykov, S.A. Trubchaninov and V.A. Naboka, ZhTF, 34, 1003, 1964) that when the delay between gas

Card 1/3

1 64995-65
ACCESSION NR: AP5013471

3

ASSOCIATION: Fizyko-tehnichnyy instytut AN UkrSSR, Kharkov (Physicotechnical
Institute, AN UkrSSR)

SUBMITTED: 12Mar64

ENCL: 00

SUB CODE: EM, NP

NO REF SOV: 004

OTHER: 002



Card 2/2

L 64995-65 EWT(1)/EPA(w)-2/EWA(m)-2 IJP(c) AT

ACCESSION NR: AP5013471

UR/0185/65/010/005/0481/0485

AUTHOR: Marynin, V. H. (Marynin, V. G.)

25
22
6

TITLE: Resonance motion of electrons in a magnetic field with helical symmetry

SOURCE: Ukrayins'kyi fizychnyy zhurnal, v. 10, no. 5, 1965, 481-485

21845

TOPIC TAGS: helical magnetic field, electron energy, cyclotron frequency

ABSTRACT: It is shown that energy is transferred from the longitudinal component of motion to the transverse component when there is a certain ratio between longitudinal velocity, cyclotron frequency and the period of a helically symmetric modulating magnetic field. In a system with constant spacing of the modulating magnetic field and a constant cyclotron frequency, this energy transfer is periodic, i.e. the transverse energy increases, passes through a maximum and falls to zero. The period of this process depends on the initial energy of the electrons, and on the magnitude of the modulating magnetic field. Particle behavior is studied in a system with a helical magnetic field in which the spacing varies with longitudinal velocity. The author determines the amount of energy redistributed by electrons which have purely axial motion and various initial longitudinal velocities. Orig. art. has: 3 figures, 12 formulas.

Card 1/2

MARININ, V.G. [Marynin, V.H.]

Shifting of the resonance frequency of the interaction between a plasma clot and a spatially modulated magnetic field. Ukr. fiz. zhur. 10 no.3:343-346 Mr '65. (MIRA 18:6)

1. Fiziko-tekhnicheskii institut AN UkrSSR, Khar'kov.

I 10168-63

ACCESSION NR: AP3000003

for producing a uniform field and a series of coils for producing the periodic field. The period length was 4.8 cm; the total number of periods 12. The electron gun, mounted off center at one end of the vacuum cylinder, produced a narrow 400-600 eV electron beam. The process of longitudinal to transverse energy pumping was observed by means of a movable luminescent screen. In a uniform field a circular spot is observed; in a modulated field the spot transforms to a Larmor arc, that is, the electron trajectories become helical. The decrement in the longitudinal component was measured by the retarding potential technique. Retarding potential curves with and without a periodic field are reproduced. Curves giving the dependence of the Larmor rotation on the number of field periods traversed by the electrons show that the energy transfer is periodic: the transverse energy first rises to a maximum then falls off to a minimum. The pumping rate also varies with the depth of modulation. Thus, the experimental results are in agreement with the predictions of theory. "In conclusion the author expresses his sincere gratitude to V. D. Fedorchenko for suggesting the topic and constant interest in the work." Orig. art. has: 2 equations and 5 figures.

Card 2/3

L 10168-63

EWT(1)/EEC(b)-2/EDS--AFFTC/ASD/

ESD-3--IJP(G)

S/0057/63/033/005/0518/0521

ACCESSION NR: AP3000003

AUTHOR: Marinin, V. G.TITLE: Motion of electrons in a magnetic field with spatial modulation

SOURCE: Zhurnal tekhnicheskoy fiziki, v. 33, no. 5, 1963, 518-521

TOPIC TAGS: particles in magnetic fields, Larmor rotation, energy pumping, electron injection

ABSTRACT: When charged particles move parallel to the axis of a system with a spatially periodic magnetic field part of the longitudinal kinetic energy of the particles is transformed into transverse energy. The behavior of particles in such a space-modulated field has been described theoretically by Sinel'nikov, K. D., Rutkevich, B. N. and Fedorchenko, V. D. (ZhTF, 30, 249, 1960) and Laing, E. W. and Robson, A. E. (J. Nuclear Energy, 146, 1961). The effect has been utilized for injection of charged particles into a magnetic trap. The purpose of the present work was to check the theory. The experimental set-up consisted of an evacuated 120 cm long, 4 cm diameter copper tube surrounded by a solenoid.

Card 1/3

MARININ, V.G. [Marynin, V.H.]

Motion of electrons in mutually perpendicular electric fields
and spatially modulated magnetic fields. Ukr. fiz. zhur. 8
no.7:733-739 J1 '63. (MIRA 16:8)

1. Fiziko-tehnicheskii institut AN UkrSSR, Khar'kov.
(Electric fields) (Magnetic fields)

ENCLOSURE: 01

ACCESSION NR: AT4036058

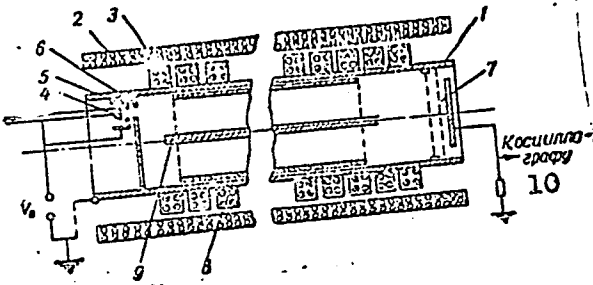


Diagram of set-up:
1 - vacuum chamber, 2 - solenoid producing homogeneous magnetic field, 3 - coils producing periodic magnetic field, 4, 5, 6 - cathode, guard cylinder and anode of electron gun, 7 - analyzer, 8, 9 - cylindrical capacitor, 10 - to oscilloscope

Card 4/4

ACCESSION NR: AT4036058

great help during the work." Orig. art. has: 4 figures and 10 formulas.

ASSOCIATION: None

ENCL: 01

SUBMITTED: 00

DATE ACQ: 21May64

OTHER: 000

SUB CODE: NP, ME

NR REF SOV: 001

Card 3/4

ACCESSION NR: AT4036058

of motion of an electron in a right-hand-cylindrical system of coordinates and checked his results experimentally. The equipment consisted of a vacuum chamber (tube 4 cm in diameter and 120 cm long) pumped out to 0.7×10^{-3} -- 0.133×10^{-2} n/m². A homogeneous magnetic field was produced by a long solenoid placed over the tube, and a system of coils connected to buck each other produces a periodic magnetic field of period 4.8 cm (total number of periods -- 5). The experiments have shown that when the electrons move in crossed electric and spatially-modulated magnetic field, the resonant interaction between the electrons and the spatially-modulated magnetic field occurs for a different relation between the longitudinal electron velocity, the cyclotron frequency, and the period of spatial modulation than in the case when there is no radial electric field. This indicates that the presence of a negative potential in the system does not cause the electrons to go out of resonance, in spite of the decrease in the longitudinal velocity. "In conclusion, the author is grateful to V. D. Fedorchenko and B. N. Rutkevich for

Card 2/4

ACCESSION NR: AT4036058

S/2781/63/000/003/0192/0198

AUTHOR: Marinin, V. G.

TITLE: Motion of electrons in crossed electric and spatially modulated magnetic fields

SOURCE: Konferentsiya po fizike plazmy* i problemam upravlyayemogo termoyadernogo sinteza. 3d, Kharkov, 1962. Fizika plazmy* i problemy* upravlyayemogo termoyadernogo sinteza (Plasma physics and problems of controlled thermonuclear synthesis); doklady* konferentsii, no. 3. Kiev, Izd-vo AN UkrSSR, 1963, 192-198

TOPIC TAGS: plasma magnetic field interaction, plasma electric field interaction, electron trajectory, cyclotron resonance phenomena, electron resonance

ABSTRACT: In order to ascertain the influence of the electric field present in the system on the interaction between particles and a spatially-modulated magnetic field, the author solved the equation

Card 1/4

The Temperature Dependence of the Diffusion
Coefficient of Hexane and Castor Oil in a
Tetrachloroethane - Tetrabromoethane Mixture

68919
S/054/60/000/01/006/022
B013/RC07

component. The mean activation energy of diffusion thus does not only depend on the binding energy of the molecules of the diffusing substance with the molecules of the solvent and of the diffusing molecules among one another, but also on the binding energy between the molecules of the solvent. The curve (ηC) becomes flatter with increasing temperature and approaches additivity. Here η denotes viscosity and C the percentage of tetrabromoethane in tetrachloroethane. The greatest deviation from additivity is found in a mixture of 50% tetrabromoethane; it amounts to about 21°C 37.0% and 60°C 24.5%. A comparison between the dependence of mixture viscosity as well as the diffusion coefficient of hexane and castor oil upon the composition of the tetrachloroethane - tetrabromoethane mixture shows the following: The curves (ηC) and (DC) in both cases show a negative deviation from additivity. The deviation of the curves (ηC) and (DC) decreases with increasing temperature. The author thanks Professor V. N. Tsvetkov for his interest in the present paper and for discussing the results obtained. There are 7 figures, 3 tables, and 9 Soviet references.

Card 3/3

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8/054/60/000/01/006/022
B013/B007

The Temperature Dependence of the Diffusion
Coefficient of Hexane and Castor Oil in a
Tetrachloroethane - Tetrabromoethane Mixture

diffusion coefficient of the mixtures of hexane and castor oil used here is between the diffusion coefficients and the temperature coefficients of the two components of the mixture. The diffusion coefficient and the viscous flow of the mixture depend in a simple exponential manner on temperature. Table 3 contains the activation energy of diffusion and of the viscous flow of the mixture. In the experiments discussed here no noticeable difference between the activation energy of the investigated substances and the activation energy of the viscous flow of the solvent could be detected. Within the limits of observation accuracy, the activation energy depends on the composition of the mixture. With a two-component liquid mixture

$U = U_{11}C_1^2 + 2U_{12}C_1C_2 + U_{22}C_2^2$ holds for the mean activation energy of the viscous flow of a mixture. Here C_1 and C_2 denote

the molecular concentrations of the mixture components; U_{11} , U_{22} , and U_{12} are the binding energies of the molecules of the first and second component respectively and of the molecules of the first component with those of the second

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577010
574120
AUTHOR:

Marinin, V. A.

68919

S/054/60/000/01/006/022
B013/B007

TITLE: The Temperature Dependence of the Diffusion Coefficient of Hexane¹ and Castor Oil in a Tetrachloroethane - Tetrabromoethane Mixture

PERIODICAL: Vestnik Leningradskogo universiteta, Seriya fiziki i khimii, 1960, Nr 1, pp 41-47 (USSR)

ABSTRACT: The present paper gives the results obtained by measurements of the diffusion coefficient temperature of hexane and castor oil in a tetrachloroethane - tetrabromoethane mixture with different ratio of components (25, 50 and 75% tetrabromoethane). These measurements were carried out within the temperature interval of from 21 to 60°. The diffusion coefficient and the viscosity of the mixture were measured by means of already previously described (Ref 1) devices. The experimental values of the diffusion coefficient, of the viscosity of the mixture, and of the concentration of the dissolved substance are shown in tables 1 and 2. Figures 1 and 2 show the dependence of the diffusion coefficient of hexane and castor oil on reciprocal absolute temperature. The experimental points fit straight lines which are inclined to the abscissa axis under various angles. This inclination increases with an increasing percentage of tetrabromoethane in the mixture. The

Card 1/3

Temperature Dependence of the Diffusion Coefficient of 804/76-33-6-41/44
Some Substances in Tetrachloroethane and Tetrabromoethane

substances investigated in (I), as well as in (II). The activation energy of the diffusion process determined by the inclination of the straight line $\lg D = f(1/T)$ does not depend on the value of the (AV) of the diffusing substance (Table 3), and is similar in magnitude to the (AV) of the solvent. The results obtained do not confirm the assumption of (Ref 3) that in the diffusion process the motion of the one molecules with respect to the other requires a free energy, the value of which lies between that of the free (AV) of each of the two substances. Finally the author thanks Professor V.N.Tsvetkov. There are 2 figures, 3 tables, and 5 references, 3 of which are Soviet.

ASSOCIATION: Leningradskiy gosudarstvennyy universitet im. A. A. Zhdanova
(Leningrad State University imeni A. A. Zhdanov)

SUBMITTED: January 31, 1957

Card 2/2

5(4)

AUTHOR:

Marinin, V. A.

SOV/76-35-5-41/44

TITLE:

Temperature Dependence of the Diffusion Coefficient of Some Substances in Tetrachloroethane and Tetrabromoethane (Temperaturnaya zavisimost' koeffitsiyenta diffuzii nekotorykh veshchestv v tetrakhloretane i tetrabrometane)

PERIODICAL:

Zhurnal fizicheskoy khimii, 1959, Vol 33, Nr 6, pp 1430 - 1433 (USSR)

ABSTRACT:

Corresponding to the data in the papers (Refs 3, 5) it is to be expected that in substances, which are dissolved in tetrachloroethane (I) with another activation energy of viscous flowing (AV) than in tetrabromoethane (II), also a different temperature function for the diffusion coefficient (DC) will be observed. Starting from this assumption, hexane (III) and castor oil (IV) were investigated as diffusing substances in the present case. The (DC) of (II), (III), and (IV) in (I), as well as of (I), (III), and (IV) in (II) was measured in the temperature range of 21-60°C. The values $D\eta/T$ were computed from the measurement results obtained for (DC) (Tables 1, 2). The value $D\eta/T$ decreases with a rise in temperature for all

Card 1/2

The Diffusion Coefficient's Dependence in Temperature Upon
Methanol and Sugar in a Glycerin-Water Mixture

76-32-5-18/47

SUBMITTED: January 14, 1957

1. Solutions--Diffusion
2. Diffusion--Temperature factors
3. Dithioglycerol solutions--Solvent action

Card 3/3

The Diffusion Coefficient's Dependence in Temperature Upon
Methanol and Sugar in a Glycerin-Water Mixture.

76-32-5-18/47

mixtures equations for the calculation of their activation energies are mentioned. The experiments showed that the activation energy of the substances increases with the increase of the content of glycerin in the mixture with a maximum being observed at 65-75% glycerin. It is assumed that the activation energy of the diffusion process is also determined by the binding energy between the molecules of the solvent, with no special differences of the activation energies having been observed in this work as low concentrations were used and thus only small values of the binding energy between the molecules of the solvent and the dissolved substance were present. The determined function of the diffusion coefficient vs. the viscosity of the solvent (mixture) can serve for computations of the diffusion coefficient in solvents at various temperatures. Finally the author thanks Professor V. N. Tsvetkov. There are 3 figures, 3 tables, and 4 references, 4 of which are Soviet.

ASSOCIATION: Leningradskiy gosudarstvennyy universitet im. A. A. Zhdanova
(Leningrad State University imeni A. A. Zhdanov)

Card 2/3

AUTHOR: Marinin, V. A.

76-32-5-18/47

TITLE: The Diffusion Coefficient's Dependence in Temperature Upon Methanol and Sugar in a Glycerin-Water Mixture (Temperatur-naya zavisimost' koeffitsiyenta difuzii metilovogo spirta i sakhara v smesi glitserin-voda)

PERIODICAL: Zhurnal fizicheskoy khimii, 1958, Vol. 32, Nr 5, pp. 1068-1073 (USSR)

ABSTRACT: The diffusion coefficient and the viscosity of the mixture were determined in apparatus described in an earlier work and the results were given in form of tables. From a comparison of the graphically given results can be seen that the dependence of the diffusion coefficient over the viscosity of the solvent on the absolute temperature, as well as the temperature function of the diffusion coefficient and of the viscosity in pure solvents follow an exponential law. From the determinations of the activation energies of methanol and sugar can be seen that the binding energy forming between the molecules of the diffusing substance and the molecules of the solvent does not exert any special influence on the mean activation energy of the diffusion process while for binary liquid mixtures as well as for ternary

Card 1/3

Electric Double Refraction of Polystyrene Solutions SOV/54-58-3-8/19

constant of styrene. The behavior of the polystyrene solutions in a constant electric field is analogous to their behavior in a magnetic field (Refs 2, 3). As a comparison the molecular Kerr constant of benzene was examined. Measuring results of this constant in carbon tetrachloride at various concentrations are given in table 2. The quantities K_2 for styrene and benzene were determined from the diagram plotting K_{12} versus C_2 . The coefficient of the angular dependence $K_{12} = f(C_2)$ permits to determine the quantity K_2 for infinite dissolution. The computation showed that the molecular Kerr constant of styrenes is by about two times higher than that of benzene. It was found that the Kerr constant of the polystyrene is independent of the molecular weight. Its sign is positive and in its magnitude it resembles the Kerr constant of styrene. These facts prove the conclusions made by the authors (Refs 2, 3, 7). The authors express their gratitude to V. N. Tsvetkov for his interest. There are 2 figures, 2 tables, and 7 references, 4 of which are Soviet.

Card 2/3

SOV/54-58-3-8/19

AUTHORS: Marinin, V. A., Polyakova, L. V., Korol'kova, Z. S.

TITLE: Electric Double Refraction of Polystyrene Solutions
(Elektricheskoye dvoynoye lucheprelomleniye rastvorov polistirola)

PERIODICAL: Vestnik Leningradskogo universiteta. Seriya fiziki i khimii, 1958, Nr 3, pp 73-77 (USSR)

ABSTRACT: In the present paper experimental data on the electric double refraction in polystyrene solutions are given. The solutions of 7 polystyrene fractions were investigated. Carbon tetrachloride served as solvent. As the experiments showed the dependence $\Delta = f(E^2)$ remains linear in the domain of the concentrations used. The Kerr constant was computed for all measured polystyrene fractions according to the diagram Δ versus E^2 (Table 1). For reasons of comparison the Kerr constant of styrene (Table 2) was ascertained too. The Kerr constant of the solutions of various polystyrene fractions (molecular weight $4 \cdot 10^5 - 5 \cdot 10^6$) is, evidently, within the errors of observation, of similar magnitude as the Kerr

Card 1/3

MARININ, V. A.

V Temperature dependence of the diffusion coefficient of
 some substances in water: V. A. Marinin. Vestnik Len-
 ingrad. Univ. 12. No. 10, Ser. Fiz. i Khim. No. 3, 44-8
 (1957). The temp. coeffs. of diffusion of MeOH, acetamide,
 glycerol, sugar, tannin, dextrin, and poly(vinyl alc.) in
 water were investigated by the optical polarization method.
 Variation of the coeff. of diffusion with temp. is exponential.
 The temp. coeff. of diffusion is independent of the size of the
 diffusing mole., and approaches the temp. coeff. of vis-
 cosity of the solvent. Activation energy is also given.
 Exptl. results are compared with theoretical. A. Litmanis

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MARININ, V. A.

USSR/ Chemistry - Physical chemistry

Card 1/1 Pub. 147 - 15/35

Authors : Marinin, V. A.

Title : Thermal dependence of the diffusion coefficient of certain substances in glycerin

Periodical : Zhur. fiz. khim. 30/1, 129-133, Jan 1956

Abstract : Experiments were conducted to determine the thermal dependence of the diffusion coefficient for water, methyl alcohol, acetamide and sugar in glycerin. It is shown that the thermal diffusion coefficient is one and the same solvent does not depend upon the dimension of the diffused molecules but is close in value to the thermal viscosity coefficient of the solvent. The effect of temperature on the diffusion coefficient is explained. Nine references: 7 USSR, 1 USA and 1 Eng. (1938-1955). Tables; graph.

Institution : Leningrad State University im. A. A. Zhdanov

Submitted : May 21, 1955

MARININ, V. A.

~~Diffusion coefficients of some substances in glycerol-alcohol mixtures. V. A. Marinin (A. A. Zhitkov, Leningrad State Univ.), Zh. Fiz. Khim. 29, 1604-6 (1955).~~
The diffusion coeffs. of MeOH, acetamide, sucrose, and taurin in glycerol-water mixts. of varying compn. were detd. by the diffusion-measurement method described by Tavekoi (C.A. 49, 3360). The D_0/T value (D_0 is diffusion coeff.) in every case rose considerably with viscosity (η) increase of the solvent. The linear relation between D_0/T and viscosity is retained for all glycerol-water mixts. the viscosity of which exceeds 0.5-2 poise. For viscosities lower than 0.5 poise, an empirical relation was found from exptl. results, $D_0/T = A + B\eta$, in which B is the tangent at the angle of the slope detd. by extrapolation, and η the viscosity of the solvent. With increase in the size of the diffusing ions, the formula changes into the usual Stokes-Einstein equation.
W. M. Sternberg

MARININ, V.A.

Coefficient of diffusion of normal alcohols and fatty acids in solution. V. A. Marinin (A. A. Zhdanov State Univ., Leningrad). *Zh. fiz. khim.* 27, 1823-4 (1953); cf. C.A. 46, 8947h. — The diffusion coeffs. (D) of butyl, octyl, decyl, dodecyl, tetradecyl, cetyl, octadecyl, and ceryl alcs. and of butyric, caproic, pelargonic, palmitic, and stearic acids were detd. by the optical-polarization method of Tsvetkov (C.A. 46, 3350f). Measured values of D and of the mol. frictional coeff. (F), which is inversely proportional to D , are tabulated. The value of F is directly proportional to the length of the mol. Chain mols. whose axial ratio does not exceed 3 have the same F as a spherical mol. of the same vol. J. W. Loweberg, Jr.

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MARININ, V. A.
Jan 10, 1957
General and
Physical Chemistry

The temperature dependence of the electric birefringence of solutions of 1,2-dichloroethane and 1,2-dibromoethane. V. A. Marinin (A. A. Zhdanov State Univ., Leningrad). *Zhur. Fiz. Khim.* 27, 988-92 (1953); *cf. C.A.* 43, 3876b; 47, 10743a. — (CH₂Cl)₂ (I) and (CH₂Br)₂ (II), both mixts. of stereoisomers, were compared with substances having one permanent dipole moment. The molar Kerr const. K_{12} of solns. in CCl₄ was a linear function of mole fraction c (measured up to $c = 0.06$) of the solute for I and PhCl, and a linear function of temp. (between 15° and 70°) for all solns. in CCl₄. From K_{12} the molar Kerr const. K_2 of the solute was calcd. $K_2 = K_1 + [(K_{12} - K_1)/c]$; K_1 is the const. for CCl₄. The K_2 for I and II (15.7-16.0 and 17.5-17.8 × 10¹⁸, resp.) was almost independent of temp., whereas K_2 × 10¹⁸ for PhCl (134 at 20°, 164 at 70°), PhBr (135 and 166), PhNO₂ (774 and 581), Me₂CO (97 at 20°, 81 at 50°), and CHCl₃ (-23 at 20°, -19 at 50°) decreased when temp. increased. For some compds. K_2 could be calcd. from the known Kerr consts. of their vapors. The ratio of calcd. K_2 to exptl. K_2 was > 1 and almost independent of temps. for PhCl, PhNO₂, CHCl₃, and Me₂CO, but was < 1 and decreased when temp. rose for I. The mole fraction of the "cis"- (polar) isomer apparently increases with temp. From the temp. dependence of K_2 and an equation of Vol'kenshteln (*Vestnik Leningrad Univ.* No. 2(1947)) this mole fraction was calcd. to be at 20 and 70°, resp., 0.11 and 0.13 for I, and 0.054 and 0.063 for II. These values agree with those calcd. from the effective dipole moment.
J. J. Bikerman

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Chemistry 112

Relaxation time of the electric birefringence in liquids. V. A. Marinin (Leningrad State Univ.). *Zhur. Eksp. i Teor. Fiz.* 22, 34-9 (1952).—The stroboscopic method of Hanle and Maercks (C.A. 24, 31457) was applied to elec. birefringence in solns. of widely varying viscosity η . The detn. of the relative relaxation time τ consists in measuring the phase shift ϕ between the light beams modulated by the Kerr effect in 2 liquids; τ is given by $\tan \phi = \omega\tau$, and, with $\phi = 2\pi\Delta\lambda/\lambda$ (where λ is the wave length of the supersonic wave in the liquid), $\tau = \tan(2\pi\Delta\lambda/\lambda)/\omega$, or, if ϕ is small, $\tau = \Delta\lambda/\omega$. Microphotographs of photographs of a running supersonic wave in mixts. of mineral oil with PhNO_2 , of $\eta = 0.32$ or 0.42 poise, and a mixt. of C_{10}H_8 with PhNO_2 , of $\eta = 0.0033$ poise reveal no significant shift of the running supersonic wave. The same result was found with mixts. of mineral oil with $\text{o-MeC}_6\text{H}_4\text{NO}_2$ and of C_{10}H_8 with $\text{o-MeC}_6\text{H}_4\text{NO}_2$. The best micrograms would permit detection of a shift of the curves by 0.01 - 0.02 μm . This being taken as the limit of accuracy of the method, τ is at most equal to, or less than, 2×10^{-9} sec. The same conclusion is arrived at by measurements of the dielec. const. ϵ , in 1.3×10^6 hertz, in the temp. range from -10 to $+50^\circ$, in pure mineral oil and in mixts. with PhNO_2 , 0.52 , 0.78 , and 1.23 g./100 g. oil. With falling temp., ϵ first increases somewhat, then, from 27 - 0° down, falls rapidly. The relaxation times detd. from ϵ confirm the conclusion from the stroboscopic method. Extrapolation of the mean τ to η of PhNO_2 at 20° gives $\tau = 2 \times 10^{-10}$ sec. This order of magnitude of τ is in conflict with the value of 10^{-9} sec. extd. by H. and M. (*loc. cit.*); the shift of bands observed by these authors must have been due to secondary factors other than relaxation.

N. Thon

USSR/Chemistry - Ultrasound

Jun 51

"Velocity of Ultrasound in Certain Liquids and Solutions," V. A. Marinin, Phys Inst, Leningrad State U imeni A. A. Zhdanov

"Zhur Fiz Khim" Vol XXV, No 6, pp 641-646

By stroboscopic method measured velocity of sound in CS₂, CCl₄, CHCl₃, EtCl₂, many aromatic compds, and dil C₆H₆ solns of various aromatic compds. Calcd molar velocity and coeff of adiabatic compressibility. Calcd with greater accuracy and to some extent anew values for increments of certain bonds between C and C, H, O, Cl, S, and between N

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USSR/Chemistry - Ultrasound (contd)

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and C, H, O, N. Discusses dependence of velocity of sound on temp (and on concn in dil C₆H₆ solns). Method is applicable for detg molar velocity of compds having high mp.

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MARININ, V. A.