VERESHCHETIN, V.S., kand.yuridich.nauk

Session of the International Council of Scientific Unions.
Vest.AN SSSR 33 no.2:100-101 F '63. (MIRA 16:2)
(International Council of Scientific Unions)

VERESHCHETIN, Vladlen Stepanovich; LEBEDKINA, Yelizaveta Dmitriyevna; GLAZUNOVA, N.V., red.; ROMANOVA, N.I., tekhn. red.

[International Council of Scientific Unions]Mezhdunarodnyi sovet nauchnykh soiuzov (MSNS). S predisl. V.A.Engel'gardta. Moskva, Izd-vo In-ta mezhdunarodnykh otnoshenii, 1962. 125 p. (MIRA 16:2)

(International Council of Scientific Unions)

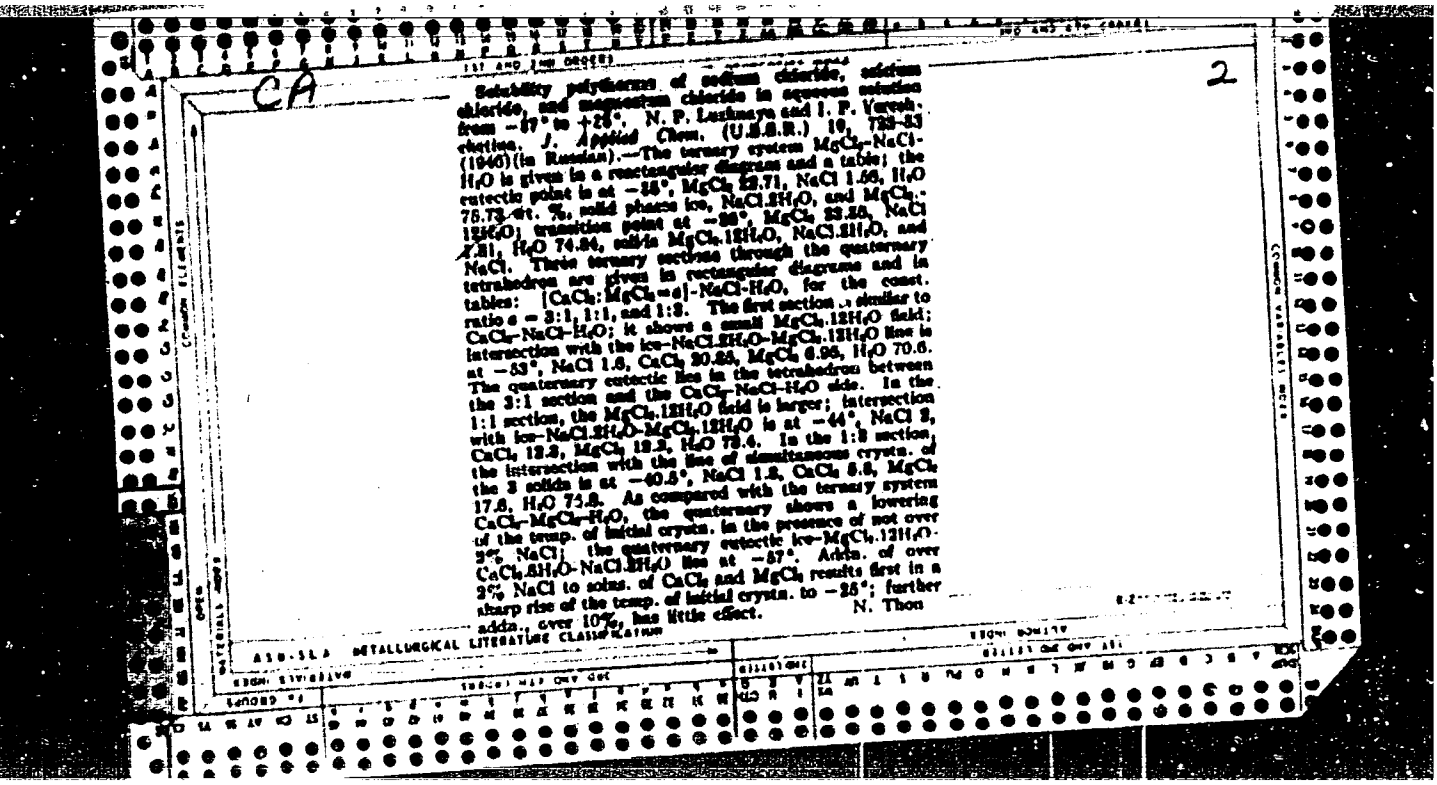
Vereshchetin, Vladlen Stepanovich

Svoboda sudokhodstva v otkrytom more
[Navigation rights in the open sea]
Moskva, Izd-vo IMO, 1958.

141 p.

At head of title: Moscow. Institut Mezhdunarodnykh Otnosheniy.

Bibliographical footnotes.



CA

2

Solubility polytherms of sodium chloride, calcium chloride, and magnesium chloride in aqueous solution from −67° to +25°. N. P. Lushnaya and I. P. Varesh-chetina. *J. Applied Chem. (U.S.S.R.)* 19, 723–33 (1946)(in Russian).—The ternary system $MgCl_2$–NaCl–H_2O is given in a rectangular diagram and a table; the eutectic point is at −35°, $MgCl_2$ 23.71, NaCl 1.56, H_2O 76.73 wt. %, solid phases ice, $NaCl.2H_2O$, and $MgCl_2.12H_2O$] transition point at −33°, $MgCl_2$ 23.55, NaCl 2.81, H_2O 74.84, solids $MgCl_2.12H_2O$, $NaCl.2H_2O$, and NaCl. Three ternary sections through the quaternary tetrahedron are given in rectangular diagrams and in tables: [$CaCl_2$:$MgCl_2$ = a]–NaCl–H_2O, for the const. ratio a = 3:1, 1:1, and 1:3. The first section is similar to $CaCl_2$–NaCl–H_2O; it shows a small $MgCl_2.12H_2O$ field; intersection with the ice–$NaCl.2H_2O$–$MgCl_2.12H_2O$ line is at −33°, NaCl 1.8, $CaCl_2$ 20.55, $MgCl_2$ 6.95, H_2O 70.6. The quaternary eutectic line in the tetrahedron between the 3:1 section and the $CaCl_2$–NaCl–H_2O side. In the 1:1 section, the $MgCl_2.12H_2O$ field is larger; intersection with ice–$NaCl.2H_2O$–$MgCl_2.12H_2O$ is at −44°, NaCl 2, $CaCl_2$ 12.8, $MgCl_2$ 12.2, H_2O 73.6. In the 1:3 section, the intersection with the line of simultaneous crysts. of the 3 solids is at −40.5°, NaCl 1.8, $CaCl_2$ 5.8, $MgCl_2$ 17.6, H_2O 75.8. As compared with the ternary system $CaCl_2$–$MgCl_2$–H_2O, the quaternary shows a lowering of the temp. of initial crysts. in the presence of not over 2% NaCl; the quaternary eutectic ice–$MgCl_2.12H_2O$–$CaCl_2.4H_2O$–$NaCl.2H_2O$ lies at −57°. Addn. of over 2% NaCl to solns. of $CaCl_2$ and $MgCl_2$ results first in a sharp rise of the temp. of initial crysts. to −25°; further addn., over 10%, has little effect. N. Thon

Possibility in the system of chlorides and sulfates of sodium, potassium, and zinc. N. P. Luzhnaya and I. P. Vorobchina. *Zhur. Prikhal. Khim.* (J. Applied Chem. U.S.S.R.), 22, 632–64(1949).—In the reciprocal system Na, K, Zn||Cl, SO_4, represented by a triangular prism, and divided by 3 diagonal sections, $ZnSO_4$-NaCl–KCl and $ZnSO_4$–K_2SO_4–NaCl, into 3 tetrahedrons, the lowest m. temps. are in the tetrahedron $ZnSO_4$–ZnCl–NaCl–KCl. Binary and ternary systems, along diagonals and sections in this tetrahedron, were investigated. Pure $ZnSO_4$ under atm. pressure is decompd. before melting. However, with 14 mol. % 2KCl added, the binary system fuses to a homogeneous, transparent melt from which 1st crystals sep. at 915°. Further addn. of KCl lowers this temp. to 410°, where, with 76.5% $ZnSO_4$, a new solid phase, $KCl.ZnCl_2$, appears along with $ZnSO_4$. This $KCl.ZnCl_2$ melts congruently at 480°. Further increase of the KCl content in the melt causes the m. temp. to fall sharply to 295° at 47.5 mol. % $ZnSO_4$; the melt becomes viscous, very prone to undercooling (down to 160° and, in the absence of agitation, forms a transparent glass.

There follows a branch with the solid phase $6KCl.ZnSO_4$, or a ternary compd. The new phase manifests itself by distinct thermal effects at 285° on the heating curve. The following branch corresponds to a yet unassembled solid phase; the last branch is that of KCl. The system NaCl–$ZnSO_4$, shows, besides the crysts. branches of NaCl and $ZnSO_4$, branches of the 2 double salts $3ZnSO_4.Na_2SO_4$ and $2Na_2SO_4.ZnSO_4$, and a branch corresponding to an undefined ternary compd., the lowest temp. is 365°. Nine sections were investigated within the system $ZnSO_4$–2NaCl–2KCl which intersects 7 crysts. vols. of the salts: NaCl, KCl, $ZnSO_4$, $ZnSO_4.2Na_2SO_4$, $ZnSO_4.Na_2SO_4$, an unidentified phase, and $3ZnSO_4.Na_2SO_4$; an uninterrupted series of solid solns. is formed along the NaCl–KCl side. The lowest temp. is reached along the lines of simultaneous crysts. of $KCl.ZnSO_4$ and the unidentified phase, with the ternary point lying at 298°. The region of low temps., 310–410°, extends from about 40 to 70 mol. % $ZnSO_4$; throughout this region, there is a tendency to undercooling and vitrification. Melts of $ZnSO_4$ with NaCl and KCl are not hygroscopic. The inner section 2NaCl–KCl.$ZnSO_4$–$KCl.ZnCl_2$ consists of a broad field of NaCl, a smaller field of $KCl.ZnSO_4$, and a still smaller field of $KCl.ZnCl_2$; there is, further, a not yet identified 4th phase. The low-temp. (340–400°) range is relatively narrow and is contiguous to the $KCl.ZnSO_4$ corner. There are 2 ternary points. Small additns. of K_2CrO_4 and $NaCrO_2$ do not lower the m. temps. of the melts investigated. ZnO (0.5%) does not dissolve in the melts even at 650°; in solidification, melts with ZnO added form milky glasses. The following compns. (in wt. %) are recommended for const.-temp. baths for metallurgical purposes: $ZnSO_4$ 53.0, NaCl 47.0 (m.p. 365°); $ZnSO_4$ 52.8, NaCl 47.2 (365°); $ZnSO_4$ 49.5, KCl 50.5 (385°); $ZnSO_4$ 44.0, KCl 56.0, NaCl 20.0 (375°); $ZnSO_4$ 42.0, ZnCl 58.0, KCl 25.0, NaCl 20.0 (290°); $ZnSO_4$ 45.0, KCl 21.0, NaCl 18.0, K_2SO_4 16.0 (370°); $ZnSO_4$ 50.0, KCl 21.0, NaCl 18.0, Na_2SO_4 11.0 (380°); $ZnSO_4$ 50.0, KCl 48.0 K_2CrO_4 2.0 (340°).

N. Thon

VERESHCHETINA, I. P.

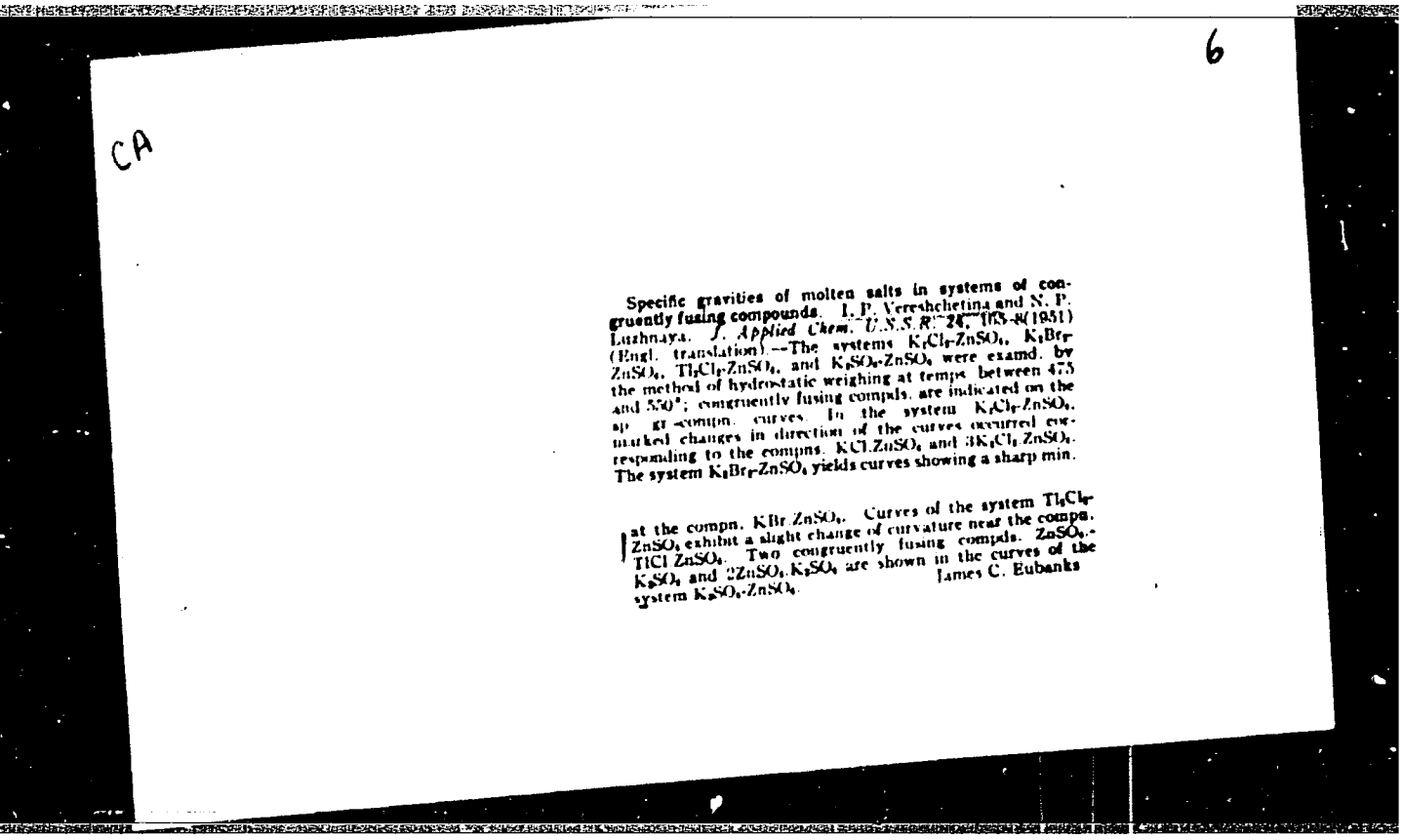
USSR/Chemistry - Potassium Salts of Kainite Type — Feb 51

"Investigation of the Specific Gravities of Melts in Systems With Congruently Melting Compounds," I. P. Vereshchetina, N. P. Luzhnaya

"Zhur Prik Khim" Vol XXIV, No 2, pp 148-153

Studied temp--elec cond--sp gr-mol% diagrams for systems K_2Cl_2-$ZnSO_4$, K_2Br_2-$ZnSO_4$, Tl_2Cl_2-$ZnSO_4$, and K_2SO_4-$ZnSO_4$ at temp of 475-550°C. Showed that congruently melting compd appear more or less sharply on sp gr--mol % curves, but that sp gr only is not sufficient to indicate existence of such compd.

177T13



6

CA

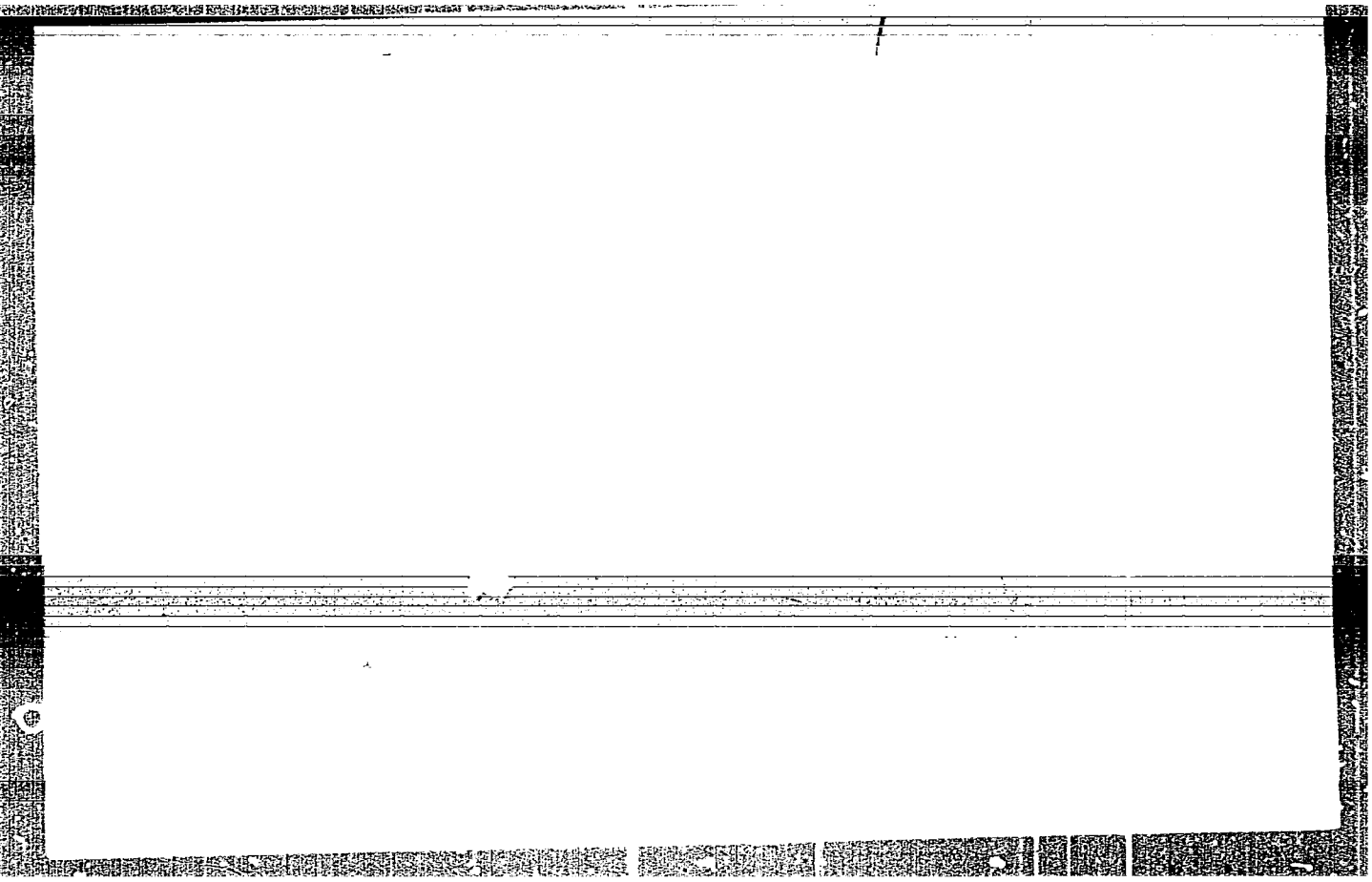
Specific gravities of molten salts in systems of congruently fusing compounds. I. P. Vereshchetina and N. P. Luzhnaya. *J. Applied Chem. U.S.S.R.* 24, 1183-8(1951) (Engl. translation).--The systems K_2Cl_2-$ZnSO_4$, K_2Br_2-$ZnSO_4$, Tl_2Cl_2-$ZnSO_4$, and K_2SO_4-$ZnSO_4$ were examd. by the method of hydrostatic weighing at temps. between 475 and 550°; congruently fusing compds. are indicated on the sp. gr.-compn. curves. In the system K_2Cl_2-$ZnSO_4$, marked changes in direction of the curves occurred corresponding to the compns. $KCl.ZnSO_4$ and $3K_2Cl_2.ZnSO_4$. The system K_2Br_2-$ZnSO_4$ yields curves showing a sharp min. at the compn. $KBr.ZnSO_4$. Curves of the system Tl_2Cl_2-$ZnSO_4$ exhibit a slight change of curvature near the compn. $TlCl.ZnSO_4$. Two congruently fusing compds. $ZnSO_4$-K_2SO_4 and $2ZnSO_4.K_2SO_4$ are shown in the curves of the system K_2SO_4-$ZnSO_4$.

James C. Eubanks

LUZHNAYA, N.P.; VERESHCHETINA, I.P.

Interaction of zinc sulfate potassium halides in melts. Izv.Sekt. fiz.-khim.anal. 24:192-203 '54. (MLRA 8:4)

1. Institut obshchey i neorganicheskoy khimii imeni N.S.Kurnakova Akademii nauk SSSR.
(Zinc sulfate) (Potassium salts)



APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R001859430007-4"

LUZHNAYA, N.P.; YEVSEYEVA, N.N.; VERESHCHETINA, I.P.

Physical properties of salt melts and the nature of their structural particles. Zhur.neorg.khim. 1 no.7:1490-1500 Jl '56. (MLRA 9:11)

(Salts)

LUZHNAYA, N.P.; VERESHCHETINA, I.P.

Interaction of zinc sulfate with thallium and cesium halides in melts. Izv.Sekt.fiz.-khim.anal.27:285-295 '56. (MIRA 9:9)

1.Institut obshchey i neorganicheskey khimii imeni N.S.Kurnakova AN SSSR.
(Zinc sulfate) (Halides)

VOSKRESENSKAYA, N.K.; YEVSEYEVA, N.N.; BERUL', S.I.; VERESHCHETINA, I.P.; TRAVIN, N.V., red. izd-va; BLEYKH, E.Yu., tekhn. red.

[Reference book on the fusibility of systems of anhydrous inorganic salts]Spravochnik po plavkosti sistem iz bezvodnykh neorganicheskikh solei. Sost. N.K.Voskresenskaia i dr. Moskva. Vol.2. [Ternary, ternary reciprocal, and multicomponent systems] Sistemy troinye, troinye vzaimnye i bolee slozhnye. 1961. 585 p. (MIRA 14:7)

1. Akademiya nauk SSSR. Institut obshchey i neorganicheskoy khimii.
(Salts) (Systems (Chemistry)) (Melting points)

VOSKRESENSKAYA, N.K., doktor khim. nauk; YEVSEYEVA, N.N., kand. khim. nauk; BERUL', S.I.; YERESHCHETINA, I.P.; TRAVIN, N.V., red. izd-va; BLEYKH, E.Yu., tekhn. red.

[Manual on the fusibility of the systems consisting of anhydrous inorganic salts] Spravochnik po plavkosti sistem iz bezvodnykh neorganicheskikh solei. Sost. N.K.Voskresenskaia i dr. Moskva, Vol.1. [Binary systems] Dvoinye sistemy. 1961. 845 p. (MIRA 14:6)

1. Akademiya nauk SSSR. Institut obshchey i neorganicheskoy khimii. 2. Laboratoriya khimii i termodinamiki rasplavlennykh sred Instituta obshchey i neorganicheskoy khimii im. N.S.Kurnakov AN SSSR (for for all except Travin, Bleykh)
(Salts) (Systems (Chemistry))

VECHERCHINA, I. V.

V.[illegible]CHINA, I. . . -- "Study of the [illegible] of salts in [illegible] by means of Physicochemical Analysis." [illegible], [illegible], [illegible] Inorganic Chemistry imeni N. S. Kurnakov, [illegible] SSSR. (Dissertation for the Degree of Candidate in Chemical Sciences).

SO: Vechernaya Moskva January-December 1952

VERESHCHETINA, I. P.

B-8

USSR/ Physical Chemistry - Thermodynamics. Thermochemistry. Equilibrium. Physicochemical analysis. Phase transitions

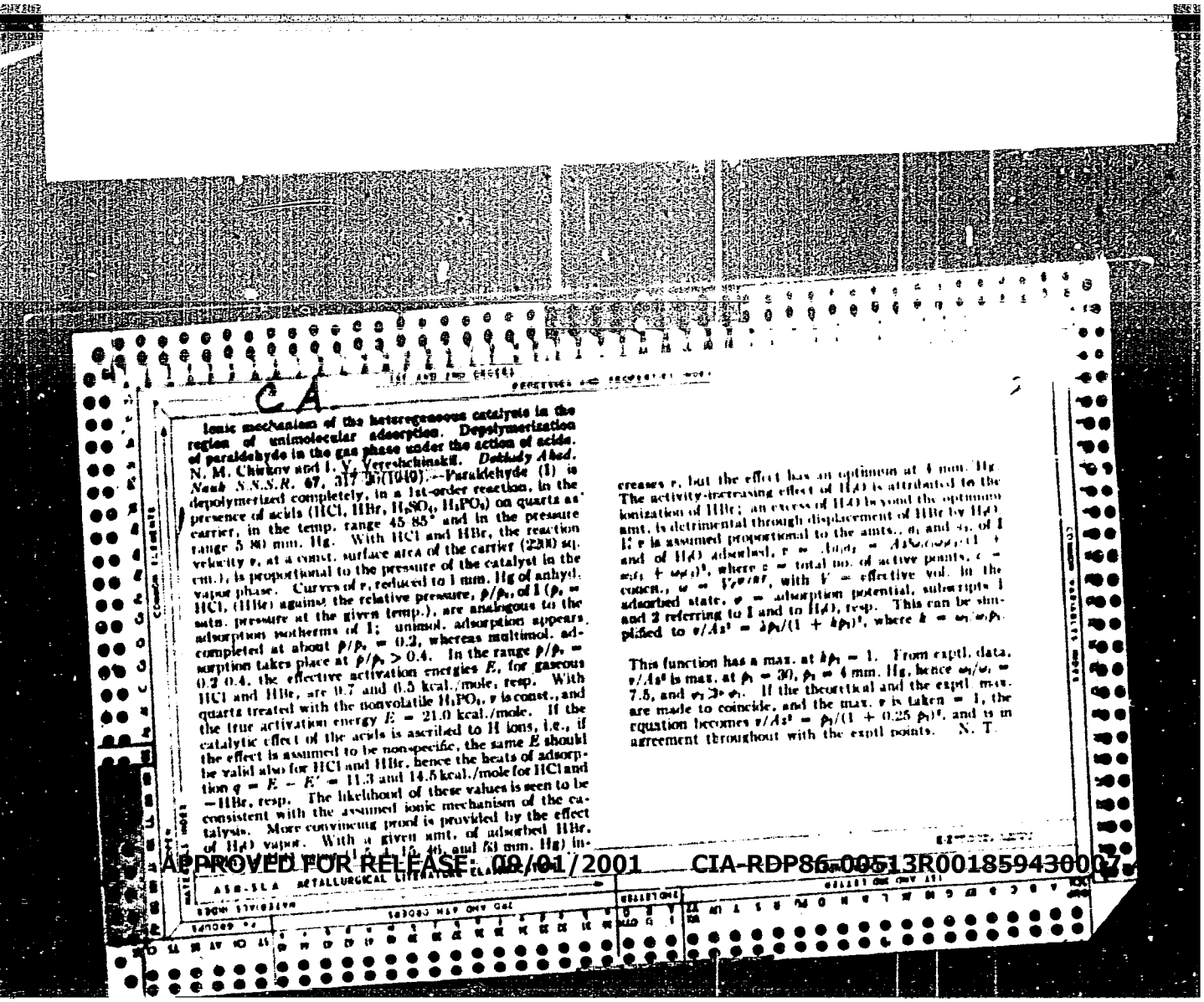
Abs Jour : Referat Zhur - Khimiya, No 4, 1957, 11184

Author : Luzhnaya N.P., Vereshchetina I.P.
Inst : Institute of General and Inorganic Chemistry, Academy of Sciences USSR
Title : Interaction of Zinc Sulfate with Halides of Thallium and Cesium Fusions

Orig Pub : Izv. Sektora fiz.-khim. analiza IONKh AN SSSR, 1956, 27, 285-295

Abstract : By fusibility, electric conductivity and density methods were investigated the systems Tl_2Cl_2-$ZnSO_4$ (I), Tl_2Br_2-$ZnSO_4$ (II), Tl_2I_2-$ZnSO_4$ (III) and Cs_2Br_2-$ZnSO_4$ (IV), constituting diagonal sections of mutual systems. Determined were compound TlCl-ZnSO4 undergoes congruent fusion at 440°, eutectic at 280° and 39.52% $ZnSO_4$. In systems II and III were found kainites $TlBr.ZnSO_4$ and $TlI.ZnSO_4$ melting with decomposition, respectively at 438 and 480°. In system IV was found compound $CsBr.ZnSO_4$, undergoing congruent fusion at 502°, eutectic at 420° and 50% $ZnSO_4$. Molecular volumes and atomic concentrations were calculated. On property isotherms were detected in the proximity of composition of kainites minima and breaks of curves somewhat displaced from ordinate of compound composition.

Card 1/1



CA

Ionic mechanism of the heterogeneous catalysis in the region of unimolecular adsorption. Depolymerization of paraldehyde in the gas phase under the action of acids. N. M. Chirkov and I. V. Vereshchinskii. *Doklady Akad. Nauk S.S.S.R.* 67, 317-20(1949).—Paraldehyde (I) is depolymerized completely, in a 1st-order reaction, in the presence of acids (HCl, HBr, H_2SO_4, H_3PO_4) on quartz as carrier, in the temp. range 45-85° and in the pressure range 5-80 mm. Hg. With HCl and HBr, the reaction velocity v, at a const. surface area of the carrier (230 sq. cm.), is proportional to the pressure of the catalyst in the vapor phase. Curves of v, reduced to 1 mm. Hg of anhyd. HCl (HBr) against the relative pressure, p/p_s, of I (p_s = satn. pressure at the given temp.), are analogous to the adsorption isotherms of I; unimol. adsorption appears completed at about $p/p_s = 0.2$, whereas multimol. adsorption takes place at $p/p_s > 0.4$. In the range $p/p_s = 0.2$-0.4, the effective activation energies E, for gaseous HCl and HBr, are 0.7 and 0.5 kcal./mole, resp. With quartz treated with the nonvolatile H_3PO_4, v is const., and the true activation energy $E = 21.0$ kcal./mole. If the catalytic effect of the acids is ascribed to H ions, i.e., if the effect is assumed to be non-specific, the same E should be valid also for HCl and HBr, hence the heats of adsorption $q = E - E' = 11.3$ and 14.5 kcal./mole for HCl and HBr, resp. The likelihood of these values is seen to be consistent with the assumed ionic mechanism of the catalysis. More convincing proof is provided by the effect of H_2O vapor. With a given amt. of adsorbed HBr, v increases with [illegible] 15, 46, and 83 mm. Hg) increases v, but the effect has an optimum at 4 mm. Hg. The activity-increasing effect of H_2O is attributed to the ionization of HBr; an excess of H_2O is beyond the optimum amt. is detrimental through displacement of HBr by H_2O. v is assumed proportional to the amts., a_1 and a_2, of I and of H_2O adsorbed, $v = k a_1 a_2 = k'(\omega_1 c_1 + \omega_2 c_2)^2$, where c = total no. of active points, $c = \omega_1 c_1 + \omega_2 c_2$, with V = effective vol. in the adsorbed state, $\omega = V\sqrt{\pi}/\sigma^2$, with σ = adsorption potential, subscripts 1 and 2 referring to I and to H_2O, resp. This can be simplified to $v/As^2 = \lambda p_1/(1 + \lambda p_1)^2$, where $\lambda = \omega_1/\omega_2$.

This function has a max. at $\lambda p_1 = 1$. From exptl. data, v/As^2 is max. at $p_1 = 30$, $p_2 = 4$ mm. Hg, hence $\omega_1/\omega_2 = 7.5$, and $\omega_2 > \omega_1$. If the theoretical and the exptl. max. are made to coincide, and the max. v is taken = 1, the equation becomes $v/As^2 = p_1/(1 + 0.25\ p_1)^2$, and is in agreement throughout with the exptl. points. N. T.

CA

11A

Action of ultraviolet rays on the photochemical activity of chloroplast substances. I. V. Vereshchinskiĭ and A. A. Krasnovskiĭ (Bakh Biochem. Inst., Moscow). *Biokhimiya* 16, 621-6(1951); cf. Holt, *et al.*, C.A. 45, 7200b. Ultraviolet rays inactivate the photochem. activity of chloroplasts. The chlorophyll in the chloroplasts is not thereby destroyed. The inactivation is probably caused by the destruction of an intermediate enzyme system. The photochem. activity of the chloroplasts is fully retained after illumination with x-rays at −120 and 4°. H. Priestley

VERESHCHINSKIY, I. V.

USSR/Chemistry - Radiation Reactions May/Jun 51

"Radiation Chemistry," I. V. Vereshchinskiy, Moscow

"Uspekh Khim" Vol XX, No 3, pp 288-308

Surveys largely non-USSR published works in radiation chemistry (i.e., chem conversions of substances under action of absorbed radiation). Discusses sources of radiation, dosimetry, effect of ionizing radiation on a substance, primary radiation reactions, action of radiation on aq solns of inorg and org substances and on biologically important substances.

193T13

BAKH, N.A., professor, doktor khimicheskikh nauk, redaktor; VRZHOSHCHINSKIY, I.V., redaktor; DOLIN, P.I., redaktor; MYASNIKOV, I.A., redaktor; KISELEVA, A.A., tekhnicheskiy redaktor.

[Collection of papers on radiation chemistry] Sbornik rabot po radiatsionnoi khimii. Moskva, 1955. 262 p. (MLRA 8:11)

1. Akademiya nauk SSSR.
(Radiation)

76-32-5-43/47

AUTHORS: Vereshchinskiy, I. V., Larin, V. A.

TITLE: The Action of γ-Radiation on Aqueous Solutions of Sodium Diethyldithiocarbamate (Deystvlye γ-izlucheniya na vodnyye rastvory dietilditiokarbamata natriya)

PERIODICAL: Zhurnal fizicheskoy khimii, 1958, Vol. 32, Nr 5, pp.1180-1181 (USSR)

ABSTRACT: In the present work the action of γ-radiations of Co^{60} was investigated, using the formation of colored complex salts of the substance mentioned in the title. The trihydrate $(C_2H_5)_2 NCS_2Na.3H_2O$ was used as analytical reagent with a spectrophotometer of the type SF -2M as well as the apparatus GUP -Co-5 and G OP-400 being used. From the obtained experimental data it could not be found which molecule particles of the Na-diethyldithiocarbamate attack free radicals forming in the radiolysis in water. In the hydrogen atmosphere only H-atoms can react with the molecules of the complex former, while the loss of complex forming properties can be explained by a deposition of H-atoms to the C=S binding,

Card 1/2

The Action of γ-Radiation on Aqueous Solutions of Sodium Diethyldithiocarbamate

forming -SH groups. The OH-radicals react with the molecules in nitrogen and oxygen atmosphere. Different from the radiolysis of thiourea it was observed that in the present case the radiolysis does not depend on the quantity of the dosage, but that there is present a noticeable dependence on the concentration, which fact is explained by the rather great efficiency of the chain cleavage of the molecules. The observation of the green thiuram coloring points at secondary reactions taking place. Finally the authors thank Professor N. A. Bakh for his interest in this work. There are 1 figure, 1 table, and 8 references, 1 of which is Soviet.

ASSOCIATION: Akademiya nauk SSSR, Institut fizicheskoy khimii, Moskva (Moscow, Institute of Physics and Chemistry, AS USSR)

SUBMITTED: October 9, 1957

1. Sodium carbonates solutions---Effects of radiation
2. Cobalt isotopes (Radioactive)---Applications

VINOGRADOV, A.P., akademik, red.; VERESHCHINSKIY, I.V., kand. khim. nauk, red.; GRAFOV, G.I., kand. khim. nauk, red.; KORPUSOV, G.V., kand. khim. nauk, red.; PRUSAKOV, V.N., kand. khim. nauk, red.; MATVEYEVA, A.V., red.; MAZEL', Ye.I., tekhn. red.

[Transactions. Selected reports by foreign scientists] Trudy. [Izbrannye doklady inostrannykh uchenykh] Moskva, Izd-vo Glav. uprav. po ispol'zovaniiu atomnoi energ. pri Sovete Ministrov SSSR. Vol.5. [Chemistry of radioactive elements and of radiation transformations] Khimiia radioelementov i radiatsionnykh prevrashchenii. Pod obshchei red. A.P.Vinogradova. 1959. 715 p. (MIRA 12:7)

1. Vtoraya mezhdunarodnaya konferentsiya po mirnomu ispol'zovaniyu atomnoy energii, Zheneva, 1958.
(Radioactive substances) (Radiochemistry)

5.3300,5.2500

77086
SOV/62-59-12-30/43

AUTHOR: Vereshchinskiy, I. V.

TITLE: Brief Communication. Radiochemical Isomerization of Benzene

PERIODICAL: Izvestiya Akademii nauk SSSR. Otdeleniye khimicheskikh nauk, 1959, Nr 12, pp 2234-2235 (USSR)

ABSTRACT: Reported at the meeting of the radiochemistry and isotope chemistry section of the VIII Mendeleev Conference on General and Applied Chemistry. Liquid benzene was irradiated with accelerated (800 kev) electrons in a molybdenum-glass compartment, which was connected to a 1-cm quartz cell. Ultraviolet spectra of the radiolysis products, shown in Fig. 1, were obtained on the SF-4 spectrophotometer.

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Brief Communication. Radiochemical Isomerization of Benzene

77086
SOV/62-59-12-30/43

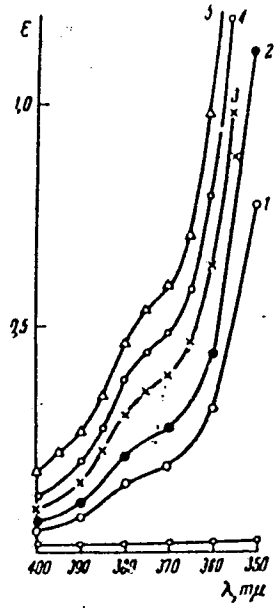

Fig. 1. Absorption spectra of benzene, irradiated with 800 kev electrons. Intensity, $6.4 \cdot 10^{16}$ ev/ml·sec. Integral dose: (1) $0.98 \cdot 10^{20}$ ev/ml; (2) $1.36 \cdot 10^{20}$ ev/ml; (3) $1.84 \cdot 10^{20}$ ev/ml; (4) $2.22 \cdot 10^{20}$ ev/ml; (5) the same after standing for 384 hr.

Card 2/4

Brief Communication. Radiochemical Isomerization of Benzene

77086
SOV/62-59-12-30/43

The substance which causes increased absorption in the near ultraviolet region is believed to be fulvene, which has, beside an absorption band with the maximum at 242 mμ (entirely masked by benzene) a broad band with a maximum at ~365 mμ. Using the extinction coefficient of fulvene, $\varepsilon_{362} = 250$, the radiochemical yield of fulvene was calculated to be 0.76 to 0.85 molecules/100 ev. This yield is comparable with the recorded yield values (0.86-0.94) for radiochemical polymerization [Gordon, S., Van Dyken, A. R., Doumani, T. F., J. Phys. Chem. Soc., 62, 20 (1958)]. There is 1 figure; 1 table; and 7 references, 1 Soviet, 1 French, 2 U.K., 3 U.S. The U.K. and U.S. references are: C. S. Schoepfle, C. H. Fellows, Industr and Engng. Chem. 23, 1390 (1931); W. N. Patrick, M. Burton, J. Amer. Chem. Soc. 76, 2626 (1954); S. Gordon, A. R. Van Dyken, T. F. Doumani, J. Phys. Chem. 62, 20 (1958); J. Blair McDonald, D. Bryce-Smith Proc. Chem. Soc. 1957, 287; A. Prevost-Bernas, A. Chapiro, C. Cousin, Y. Landler, M. Magal, Disc. Faraday Soc. 12, 98 (1952).

Card 3/4

Brief Communication. Radiochemical Isomerization of Benzene

77086
SOV/62-59-12-30/43

ASSOCIATION: Institute of Physical Chemistry of the Academy of Sciences, USSR (Institut fizicheskoy khimii Akademii nauk SSSR)

SUBMITTED: May 4, 1959

Card 4/4

VERESHCHINSKIY, I. V.; GLAZUNOV, P. Ya.; BALADIN, A. A.; SPITSYN, V. I.;
DOBROSELSKAYA, N. P.

"Influence Du Rayonnement Radioactif D'un Corps Solids Sur Ses Proprities Catalytiques."

report submitted for Catalysis 2nd Intl. Cong., Paris, 4-9 Jul. 60.

Institute de Chemie Physique, Moscou, U.R.S.S.

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R001859430007-4"

VERESHCHINSKIY, I.V.

S/081/62/000/009/019/075
B156/B101

5.4600

AUTHORS: Topchiyev, A. V., Polak, L. S., Chernyak, N. Ya., Glushnev, V. Ye., Glazunov, P. Ya., Vereshchinskiy, I. V., Syrkus, N. P., Breger, A. Kh., Vaynshteyn, B. I.

TITLE: Radiation-heat cracking of hydrocarbons

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 9, 1962, 74 - 75, abstract 9B513 (Sb. "Radioakt. izotopy i ikdern. izlucheniya v nar. kh-ve SSSR. v. I". M., Gostoptekhizdat, 1961, 206-210)

TEXT: The low overall yield of radiolysis products from hydrocarbons at room temperature points to the absence of a chain reaction at that temperature. To examine the possibilities of a chain reaction in radiation cracking, n-heptane was irradiated by Co^{60} γ-rays at high temperatures. The samples were irradiated in 15 ml bulbs made of molybdenum glass with a wall thickness of ~1 mm. The amount of liquid heptane was 0.25 ml and the pressure in the ampoules on vaporization 2.5 T/273 atm. To prevent local preheating of the walls, the bulb was rotated twice a second. The

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S/081/62/000/009/019/075
B150/B101

Radiation-heat cracking of hydrocarbons

radiation dose output calculated on 1 ml of liquid n-heptane was $2 \cdot 10^{15}$ Mev/sec. It is shown that radiation-heat cracking of n-heptane occurs at considerably lower temperatures than purely thermal cracking which needs a temperature of ~500°C. The yield of liquid unsaturated hydrocarbons from radiation-heat cracking increases from 1.6 at room temperature to 340 at 450°C. The total radiation-chemical yield of low molecular hydrocarbons is 2000 at 400°C, being therefore ~10^3 times as great compared with the radiation-chemical yield of the same products at 20°C. By combining the radiation effect with temperature it is possible to obtain products which offer industrial interest at levels of yield which would be acceptable in practice. Possible sources of radiation for radiation-heat cracking are considered. [Abstracter's note: Complete translation.]

Card 2/2

S/030/61/000/001/016/017
B105/B206

AUTHORS: Vereshchinskiy, I. V., Candidate of Chemical Sciences,
Dolin, P. I., Doctor of Chemical Sciences

TITLE: Trends of radiation-chemistry development

PERIODICAL: Vestnik Akademii nauk SSSR, no. 1, 1961, 116-119

TEXT: The Second All-Union Conference on Radiation Chemistry was held in Moscow from October 10 to 14, 1960. It was convened by the Otdeleniye khimicheskikh nauk Akademii nauk SSSR (Department of Chemical Sciences of the Academy of Sciences USSR) as well as the Gosudarstvennyy komitet Soveta Ministrov SSSR po khimii (State Committee for Chemistry of the Council of Ministers of the USSR). The Conference dealt with the discussion of theoretical problems of radiation chemistry of aqueous solutions, organic substances, high-molecular compounds, and solid substances. Phenomena taking place in the systems mentioned under the effect of ionizing radiation play an important role in nuclear engineering and radiobiology. The present state of the problem of primary processes and the mechanism of radiation-chemical reactions was checked

Trends of radiation-chemistry ...

specially. For the first time it was endeavored to outline the statistical theory of activation processes in condensated bodies, which proceed in the field of ionizing radiation, as well as to utilize the theory of the repeated dispersion of electrons in the substance for studying the mechanism of radiolysis. Problems of energy migration in condensated systems were discussed. In accordance with the radical-diffusion theory of the water radiolysis, the OH radicals and H atoms developing in places of high ionization density are to be considered as being primary products of the water radiolysis. A still simpler model of radiolysis was proposed for the field of dilute solutions. The data mentioned at the Conference, which refer to the radiolysis of the solutions of H_2O_2, O_2, H_2, Fe^{2+}, Fe^{3+}, NO_3^-, ClO_3^-, SO_4^{2-}, the neptunium salts and uranium salts, agree well with the model mentioned. Concepts on the role of excited water molecules in the process of radiolysis were taken into consideration in a number of reports, specially those concerning the aqueous solutions of organic compounds, in order to clarify experimental results. Problems of radiation-electrochemical processes in aqueous solutions were discussed in detail. The studies of reactions of the

Trends of radiation-chemistry ...

radiation-chemical synthesis may be described as being a promising trend of radiation chemistry. The initiating of chain reactions through the effect of ionizing radiation constitutes an independent problem. The conduction of radiolytic oxidation at various temperatures permits demarcation of the area of the non-chain- radical-reaction course and the area of a chain process. The studies of the sensitizer effect of the solid phase on the radiolysis process are given special mention. Radiation polymerization and the effect of radiation on polymers for the purpose of their modification represent the main problems of the radiation chemistry of polymeric materials. Studies were conducted regarding the effect of different parameters on the radiation polymerization of low-molecular monoolefins, acetylene hydrocarbons, trifluoro ethylene, tetrafluoro ethylene, allyl silane, phosphonitryl chloride. The stabilizing effect of the organozinc compounds on the heat resistance of the irradiated polyethylene was shown next. The majority of the studies for the investigation of unstable intermediate products of radiolysis was done either with frozen hydrocarbons or with polymers, the measurements of the spectra of the electron-paramagnetic resonance proving to be most useful. New types of electron accelerators specially

Trends of radiation-chemistry ...

built for purposes of radiation-chemistry and distinguished by very high voltages at relatively low current energies are described as being very promising. Finally, it is stated that the volume of research in all fields of radiation chemistry has greatly increased during the last 3.1/2 years since the previous conference. New fields of scientific studies (such as the chemical effect of radiation on solids and heterogeneous systems) were created. The number of scientific institutions occupied with research in the field of radiation chemistry has greatly increased, also outside the scientific centers. Characteristic for this period of time is the further use of physical investigation methods, primarily the e.p.r. which permits to gain insight into the nature of short-lived intermediate products, developing under radiation effect. The delegates to the Conference unanimously approved the proposal by the Orgkomitet (Organizing Committee) to convene a conference which would deal with individual theoretical problems of radiation chemistry.

Card 4/4

L 25624-66 EWT(m)/EWP(j)/EWA(h)/EWA(l) JW/RM

ACC NR: AP6015066 SOURCE CODE: UR/0020/65/165/001/0100/0102

AUTHOR: Vereshchinskiy, I. V.; Podkhalyuzin, A. A.

ORG: Physicochemical Institute im. L. Ya. Karpov (Fiziko-khimicheskiy institut)

TITLE: Addition of molecular nitrogen to hydrocarbons under the action of ionizing radiation

SOURCE: AN SSSR. Doklady, v. 165, no. 1, 1965, 97-100

TOPIC TAGS: ionizing radiation, gamma irradiation, nitrogen, organic nitrogen compound, radiation chemistry

ABSTRACT: The ability of molecular nitrogen to add to organic compounds under the influence of ionizing radiation was first established in 1964. The radiation chemical yield of the bonding of nitrogen depends on the nature of the hydrocarbon and does not exceed one molecule per 100 electron volts. The simplest perchlorohydrocarbons: carbon tetrachloride and tetrachloroethylene were selected for an investigation of the conditions of addition of molecular nitrogen and a clarification of the nature of the products formed. In the gamma irradiation (Co^{60}, dose rate 280 rad/sec) of solutions of nitrogen in tetrachloroethylene, the concentration of bound nitrogen was found to be directly proportional to the absorbed dose and increased with increasing pressure and temperature. The dependence of the bound nitrogen concentration was more complex in the irradiation of frozen solutions. The apparent activation energy of the process of radiation fixation of nitrogen was estimated at 1.5 kcal/mole. The hypothesis of addition at the double bond is supported by preliminary data: 1) the ap-

UDC: 541.15

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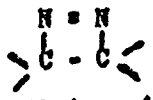
L 25624-66

ACC NR: AP6016066

pearance of an absorption band corresponding to the NH bond, rather than NH_2, after the reduction of nitrogen-containing products; 2) in the fixation of nitrogen by carbon tetrachloride, the value of the yield of bound nitrogen is comparable with the radiochemical yield of the unsaturated products (hexachlorocyclobutene and hexachlorobutadiene) arising in the radiolysis of CCl_4; 3) the absorption band at 290-292 millimicrons lies within the absorption region characteristic of the -N=N- groups in cyclic systems. The authors propose cyclic structures of the diazine tetracycle type:



The authors consider it probable that an important role in radiation fixation is played by the reaction of the molecular nitrogen ion with unsaturated products. This paper was presented by Academician S. S. Medvedev on 10 April 1965. Orig. art. has: 4 figures. [JPRS]

SUB CODE: 07, 20 / SUBM DATE: 03Feb65

Card 2/2

VERESHCHINSKIY, I.V.; PODKHALYUZIN, A.V.

Addition of molecular nitrogen to perchlorohydrocarbons subjected to ionizing radiation. Dokl. AN SSSR 165 no.1:107-109 N '65. (MIRA 18:10)

1. Fiziko-khimicheskiy institut im. L.Ya.Karpova. Submitted April 8, 1965.

VERESHCHINSKIY, Igor' Vyacheslavovich; PIKAYEV, Aleksey Konstantinovich; SPITSYN, Vikt. I., akademik, otv. red.; DRAGUNOV, E.S., red.; YENIFANOVA, L.V., tekhn. red.; YEGOROVA, N.F., tekhn. red.

[Introduction to radiation chemistry] Vvedenie v radiatsionnuiu khimiiu. Moskva, Izd-vo Akad. nauk SSSR, 1963. 406 p. (MIRA 16:5)

(Radiochemistry)

S/844/62/000/000/012/129
D290/D307

AUTHORS: Vereshchinskiy, I. V., Glazunov, P. Ya., Kustanovich, I. M. and Polak, L. S.

TITLE: Emission spectra of liquids and gases after irradiation with fast electrons

SOURCE: Trudy II Vsesoyuznogo soveshchaniya po radiatsionnoy khimii. Ed. by L. S. Polak. Moscow, Izd-vo AN SSSR, 1962, 85-86

TEXT: Visible and ultraviolet emission spectra of various liquids and gases after irradiation with fast electrons (700 - 800 kev) were studied. Great care was taken to exclude any impurities with known emission spectra in this region and to prevent Cherenkov radiation entering the spectrograph. The dose rate was measured by formate dosimetry and was about 3.9×10^{20} ev/sec. No previously unknown radiations were detected after irradiation of air, nitrogen, methane, propane, or ethylene. Irradiation of n-pentane produced a very broad emission band at about 3900 Å extending from

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Emission spectra of ...

4800 to 2400 Å; irradiation of water produced a similar band but at slightly shorter wavelengths. The emission is very weak (the energy yield is less than 1.5×10^{-6} of the energy input in both cases). Further experimental evidence is required before the cause of the emission can be established. There are 2 figures.

ASSOCIATION: Institut neftekhimicheskogo sinteza AN SSSR (Institute of Petrochemical Synthesis, AS USSR); Institut fizicheskoy khimii AN SSSR (Institute of Physical Chemistry, AS USSR)

Card 2/2

h3240

S/844/62/000/000/114/129
D207/D307

AUTHORS: Brekhovskikh, S. M., Vereshchinskiy, I. V., Grishina, A. D., Zelentsova, S. A., Revina, A. A. and Tykachinskiy, I. D.

TITLE: Electron paramagnetic resonance in irradiated glasses of various compositions

SOURCE: Trudy II Vsesoyuznogo soveshchaniya po radiatsionnoy khimii. Ed. by L. S. Polak. Moscow, Izd-vo AN SSSR, 1962, 660-667

TEXT: The purpose of the work was to prepare a glass for making test tubes and ampoules used in EPR studies of irradiated substances; such glass must not given an apppreciable EPR signal after being subjected to an ionizing radiation. The basic glass composition was $3SiO_2.0.5Al_2O_3.0.75CaO.0.2MgO$, which was varied by additions of Na_2O, K_2O, Li_2O, BaO, CeO_2, or Fe_2O_3, by altering the proportions of CaO or MgO, and by replacing 20 wt.% SiO_2 with the same

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Electron paramagnetic resonance ...

amount of B_2O_3. Samples were prepared from quartz sand and from materials of 'pure' and 'analytically pure' grades, in corundum crucibles heated to 1450 - 1570°C. The glasses were irradiated with 800 kev electrons at the rate of 10^{21} ev.cm^{-2}.hour^{-1} at room temperature, or with 80 kev x rays (10^{17} ev.cm^{-3}.sec^{-1}) at 77 - 320°K. The spectra were recorded with an apparatus based on [illegible] (EPR-2) of the Institut khimicheskoy fiziki (Institute of Chemical Physics). It was found that in some cases there was no correlation between coloring and generation of paramagnetic centers by electrons and x rays. The addition of Fe_2O_3 or CeO_2 reduced the EPR signal intensity of the irradiated glasses, while the other additives either raised the original signal intensity (Al_2O_3 or alkali oxides together with B_2O_3) or produced an additional peak (B_2O_3 alone or BaO). Annealing of irradiated glasses reduced the concentration of paramagnetic centers produced by second irradiation. Using this information a glass of unstated composition, named 'A', was prepared, which give no noticeable EPR signal after irradiation and was,

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therefore, suitable for making test tubes used in radiation chemistry. The work on EPR and x ray irradiation was carried out in the Laboratoriya radiatsionnoy khimii (Radiation-Chemistry Laboratory), directed by Doctor of Chemical Sciences N. A. Bakh, who took a direct part in the discussion of the results. There are 8 figures and 2 tables.

ASSOCIATION: Vsesoyuznyy nauchno-issledovatel'skiy institut stekla (All-Union Scientific Research Institute for Glass); Institut fizicheskoy khimii AN SSSR (Institute of Physical Chemistry, AS USSR); Institut elektrokhimii AN SSSR (Institute of Electrochemistry, AS USSR)

S/844/62/000/000/051/129
D287/D307

AUTHORS: Spitsyn, V. I., Vereshchinskiy, I. V., Glazunov, P. Ya., Ryabchikova, G. G. and Sibirskaya, G. K.

TITLE: High-temperature radiolysis of propane

SOURCE: Trudy II Vsesoyuznogo soveshchaniya po radiatsionnoy khimii. Ed. by L. S. Polak. Moscow, Izd-vo AN SSSR, 1962, 308-311

TEXT: Preliminary results are given of the effects of temperature on the radiolysis of propane-ethane mixtures. The purified propane-thane mixture, prepared in the Institut ispol'zovaniya gazov AN USSR (Institute for the Utilization of Gases, AS UkrSSR), freed of CH_4, olefins and C_4 hydrocarbons, and containing 98% propane at normal pressure, was irradiated with an optimum dosage of a few units x 10^{15} ev/cm^{3}sec, the temperature being maintained with an accuracy of $\pm$ 4°C. The radiolysis products (up to C_6 hydrocarbons) were analyzed in a chromothermograph XT-2M (KhT-2M); the weight of

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High-temperature radiolysis ...

the samples was 0.25 - 1 ml. The yields were found to increase slightly at 450°C and rapidly thereafter. Only temperatures of up to 600°C were investigated as thermal cracking occurs at higher temperatures (38% at 550°C, 46% at 600°C). Principal products obtained during radiolysis were: H_2, ethylene and propylene, but no CH_4 at 500°C; the CH_4 content increased rapidly at higher temperatures. At 600°C the following reaction products were obtained: 22% H_2, 29.5% CH_4, 46.5% C_2H_4 + C_3H_6 which is approximately the same the products obtained during thermal cracking at 550°C. Investigations on the relationship between the percentage composition of the composition and the time of irradiation at 500°C showed that the products are: H_2 (180 mol/100 ev), ethylene (100 mol/100 ev) and propylene (135 mol/100 ev). The activation energy for the formation of hydrogen, ethylene and propylene was calculated to be 16 kcal/mole, i.e. it is approximately equal to that required for thermal cracking. The radiolysis of propane-ethane mixtures proceeds by a chain reaction. There are 4 figures.

ASSOCIATION: Institut fizicheskoy khimii, AN SSSR (Institute of Physical Chemistry, AS USSR)

Card 2/2

h32b

S/844/62/000/000/050/129
D287/D307

AUTHORS: Topchiyev, A. V., Vereshchinskiy, I. V., Glazunov, P. Ya., Glushnev, V. Ye., Polak, L. S., Ryabchikova, G. G., Sibirskaya, G. K., Timofeyev, V. D. and Chernyak, N. Ya.

TITLE: Thermal cracking of hydrocarbons induced by irradiation

SOURCE: Trudy II Vsesoyuznogo soveshchaniya po radiatsionnoy khimii. Ed. by L. S. Polak. Moscow, Izd-vo AN SSSR, 1962, 304-307

TEXT: The effect of irradiation on thermal cracking of heptane at thermal cracking temperatures was studied. The experiments were carried out in a countercurrent reactor, at constant throughput of the gas, using irradiation dosages of 7 x 10^{15} ev/sec/1 cm^3 heptane. The rate of formation of gaseous products during radiation-induced and ordinary thermal cracking at 400 - 600°C was influenced by the reaction temperature. At temperatures above 550°C the relationship between the yield of products obtained by radiation and those obtained by ordinary thermal cracking was in a 4:1 ratio and radia-

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...ute of Physical ...; Institut

Card 2/2

Thermal cracking of ...

tion-induced processes could therefore be carried out at much lower temperatures (150 - 220°C) than ordinary thermal cracking processes (550 - 600°C). Activation energy requirements also compared favorably (21 kcal/mole as against ~60 kcal/mole for thermal cracking). The yield of gaseous and liquid unsaturated compounds increased sharply with temperature and reached ~15,000 mol/100 ev at ~600°C. At temperatures ~800°C the radiation yield became lower. The yield of unsaturated compounds increased sharply with temperature and reached 80% (as against 50 - 55% during ordinary thermal cracking). Optimum conditions for the above process were high dosage irradiation and short contact times. There are 3 figures.

ASSOCIATION: Institut neftekhimicheskogo sinteza, AN SSSR (Institute of Petrochemical Synthesis, AS USSR); Institut fizicheskoy khimii, AN SSSR (Institute of Physical Chemistry, AS USSR)

Card 2/2

S/638/61/001/000/052/056
B125/B104

AUTHORS: Vereshchinskiy, I. V., Glazunov, P. Ya.

TITLE: Radiolysis of protoporphyrin solutions

SOURCE: Tashkentskaya konferentsiya po mirnomy ispol'zovaniyu atomnoy energii. Tashkent. 1959 Trudy. v. 1. Tashkent, 1961, 324-328

TEXT: Sufficiently stable protoporphyrin IX (produced by the method of L. A. Blyumenfel'd, S. E. Krasovitskaya, A. M. Charnyy, Sb. trudov posvyashchennyy V. V. Voroninu (Collection of transactions dedicated to V. V. Voronin), Tbilisi, AN GruzSSR, 1952, str. 65) was irradiated with a fast electron beam. The spectra were recorded by СФ-4 (SF-4) and СФ-2М (SF-2M) spectrophotometers. The linear electron accelerator used as electron source consisted of a vertical tube and a cascade voltage multiplier for 1.0 to 1.2 mv. The dose rate was determined by ferrosulfate dosimetry. The optical density of the solution dropped linearly to 10^9 ev/ml over a sufficiently wide range of integral doses. The radiochemical yield (0.1) of a benzene solution of protoporphyrin is about

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Radiolysis of protoporphyrin

double that of an n-hexane solution. For sufficiently stable chloroform solutions of protoporphyrin IX, the sequence of absorption bands of protoporphyrin IX was replaced by that of absorption bands with maxima at 565 and 607 mμ. In addition, the solution were dichroic. The absorption band intensity dropped noticeably with increasing duration of irradiation. No absorption bands pointing to the existence of bands with porphyrin nuclei appeared. As a result of irradiation, the molecules decompose irreversibly to low-molecular products without characteristic absorption bands in the visible. The mechanism of radiolytic conversions cannot be interpreted without a knowledge of the radiochemical behavior in other solvents. There are 4 figures, 1 table, and 7 references: 3 Soviet and 4 non-Soviet. The three references to English-language publications read as follows: Sponer H. Proceedings of the International Congress of Radiation Research; Radiation Research. Supplem. I. 1959; Fricke H. Petersen B. W. Am. J. Roentgenol. Radium Therapy, 17, 611, 1927; Barron E. S. G., Johson P. Radiation Research, 5, 290, 1956.

ASSOCIATION: Institut fizicheskoy khimii AN SSSR (Institute of Physical Chemistry, AS USSR)

Card 2/2

2

22514

S/062/61/000/004/003/008
B118/B208

5 1190 2209, 1274, 1297

AUTHORS: Balandin, A. A., Spitsyn, Vikt. I., Dobrosel'skaya, N. P., Mikhaylenko, I. Ye., Vereshchinskiy, I. V., and Glazunov, P. Ya.

TITLE: Effect of radioactive radiation of a solid body on its catalytic properties

PERIODICAL: Izvestiya Akademii nauk SSSR. Otdeleniye khimicheskikh nauk, no. 4, 1961, 565-571

TEXT: There are no data available on the effect of the proper radioactive radiation of solids on their catalytic properties. The authors of the present paper investigated the change of catalytic activity as a result of decay of the radioactive isotope, furthermore whether also the β-radiation of a foreign element affects the reaction to be studied, and the effect of irradiating the catalyst by a fast electron beam. The effect of the radioactive catalysts $CaCl_2$, $MgSO_4$, and Na_2SO_4, containing the β-emitters S^{35} and Ca^{45}, on the dehydration of cyclohexanol was studied. The increased catalytic activity of radioactive catalysts, contrary to

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Effect of radioactive...

non-labeled catalysts, which had been previously observed by the authors, was confirmed in many cases. The catalytic activity decreases with decreasing radioactivity of the catalyst owing to decay of the isotopes S^{35} and Ca^{45}. Bombardment of the surface of the non-labeled catalyst with 800-kev electrons has no pronounced effect, contrary to the effect of β-particles of labeled S^{35} and Ca^{45} which are constituents of the catalyst. Thus not only the labeled S^{35}, but also the labeled Ca^{45} increases the catalytic activity of magnesium sulfate in the dehydration of cyclohexanol. The radioactive isotope need not be a component of the acting catalyst. It must be concluded that the increased activity of the radioactive catalysts studied is due to a continuous bombardment of the active centers of the catalyst with β-particles. The latter transfer their energy to the adsorbed cyclohexanol molecules and reduce the activatic energy of the chemical reaction. It may be concluded from the decrease of the catalytic activity due to the decay of the isotope in the catalyst that the new elements resulting in the radioactive conversion do not increase the activity. Apparently, the activation of the catalyst surface takes place

Effect of radioactive...

at the expense of the proper radioactive radiation. There are 8 figures, 2 tables, and 4 Soviet-bloc references.

ASSOCIATION: Institut fizicheskoy khimii Akademii nauk SSSR (Institute of Physical Chemistry of the Academy of Sciences USSR).
Moskovskiy gosudarstvennyy universitet im. M. V. Lomonosova (Moscow State University imeni M. V. Lomonosov)

SUBMITTED: January 16, 1960

Card 3/3

VERESHCHINSKIY, I.V.

Temperature coefficient of radiation chemistry reactions and its relation to the primary processes of water radiolysis. Izv.AN SSSR. Otd.khim.nauk no.6:1154-1155 Je '61. (MIRA 14:6)

1. Institut fizicheskoy khimii AN SSSR.
(Solution (Chemistry)) (Radiochemistry)

VERESHCHINSKIY, L.V.

Radiochemistry. Priroda 51 no.6:37-41 Je '62. (MIRA 15:6)

1. Institut fizcheskoy khimii AN SSSR, Moskva.
(Radiochemistry)

VERESHCHINSKIY, V. M.

MAMUNYA, A.U.; ASHKINUZI, Z.K.; VERESHCHINSKIY, V.M.

Direct-action liquid level regulator with a sector-type valve. Spirt. prom. 23 no.4:40-41 '57. (MIRA 10:5)

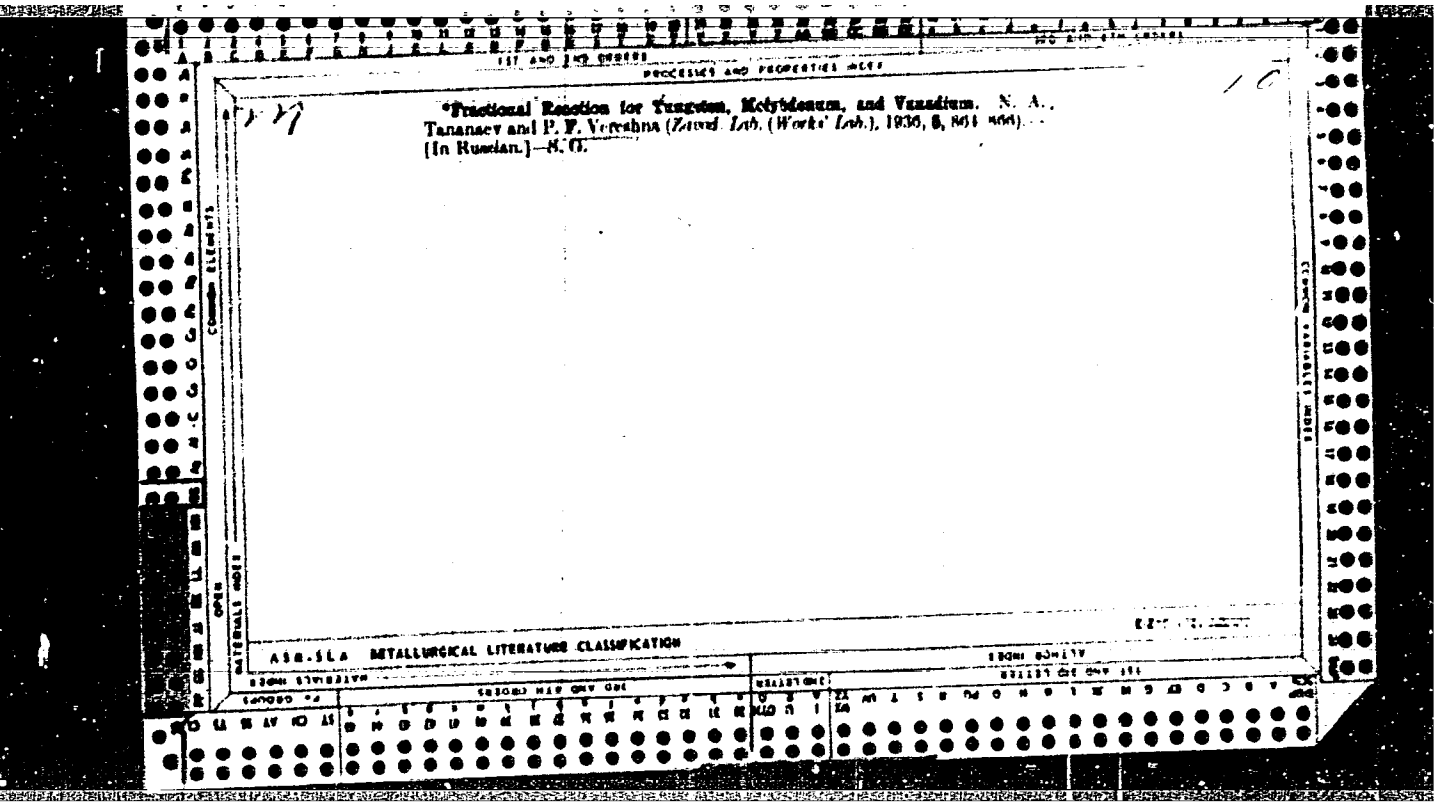
1. Kiyevskiy filial Vsesoyuznogo nauchno-issledovatel'skogo instituta spirtovoy promyshlennosti (for Mamunya and Ashkinuzi). 2. Korostyshevskiy spirtovoy zavod. (for Vereshchinskiy).
(Distilling industries--Equipment and supplies)
(Valves)

BABCHUK, P. (Lyubimskiy rayon, Yaroslavskaya oblast'); VYAPIN, V.; VERESHENOV, N., instruktor profilaktiki (Nizhniy Tagil)

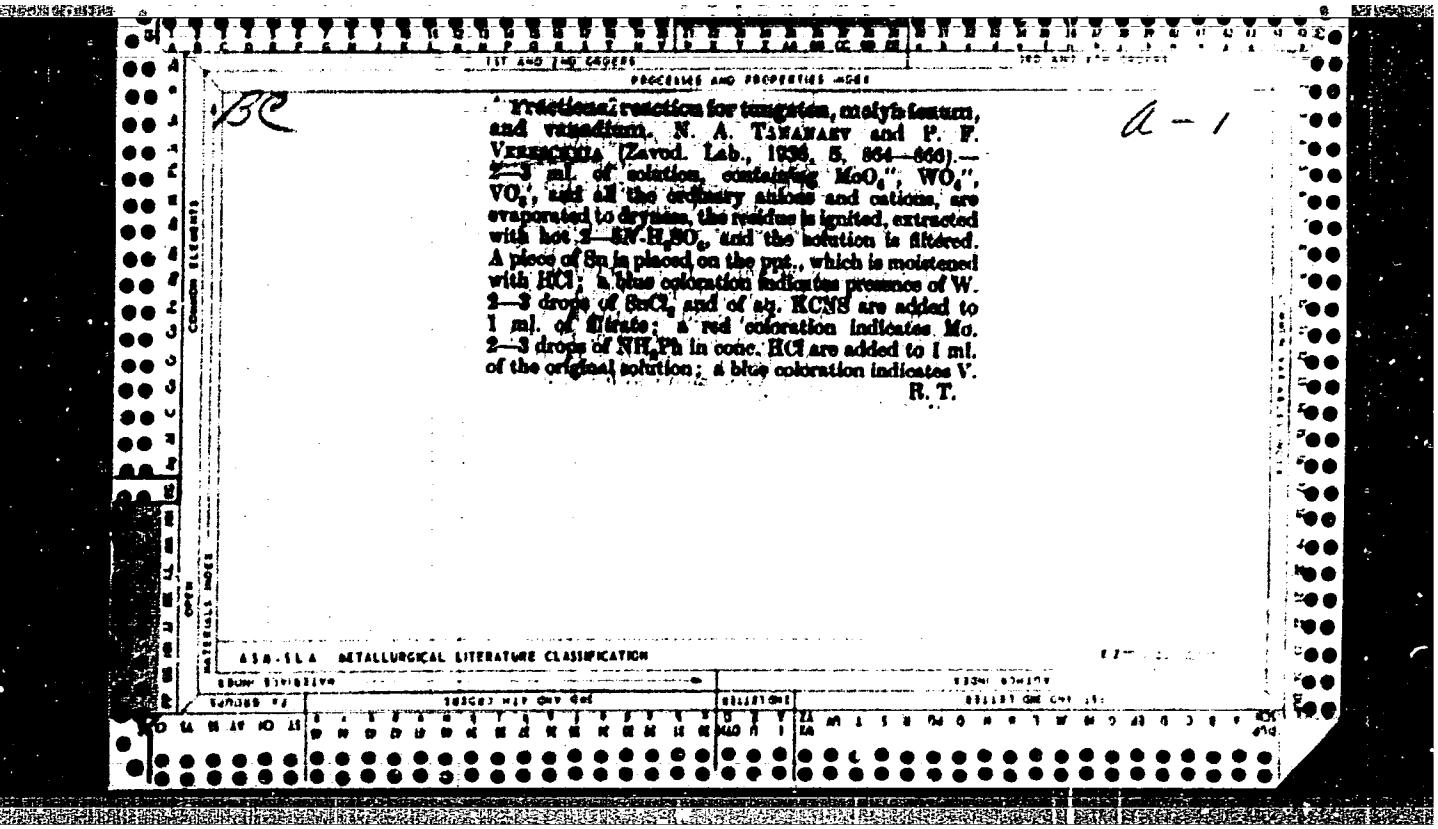
Readers letters. Pozh. delo 7 no. 2:31 F '61. (MIRA 14:2)

1. Kursant Leningradskogo pozharno-tekhnicheskogo uchilishcha (for Lyapin).

(Fire prevention)

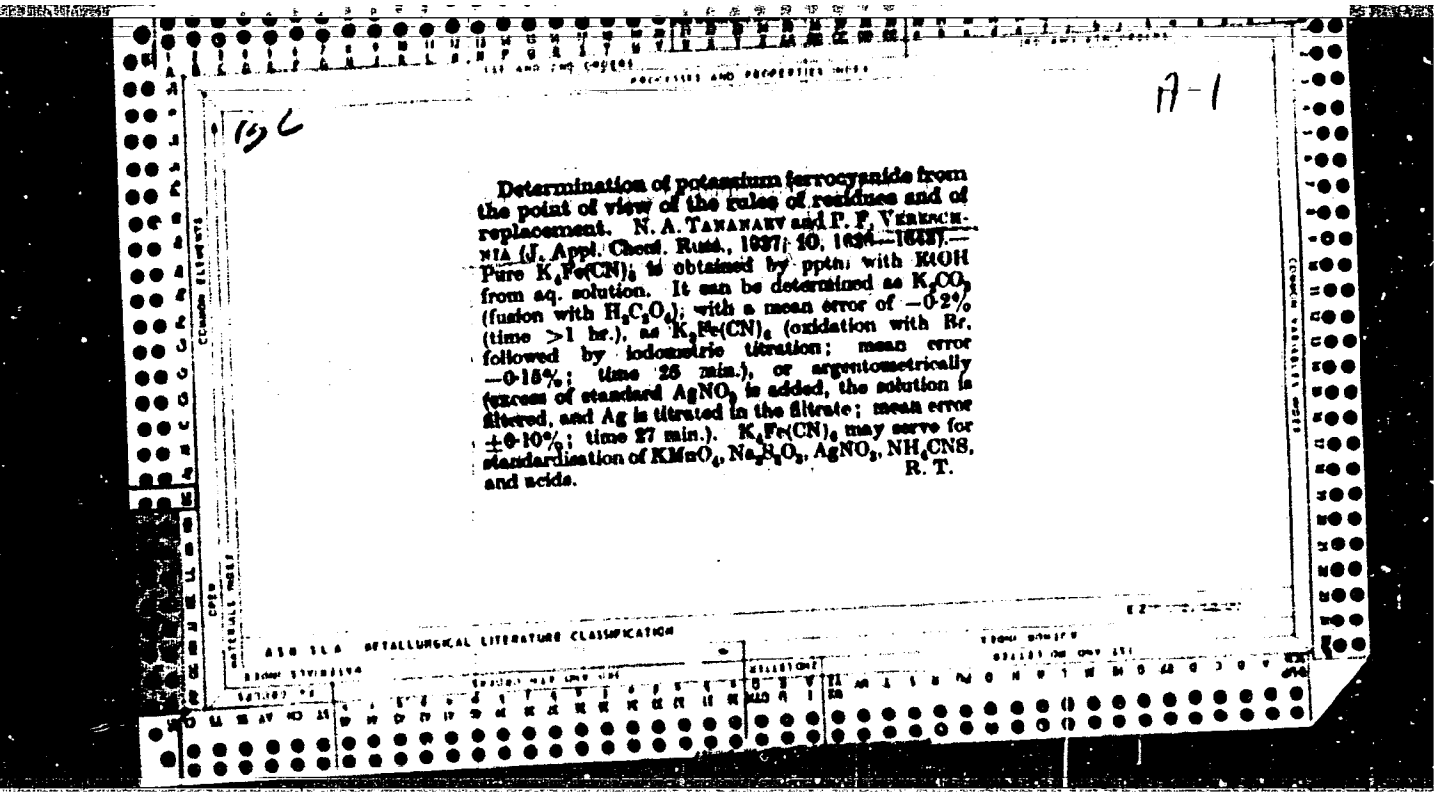


*Fractional Reaction for Tungsten, Molybdenum, and Vanadium. N. A. Tananaev and P. F. Vereshina (*Zavod. Lab.* (*Works' Lab.*), 1936, 5, 861–866). [In Russian.]—S. G.



Fractional reaction for tungsten, molybdenum, and vanadium. N. A. TANANAEV and P. F. VERESCHCHA (Zavod. Lab., 1936, 5, 864—866).—2—3 ml. of solution containing MoO_4'', WO_4'', VO_3', and all the ordinary anions and cations, are evaporated to dryness, the residue is ignited, extracted with hot 2—3N-H_2SO_4, and the solution is filtered. A piece of Sn is placed on the ppt., which is moistened with HCl; a blue coloration indicates presence of W. 2—3 drops of $SnCl_2$ and of aq. KCNS are added to 1 ml. of filtrate; a red coloration indicates Mo. 2—3 drops of NH_4Ph in conc. HCl are added to 1 ml. of the original solution; a blue coloration indicates V.

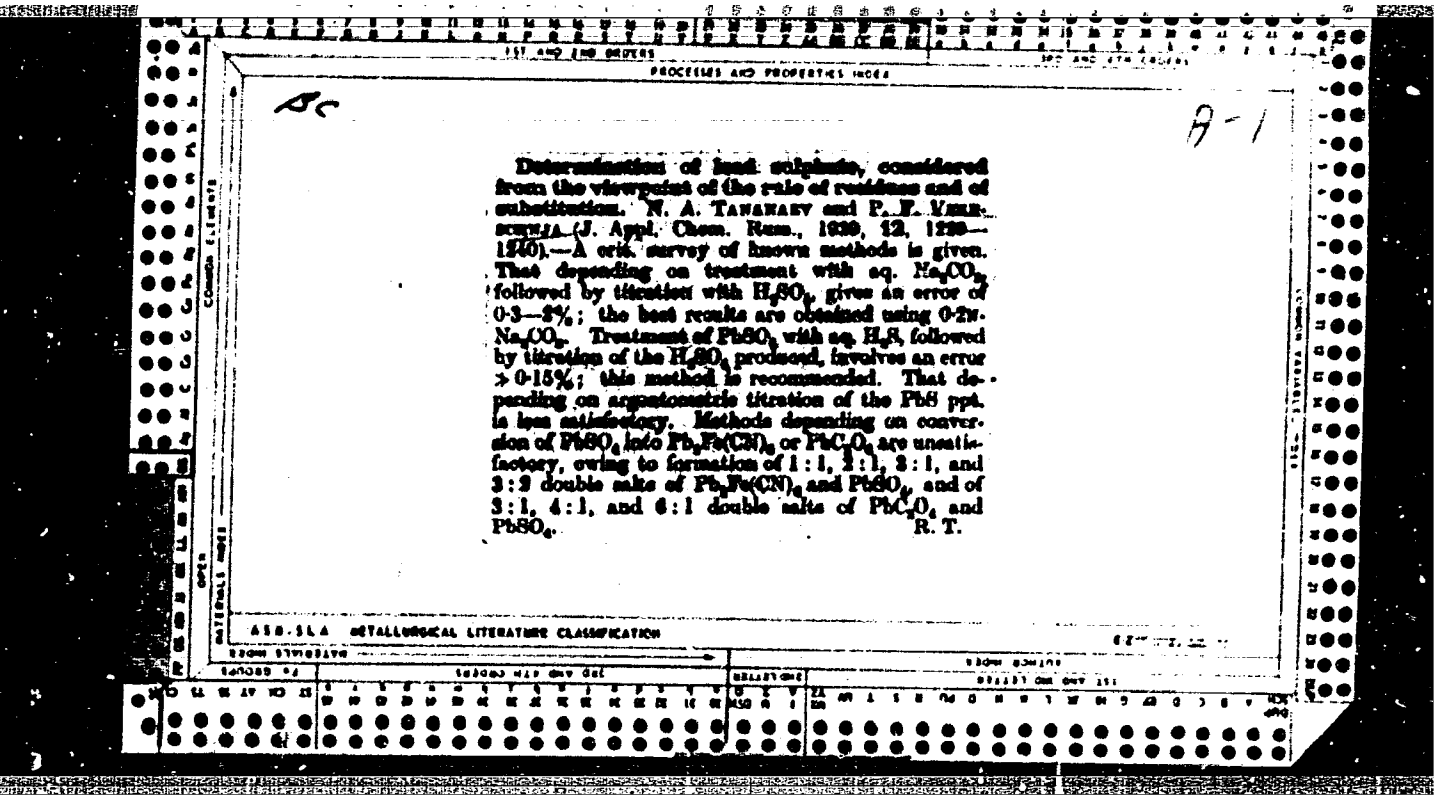
R. T.



A-1

15 C

Determination of potassium ferrocyanide from the point of view of the rules of residues and of replacement. N. A. TANANAEV and P. F. VERESCHCHINA (J. Appl. Chem. Russ., 1937, 10, 1634—1635).—Pure $K_4Fe(CN)_6$ is obtained by pptn. with KOH from aq. solution. It can be determined as K_2CO_3 (fusion with $H_2C_2O_4$), with a mean error of −0·2% (time >1 hr.), as $K_4Fe(CN)_6$ (oxidation with Br, followed by iodometric titration; mean error −0·15%; time 25 min.), or argentometrically (excess of standard $AgNO_3$ is added, the solution is filtered, and Ag is titrated in the filtrate; mean error ±0·10%; time 27 min.). $K_4Fe(CN)_6$ may serve for standardisation of $KMnO_4$, $Na_2S_2O_3$, $AgNO_3$, NH_4CNS, and acids. R. T.



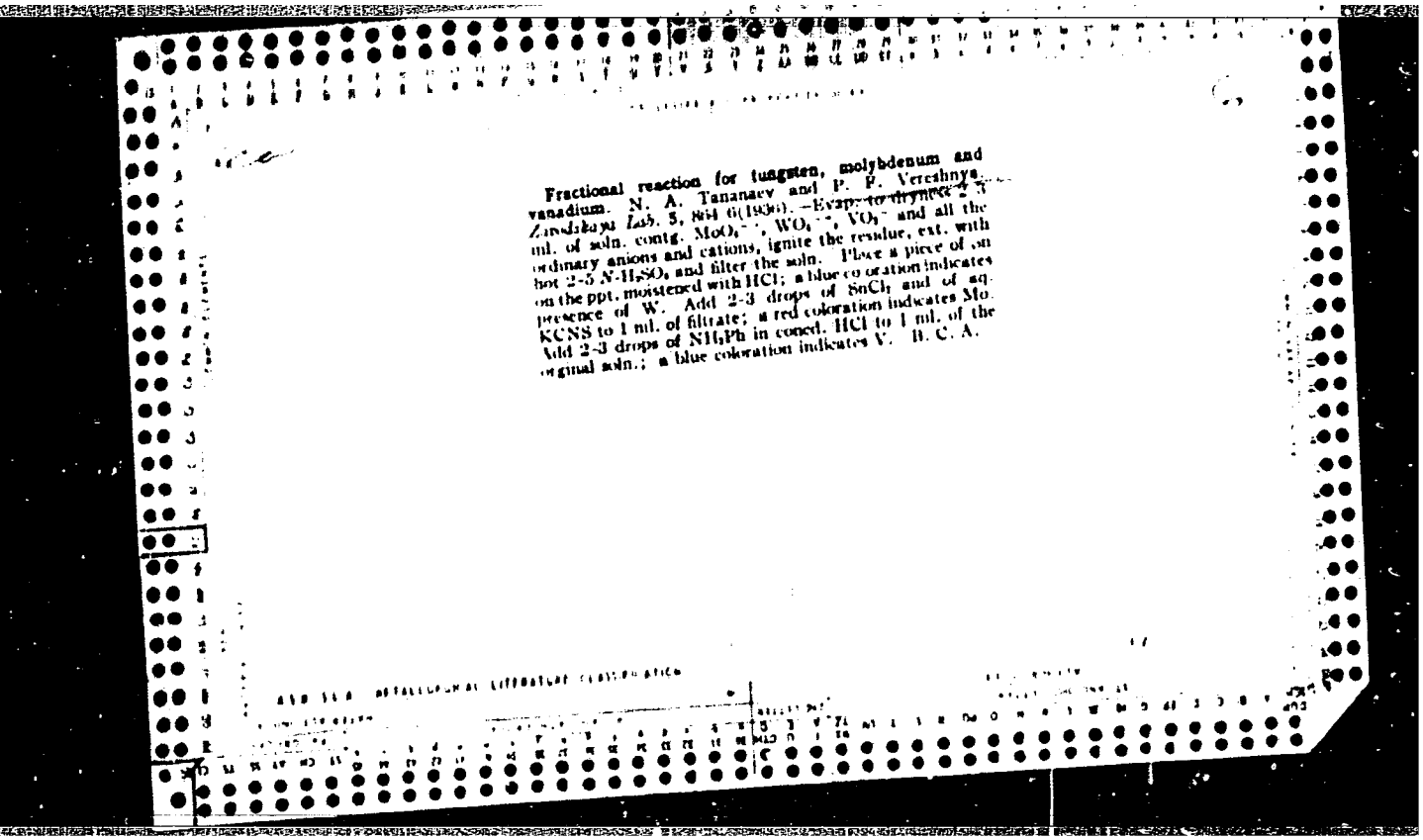
Ac

A-1

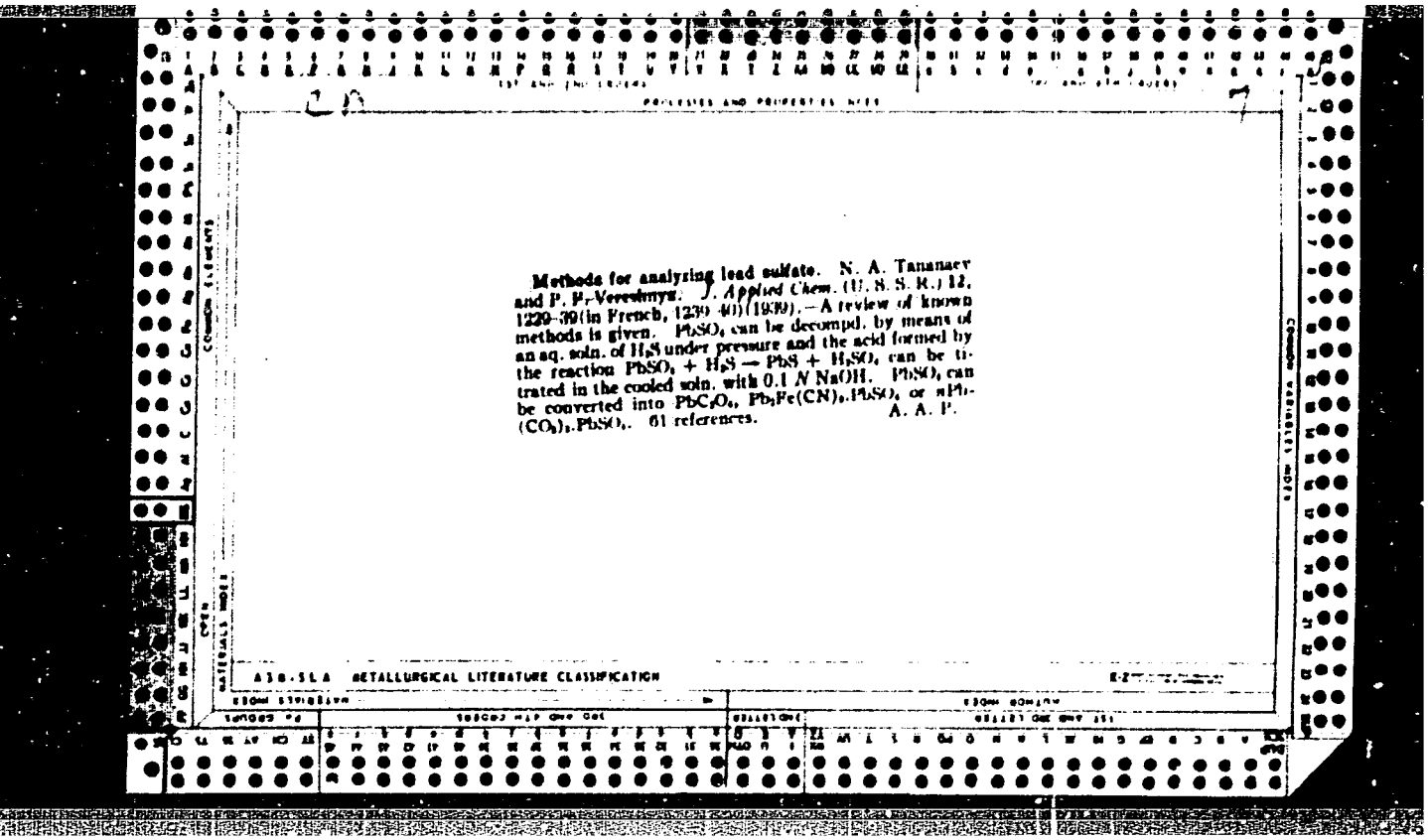
Determination of lead sulphate, considered from the viewpoint of the rule of residence and of substitution. N. A. TANANAEV and P. F. VERESCHTSCHAGIN (J. Appl. Chem. Russ., 1939, 12, 1239—1240).—A crit. survey of known methods is given. That depending on treatment with aq. Na_2CO_3 followed by titration with H_2SO_4 gives an error of 0·3—2%; the best results are obtained using 0·2*N*-Na_2CO_3. Treatment of $PbSO_4$ with aq. H_2S, followed by titration of the H_2SO_4 produced, involves an error >0·15%; this method is recommended. That depending on argentometric titration of the PbS ppt. is less satisfactory. Methods depending on conversion of $PbSO_4$ into $Pb_2Fe(CN)_6$ or PbC_2O_4 are unsatisfactory, owing to formation of 1 : 1, 2 : 1, 3 : 1, and 3 : 2 double salts of $Pb_2Fe(CN)_6$ and $PbSO_4$, and of 3 : 1, 4 : 1, and 6 : 1 double salts of PbC_2O_4 and $PbSO_4$. R. T.

[redacted]

VERZHCHTSCHAGIN, V. M.
I. B. BIAMIK, 22 1941, 32, 252-253

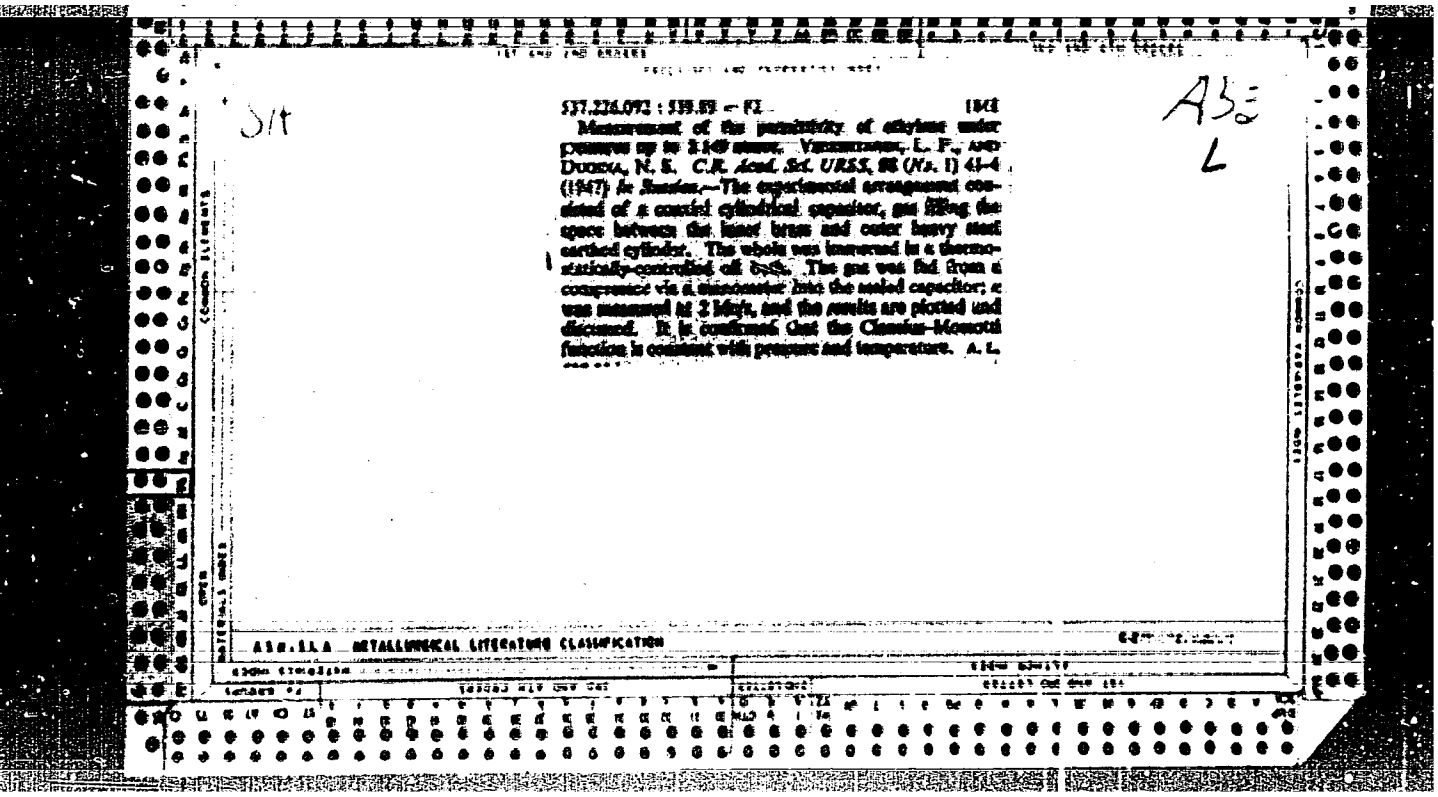


Fractional reaction for tungsten, molybdenum and vanadium. N. A. Tananaev and P. P. Vereshnya. Zavodskaya Lab. 5, 864-6(1936). —Evap. to dryness 2-3 ml. of soln. contg. MoO_4^{--}, WO_4^{--}, VO_3^- and all the ordinary anions and cations, ignite the residue, ext. with hot 2-5 *N*-H_2SO_4 and filter the soln. Place a piece of tin on the ppt. moistened with HCl; a blue coloration indicates presence of W. Add 2-3 drops of $SnCl_2$ and of aq. KCNS to 1 ml. of filtrate; a red coloration indicates Mo. Add 2-3 drops of NH_4Ph in concd. HCl to 1 ml. of the original soln.; a blue coloration indicates V. B. C. A.



Methods for analyzing lead sulfate. N. A. Tananaev and P. P. Veresimyn. *J. Applied Chem.* (U. S. S. R.) 12, 1229–39 (in French, 1239–40) (1939).—A review of known methods is given. $PbSO_4$ can be decompd. by means of an aq. soln. of H_2S under pressure and the acid formed by the reaction $PbSO_4 + H_2S \rightarrow PbS + H_2SO_4$ can be titrated in the cooled soln. with 0.1 *N* NaOH. $PbSO_4$ can be converted into PbC_2O_4, $Pb_2Fe(CN)_6$, $PbSO_4$, or $nPb(CO_3)_2.PbSO_4$. 61 references. A. A. P.

A38-SLA METALLURGICAL LITERATURE CLASSIFICATION



537.226.072 : 539.89 — 92 1951

Measurement of the permittivity of ethylene under pressure up to 3 140 atmos. YAKUSHKIN, L. F., AND DUNINA, N. S. *C.R. Acad. Sci. URSS*, 88 (No. 1) 43–4 (1947) *In Russian.*—The experimental arrangement consisted of a coaxial cylindrical capacitor, gas filling the space between the inner brass and outer heavy steel earthed cylinder. The whole was immersed in a thermostatically-controlled oil bath. The gas was fed from a compressor via a manometer into the sealed capacitor; c was measured at 2 kc/s, and the results are plotted and discussed. It is confirmed that the Clausius–Mossotti function is constant with pressure and temperature. A. L.

A S M - S I A — METALLURGICAL LITERATURE CLASSIFICATION

VERESIK, J.

VERESIK, J. A contribution to the geography of the population of Trnava. p. 15.

Vol. 6, no. 2/3, 1956
GEOGRAPHICAL CASOPIS
GEOGRAPHY & GEOLOGY
Czechoslovakia

So: East European Accession, vol. 6, No. 5, May 1957

VE[illegible]K, J.

VE[illegible]K, J. Trnava's spheres of influence and the intensity of its contacts with surrounding communities. P. 221.

Vol. 6, no. 1, 1956
GEOGRAFICKY CASOPIS
GEOGRAPHY - GEOLOGY
Czechoslovakia

So: East European Accession, Vol. 6, No. 5, May 1957

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VERESIK, J. Development of the geographical plan of Nitra. p.193.

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VERESIK, JAN.

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SO: Monthly List of East European Accessions (EEAL), LC, Vol. 5, no. 12 December 1956

VERESIK, Jan, dr.

A symposium on the building of cities. Geogr cas SAV 17 no.1:81 '65.

38584-66
ACC NR: AP6027682 SOURCE CODE: CZ/0084/66/000/001/0018/0043

AUTHOR: Veresik, Jan

ORG: none

TITLE: 1961 functional classification of towns in Slovakia

SOURCE: Geograficky casopis, no. 1, 1966, 18-43

TOPIC TAGS: demography, geographic survey

ABSTRACT: The article deals with the functional classification of towns in Slovakia based on an analysis of the functional structure of the population in the year 1961. The basis of the classification is the structure of the basic group, in which, besides the active resident population, the commuting population also was included. Orig. art. has: 8 figures and 5 tables. [Based on author's Eng. abst.] [JPRS: 36,844]

SUB CODE: 05, 08 / SUBM DATE: none / ORIG REF: 014 / SOV REF: 010
OTH REF: 042

Card 1/1

AL'BENSKIY, Anatoliy Vasil'yevich; SHCHEPOT'YEV, F.L., doktor sel'khoz. nauk, retsenzent; KONOVALOV, N.A., prof., retsenzent; VERESIN, M.M., red.; ARNOL'DOVA, K.S., red. izd-va; BACHURINA, A.M., tekhn. red.

[Tree breeding and seed production] Selektsiia drevesnykh porod i semenovodstvo. Moskva, Goslesbumizdat, 1959. 305 p. (MIRA 14:5)

1. Ukrainskiy nauchno-issledovatel'skiy institut lesnogo khozyaystva (for Shchepot'yev). 2. Zaveduyushchiy kafedroy lesovodstva Ural'skogo lesotekhnicheskogo instituta (for Konovalov) (Tree breeding) (Seed production)

ZABOROVSKIY, Yevgeniy Pavlovich; LISIN, Serafim Sergeyevich; SOBOLEV, Sergey Stepanovich. Prinimali uchastiye: VERESIN, M.M.; RUBTSOV, V.G.; OBNOVLENSKIY, V.M., prof., retsenzent; SHARAPOV, A.N., inzh.-lesovod, retsenzent

[Forest plantations and forest drainage] Lesnye kul'tury i lesnye melioratsii. Moskva, Izd-vo "Lesnaia promyshlennost'," 1964. 391 p. (MIRA 17:5)

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Oak

Interesting oak specimen. Les Khoz. 5 No. 2, 1952

Monthly List of Russian Accessions, Library of Congress, July 1952. Unclassified.

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[Forest seed production] Lesnoe semenovodstvo. Moskva, Goslesbumizdat, 1963. 157 p. (MIRA 16:8)
(Forest and forestry) (Seed production)

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2. USSR (600)

4. Oak

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9. Monthly List of Russian Accessions, Library of Congress, April 1953, Uncl.

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[Centennial afforestation practices in the Savala Forest Tract] Stoletnii opyt lesorazvedeniia v saval'skom lesnichestve. [By] M.M.Veresin i dr. Moskva, Goslesbumizdat, 1963. 159 p. (MIRA 17:4)

VERESKOI, J.

Distr: 4E2c

18 27 18

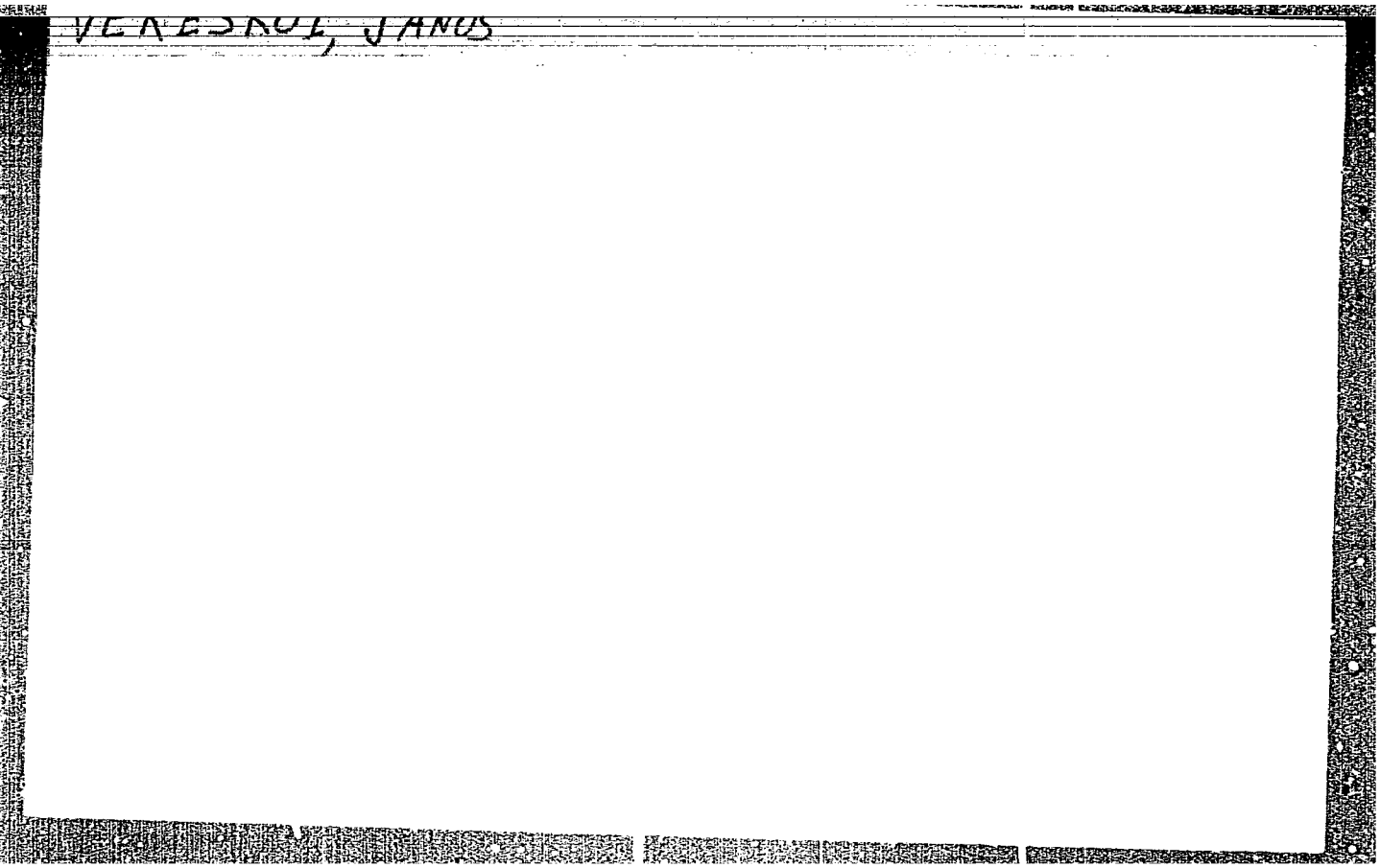
Effect of magnesium on the eutectoidal transformation temperature (in cast iron). Ferenc Varga and Janos Vereskoi. *Öntöde* 9, 37–41(1958).—The properties of cast iron (I) with and without Mg content and with various amts. of Si and (or) Ni were studied. Temp. of the eutectoidal transformation (II) was detd. on (50±0.01)×(3±0.01) mm. test specimens with a Chevenard differential dilatometer. It was found that up to 6% Si-content Mg will increase II by approx. 50% for ordinary I and by approx. 35% for I contg. 0.6% Ni. Data for various combinations of Mg, Si, and Ni are given. The findings enable the calcn. of optimum heat-treating temps. L. O. Arval

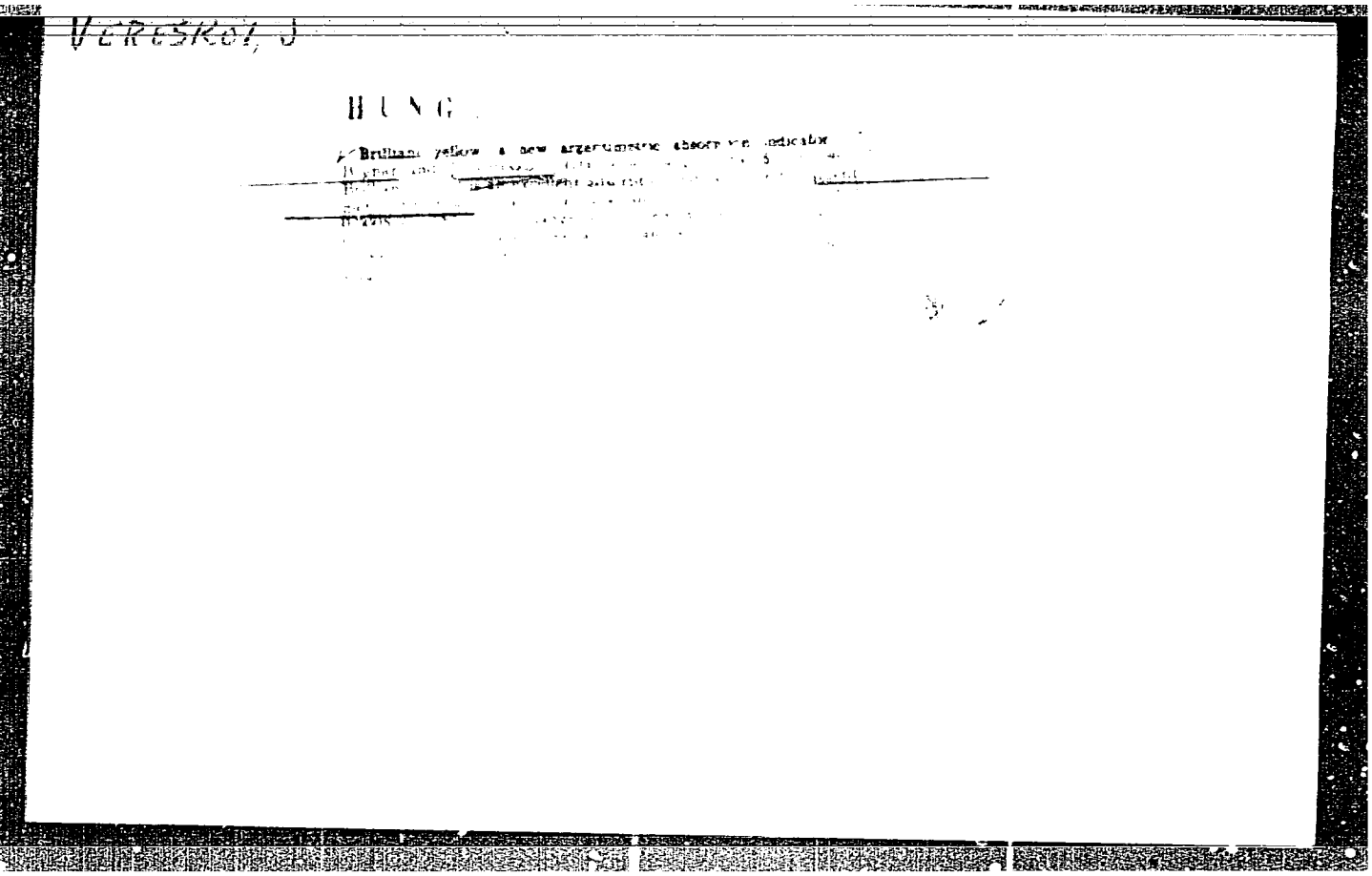
9
1

Veresko J HUNG.

✓ **Argentimetric titration of the chloride ion using eosin as indicator.** J Hornár and J Veresko *Acta chim hung* 1954 5 105 109; Eosin can be used as an adsorption indicator for the accurate titration of chloride, provided that an equal vol of alcohol or acetone is added to lower the dielectric constant, and that acetic acid is present in concn ~0·2 N If dioxan (having a smaller dielectric constant) is used instead of alcohol the titration can be made in neutral solution Small amounts of salts (not nitrate) do not interfere The optimum range for chloride is 0·001 to 0·01 N

A H DENSHAM





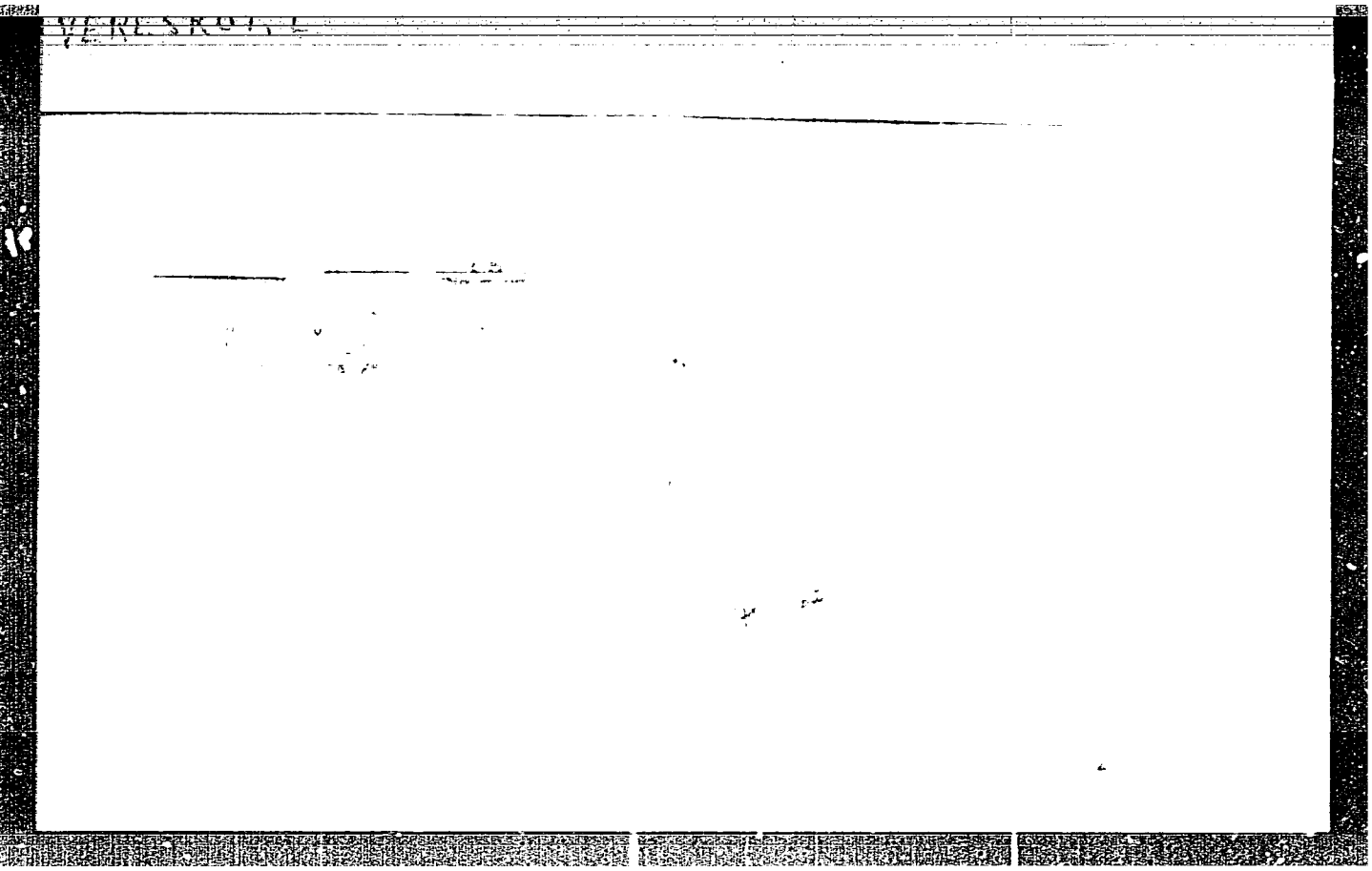
VERESKOV, J

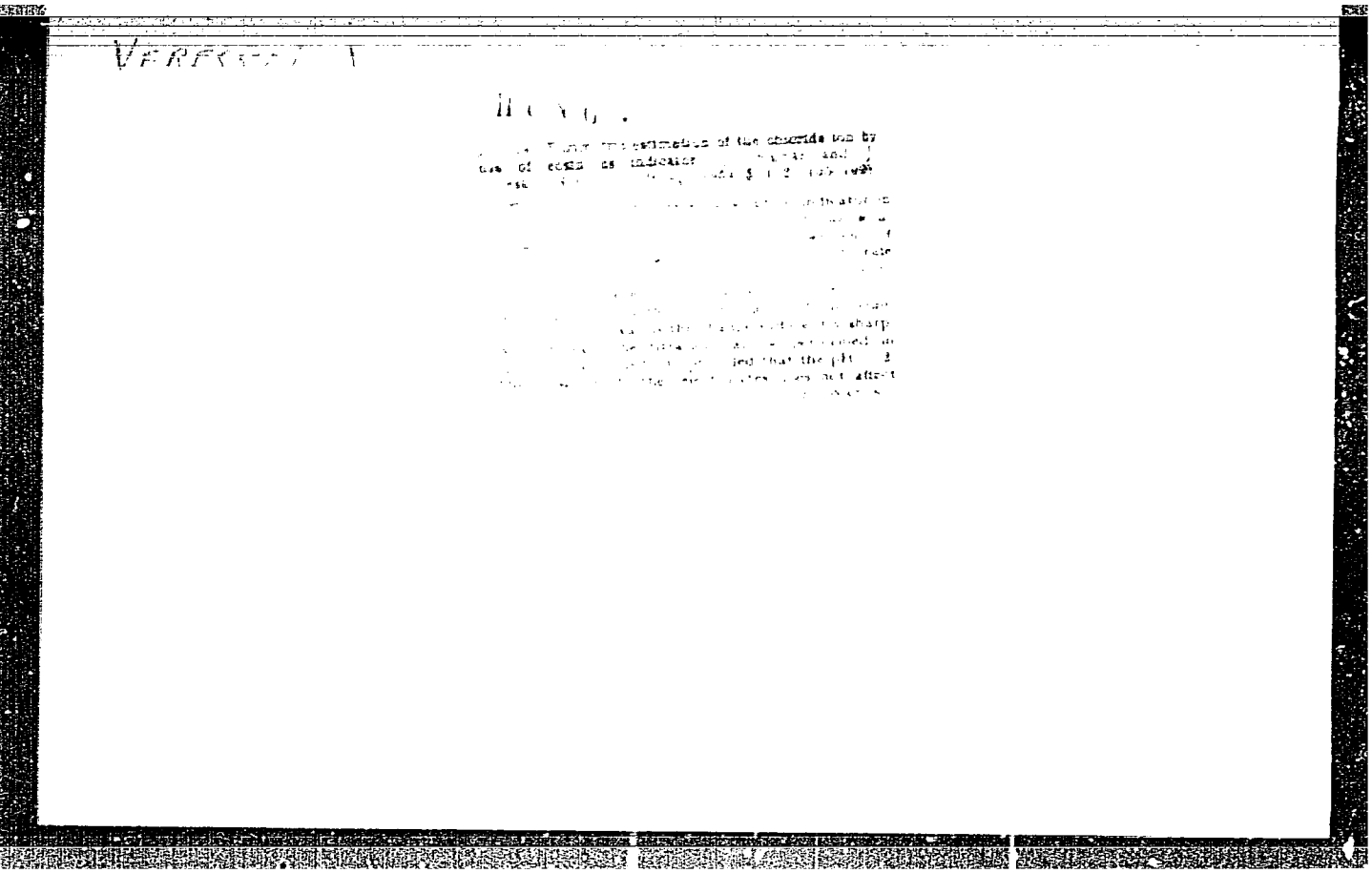
HUNG

Brilliant yellow a new argentometric absorption indicator

VERESKOI, Janos, okleveles kohomernok

The No.121 carbamide synthetic resin as a core binder in foundries.
Koh lap 93 no.11: Suppl: Ontode 11 no.11:256-260 N '60.





VARGA, Ferenc, dr.; VERESKOI, Janos, dr.

The effect of bubbling nitrogen gas on the properties of cast iron. Koh lap 95 no.11: Suppl: Ontode 13 no.11:241-247 N '62.

1. "Kohaszati Lapok" szerkesztoje (for Varga).

VERESKOV, I.M. (Moskva)

International relations of the Central Scientific Medical Library.
Sov. zdrav. 20 no.11:39-44 '61. (MIRA 14:12)

1. Direktor TSentral'noy nauchnoy meditsinskoy biblioteki Ministerstva zdravookhraneniya SSSR.
(MEDICAL LIBRARIES--INTERNATIONAL COOPERATION)

VERESKUN, V.A.; GABRIELYANTS, G.A.; KRIVOSHEYEV, V.T.; GENDLER, S.L.

Composition of Cretaceous and Paleogene sediments in the central Kara Kum. Trudy VNIGNI no.35:203-209 '61. (MIRA 16:7)
(Kara Kum--Geology, Stratigraphic)

VERESKUNOV, G.P., kand.tekhn.nauk; SOLOGUB, S.Ya., gornyy inzh.

Electric rotary drilling of boreholes and other holes in hard rock. Gor. zhur. no.1:44-47 Ja '64. (MIRA 17:3)

ANDROS, I.P., inzh.; ASSONOV, V.A., kand. tekhn. nauk.; BERNSHTEYN, S.A., inzh.; BOKIY, B.V., prof.; BROVMAN, Ya.V., inzh. BONDARENKO, A.P., inzh.; BUCHNEV, V.K., kand. tekhn. nauk; VERESKUNOV, G.P., kand. tekhn. nauk; VOLKOV, A.F., inzh.; GELESKUL, M.N., kand. tekhn. nauk; GORODNICHEV, V.M., inzh.; DEMENT'YEV, A.Ya., inzh.; DOKUCHAYEV, M.M., inzh.; DUBNOV, L.V., kand. tekhn. nauk; YEPIFANTSEV, Yu.K., kand. tekhn. nauk.; YERASHKO, I.S., inzh.; ZHEDANOV, S.A., kand. tekhn. nauk; ZIL'BERBROD, A.F., inzh.; ZINCHENKO, E.M., inzh.; ZORI, A.S., inzh.; KAPLAN, L.B., inzh.; KATSAUROV, I.N., dots.; KITAYSKIY, E.F., inzh.; KRAVTSOV, Ye.P., inzh.; KRIVOROG, S.A., inzh.; KRINITSKIY, L.M., kand. tekhn. nayk; LITVIN, A.Z., inzh.; MALEVICH, N.A., kand. tekhn. nauk; MAN'KOVSKIY, G.I., doktor tekhn. nauk; MATKOVSKIY, A.L., inzh.; MINDELI, E.O., kand. tekhn. nauk; NAZAROV, P.P., kand. tekhn. nauk; NASONOV, I.D., kand. tekhn. nauk; NEYYENB'JRG, V.Ye., kand. tekhn. nauk; POKROVSKIY, G.I., prof., doktor tekhn. nauk; PROYAVKIN, E.T., kand. tekhn. nauk; ROZENBAUM, inzh.; ROSSI, B.D., kand. tekhn. nauk; SEMEVSKIY, V.N., doktor tekhn. nauk; SKIRGELLO, O.B., inzh.; SUKHUT, A.A., inzh.; SUKHANOV, A.F., prof., doktor tekhn. nauk; TARANOV, P.Ya., kand. tekhn. nauk; TOKAROVSKIY, D.I., inzh.; TRUPAK, N.G., prof., doktor tekhn. nauk; FEDOROV, S.A., prof., doktor tekhn. nauk; FEDYUKIN, V.A., inzh.; KHOKHLOVKIN, D.M., inzh.; KHRABROV, N.I., kand. tekhn. nauk; CHEKAREV, V.A., inzh.; CHERNAVKIN, N.N., inzh.; SHREYBER, B.P., kand. tekhn. nauk; EPOV, B.A., kand. tekhn. nauk; YAKUSHIN, N.P., kand. tekhn. nauk; YANCHUR, A.M., inzh.; YAKHONTOV, A.D., inzh.; POKROVSKIY, N.M., otvetstvennyy red.; KAPLUN, Ya.G. [deceased], red.; MONIN, G.I., red.; SAVITSKIY, V.T.,

(Continued on next card)

ANDROS, I.P.---(continued) Card 2.
red.; SANOVICH, P.O., red.; VOLOVICH, M.Z., inzh., red.; GORITSKIY, A.V., inzh., red.; POLUYANOV, V.A., inzh., red.; FADEYEV, E.I., inzh., red.; CHECHKOV, L.V., red. izd-va; PROZOROVSKAYA, V.L., tekhn. red.; NADEINSKAYA, A.A., tekhn. red.

[Mining; an encyclopaedic handbook] Gornoe delo; entsiklopedicheskii spravochnik. Glav. red. A.M. Terpigorev. Moskva, Gos. nauchno-tekhnicheskoe izd-vo lit-ry po ugol'noi promyshl. Vol.4 [Mining and timbering] Provedenie i kreplenie gornykh vyrabotok. Red-kollegiia toma: N.M.Pokrovskii... 1958. 464 p. (MIRA 11:7)

(Mine timbering) (Mining engineering)

KOLOBERDYAN, G.M., gornyy inzhener; VERESKUNOV, N.G., kand.tekhn.nauk

Acceleration of a rock loading machine of the PML type and the choice of pneumatic drive for the operating part. Vop. rud. transp. no.2:349-354 1957. (MIRA 14:4)

1. Zavod "Kommunist" (for Koloberdyan). 2. Institut gornogo dela AN USSR (for Vereskunov).

(Mining machinery)

SOV/112-59-5-9508

Translation from: Referativnyy zhurnal. Elektrotekhnika, 1959, Nr 5, p 150 (USSR)

AUTHOR: Murzin, V. A., and Vereskunov, N. G.

TITLE: Methods and Equipment for Experimental Investigation of a Crankshaft-Piston Pneumatic Motor

PERIODICAL: V sb.: Vopr. rudnichn. transp. Nr 2, M., Ugletekhizdat, 1957, pp 355-374

ABSTRACT: The most important characteristics of a pneumatic motor are: indicator diagrams, mechanical characteristics, general and specific air consumption depending on the angular velocity of the motor, and the temperature-cycle curve. Availability of the above data permits detecting design defects and enables one to suggest a modernization. The methods of experimental investigation suggested here are based on electrical methods for measuring nonelectrical quantities. An electron or loop oscillograph is used as a recording instrument. Recording of a sole cycle on the screen can be

Card 1/3

Methods and Equipment for Experimental Investigation of a Crankshaft-Piston . . . .

realized by an automatic beam-brightness control. The primary-element signals are amplified by DC amplifiers. Simultaneous signals from two primary elements yield the motor indicator diagram for a given mode of operation. Simultaneous signals from the torque and angular-velocity primary elements permit obtaining the motor mechanical characteristic on the oscillographic screen. A characteristic of the total air consumption plotted against the motor rpm can also be produced on the screen. A consumption curve plotted against the motor rpm can represent the motor operation economy. A cyclic curve presenting the air temperature as a function of the piston position in the cylinder can be recorded by an electronic oscillograph; the latter is fed from a temperature primary element — a microthermocouple built in the cylinder top — and a piston-motion primary element. A long-after-glow picture tube is used for convenience of observation. Strain gauges, potentiometric elements, tachometer-generator elements and others are described. Power-

Methods and Equipment for Experimental Investigation of a Crankshaft-Piston . . . .

supply packs are of conventional design. The time-marking generator is a blocking oscillator feeding negative pulses to the picture-tube cathode. Pulse frequency between 50 and 500 pulses per sec can be adjusted by a switch. The blocking oscillator can be switched either manually or by a beam-blanking unit. The oscillograph deflecting system is designed for special DC amplifiers (three push-pull direct-coupled stages). The amplifiers can be fed from strain gauges, while the output stage can drive an electronic or a loop oscillograph. The anode voltage is turned on after the amplifier cathodes have been heated. The authors present experimentally determined characteristics of a type MP-5 motor. Eleven illustrations. Bibliography: 6 items.

V.A.B.

VERESKUNOV, N.G., inzhener

Method of determining the efficiency of a piston-type pneumatic motor in factory tests. Vop. rud. transp. no.3:390-394 1959. (MIRA 14:4)

1. Institut gornogo dela AN USSR.
(Pneumatic machinery--Testing)

VERESKUNOV, N. G.

New machines of the Donets Basin mines and immediate tasks of their designers. Ugol' Ukr. 6 no.10:3-5 O '62.
(MIRA 15:10)

1. Glavnyy inzh. Dongiprouglemasha.

(Donets Basin--Coal mining machinery)

VERESKUNOV, N.G.

KOZIN, Yu.V.; GRINSHPUN, L.V.; VERESKUNOV, N.G.

Reorganization of the work of the institutes in the light of the decisions of the 22d Congress of the CPSU. Ugol' 37 no.11:8-13 N '62. (MIRA 15:10)

1. Gosudarstvennyy proyektno-konstruktorskiy institut avtomatizatsii rabot v ugol'noy promyshlennosti (for Kozin, Grinshpun).
2. Dongiprouglemash (for Vereskunov).
(Coal mining machinery) (Mining research)

VERESKUNOV, V., inzh.

Fire departments in Moldavia. Pozh. delo 5 no.10:6-7 O '59.
(MIRA 13:2)

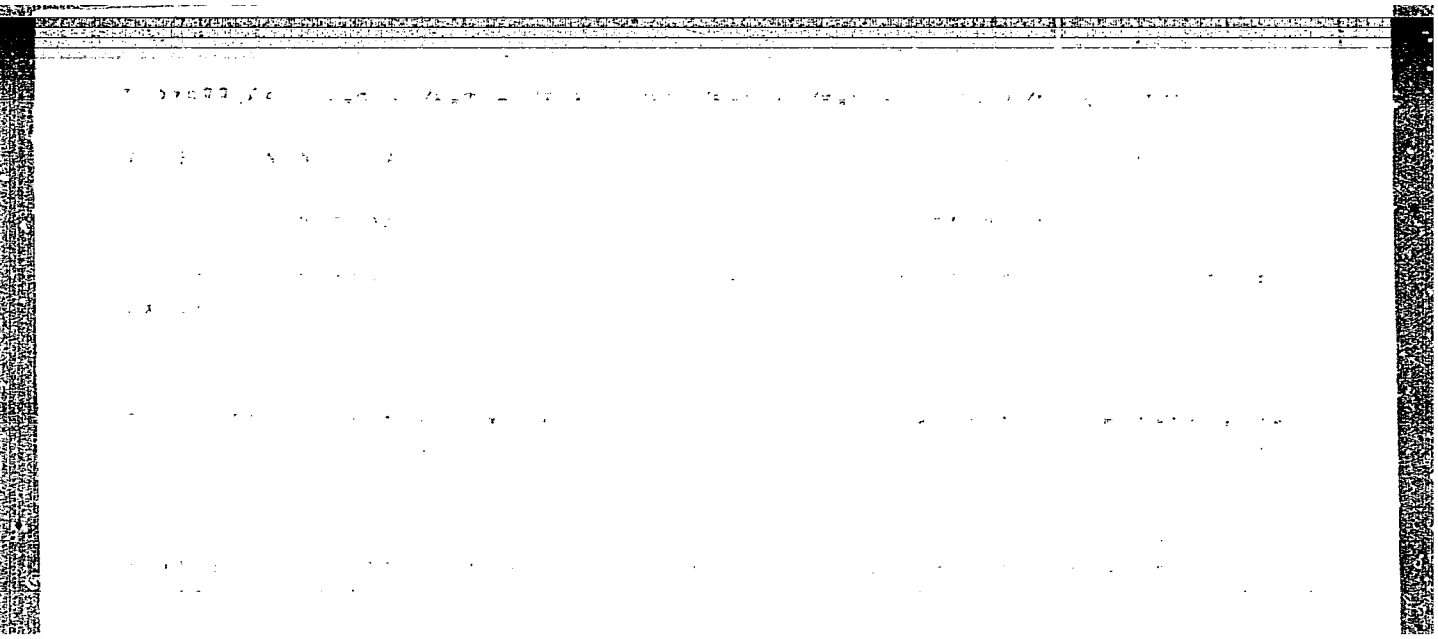
(Moldavia--Fire departments)

VERESKUNOV, V.

Not a single grain should be destroyed by fire. Pozh.delo 6 no.7:8-9 Jl '60. (MIRA 13:7)
(Agriculture) (Fire prevention)

BARANYEV, M.K.; VERESKUNOV, V.G.; ZAKHAROVA, K.P.

Conversion of ruthenium dioxide in the presence of chromium oxide. Atom. energ. 17 no.6:502 D '64 (MIRA 18:1)



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Card 1/2