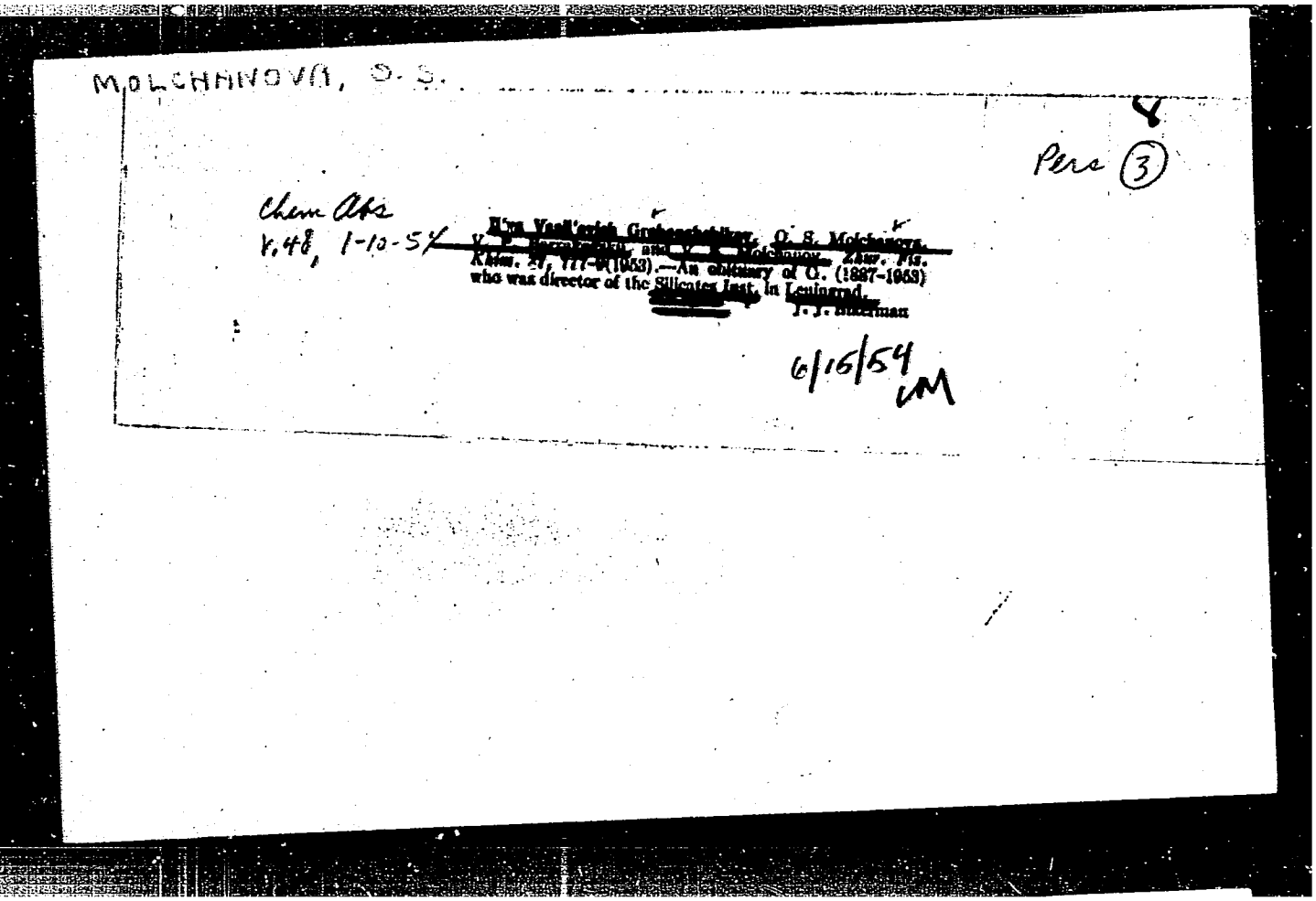


MOLCHANOVA, O. S.

Perc (3)

Chem Abs
v. 48, 1-10-54

[redacted] O. S. Molchanova. [redacted] Zhur. Fiz. Khim. 27, 111-9(1953).—An obituary of O. (1887-1953) who was director of the Silicates Inst. in Leningrad.
J. J. Silverman

6/16/54 JM

MOLCHANOVA, O. S.

Category: USSR / Physical Chemistry - Liquids and amorphous bodies. Gases. B-6

Abs Jour: Referat Zhur-Khimiya, No 9, 1957, 29816.

Author : Molchanova O. S.
Inst : not given
Title : Double Refraction of Porous Glass

Orig Pub: Optika i spektroskopiya, 1956, 1, No 7, 917-925

Abstract: Study of the double refraction (DR) of prous glass produced by the action of an acid solution on glass having the initial composition (in mol.%): SiO_2 70%; B_2O_3 23%; Na_2O 7%; using air dried specimens as well as specimens impregnated with various liquids (acid, H_2O, CCl_4, etc). It was found that value of DR of the untreated (non-porous portions ($2d/d_1$) and does not depend on temperature of the experiment and concentration of the acid solution. On the other hand DR of the porous layer depends not only on $2d/d_1$, but also on concentration of the acid used to treat the specimen. In specimens prepared in acid solutions of medium concentration (0.33 - 4 N) and impregnated with different liquids DR has a negative sign and varies

-8-

Card : 1/2

Molchanova, O.S.

USSR/Chemical Technology - Chemical Products and Their Application. Ceramics. Glass. Binders. Concrete. H-7

Abs Jour : Referat Zhur - Khimiya, No 1, 1958, 2022

Author : Molchanova O.S.

Inst :

Title : Region of Anomalous Glasses in the System Na_2O-SiO_2-B_2O_3.

Orig Pub : Steklo i keramika, 1957, No 5, 5-7

Abstract : In the system Na_2O-SiO_2-B_2O_3 the distinctive glasses are those the composition of which is within the range of (in mole%): 3-12 Na_2O and 60-80 SiO_2, with a corresponding content of B_2O_3. The glasses of this group, on undergoing decomposition by interaction with water and acid solutions, form a very porous structure. These glasses have anomalous variation of density and refraction index in the temperature zone from the beginning of the zone of annealing to the zone of softening. Within the same zone scattering increases, opalescence develops

Card 1/3

USSR/Chemical Technology - Chemical Products and Their Application. Ceramics. Glass. Binders. Concrete. H-7

Abs Jour : Ref Zhur - Khimiya, No 1, 1958, 2022

SiO_2 predominates over the B_2O_3 the glasses have a "silicate" structure, and it is this fact that determines their properties. The glasses that become turbid, that have anomalous physical and chemical properties and yield strong porous residues on lixiviation, occupy an intermediate position. Their structure is unstable and is greatly dependent upon slight changes in composition, the thermal history and, possibly, on boron coordination, which varies.

Card 3/3

L 18410-63 EWP(q)/EWT(m)/BDS AFFTC/ASD Pq-4 WH

ACCESSION NR: AP3006175 S/0080/63/036/007/1393/1398

59

AUTHORS: Molchanova, O. S.; Orlova, L. A.; Krasikov, S. Ye.

TITLE: Reaction of porous glass with alkali and hydrofluoric acid.

SOURCE: Zhurnal prikladnoy khimii, v. 36, no. 7, 1963, 1393-1398

TOPIC TAGS: glass, porous glass, alkali, hydrofluoric acid, chemical treatment of glass

ABSTRACT: The enlargement of pores on a lamella of type III porous glass caused by the action of alkali can be effected by employment of alkali of any concentrations up to 7N. Some pore enlargement in glasses of type M can be caused only in solutions whose concentration is not greater than 0.5N. The amount of transfer, determined by weight loss in the lamellas, depends upon alkali concentration, temperature, duration of alkali action, and conditions under which the alkali is rinsed off. The reaction of porous glasses with HF occurs so intensively that it is not possible to prevent dissolution of the porous disks on the outside. Only a specific combination of

Card 1/2

L 18410-63

ACCESSION NR: AP3006175

alkali treatment conditions bring about a conformity of the "enlarged" pore dimensions with the dimensions of the heterogeneous areas in the initial glass. Authors conclude that this obliges researchers to be extremely careful in drawing conclusions concerning the structure of starting glasses which were made on the basis of experiments with porous glasses subjected to a complex chemical treatment. Orig. art. has: 5 figures and 1 table.

ASSOCIATION: None

SUBMITTED:	14Feb62	DATE ACQ:	25Sep63	ENCL:	00
SUB CODE:	CH	NO REF SOV:	004	OTHER:	000

Card 2/2

L 18409-63 EWP(q)/EWT(m)/BDS AFFTC/ASD Pq-4 WH

ACCESSION NR: AP3006176 S/0080/63/036/007/1398/1403 59

AUTHORS: Krasikov, S. Ye.; Molchanova, O. S.; Orlova, L. A.

TITLE: Analysis of volumetric changes taking place during the leaching-out of sodium-borosilicate glasses 15

SOURCE: Zhurnal prikladnoy khimii, v. 36, no. 7, 1963, 1398-1403

TOPIC TAGS: changes in glass volume, glass, sodium-borosilicate glass, leaching-out, Na 7/23 glass

ABSTRACT: Authors analyzed the volumetric changes taking place during leaching-out of sodium-borosilicate glasses. Glass used was Na 7/23. It was prepared in accordance with 2 heating conditions and in sulfuric acid of three concentrations. Authors established that full leaching-out of monothermal disks of a 2.00 mm thickness leads to an increase in their thickness by 3.6 - 4.2 microns. This corresponds to an increase in volume of about 0.2%. In the case of bithermal glass with the same sample dimensions, the average value of thickening is 3.2 microns or 0.16% of volume increase. In the first stages of the process, the thickness of the samples passes through a maximum or minimum in relation to the

1/2

Card

L 18409-63

ACCESSION NR: AP3006176 0

preliminary heat treatment of the glass, acid concentration, and conditions of surface preparation of the samples. This can lead to an error when extrapolating the results of observing a partial leaching-out, especially within the limits of formation of a porous layer whose thickness is approximately 0.2 mm. Orig. art. has: 7 figures.

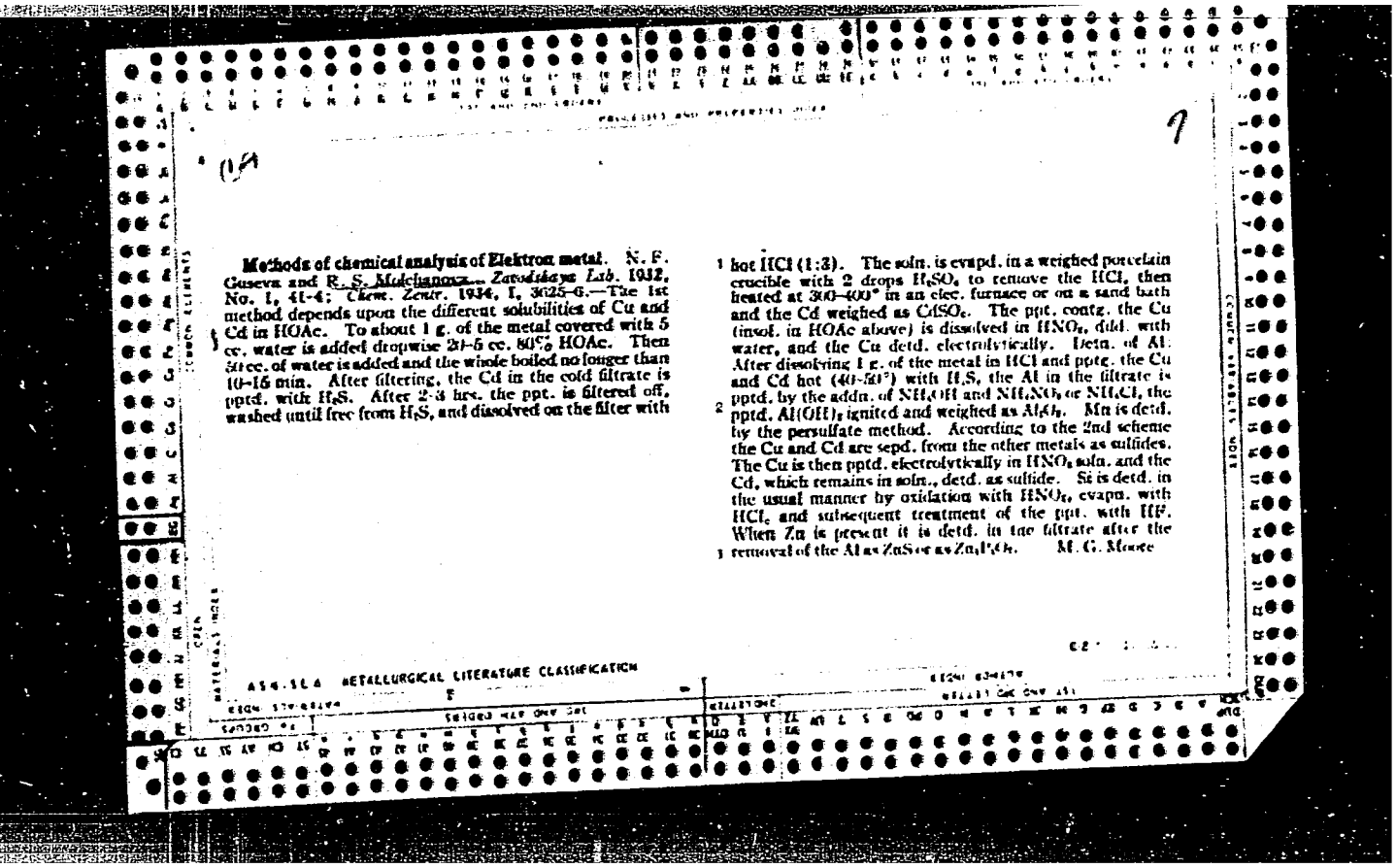
ASSOCIATION: None

SUBMITTED: 14Feb62 DATE ACQ: 25Sep63 ENCL: 00

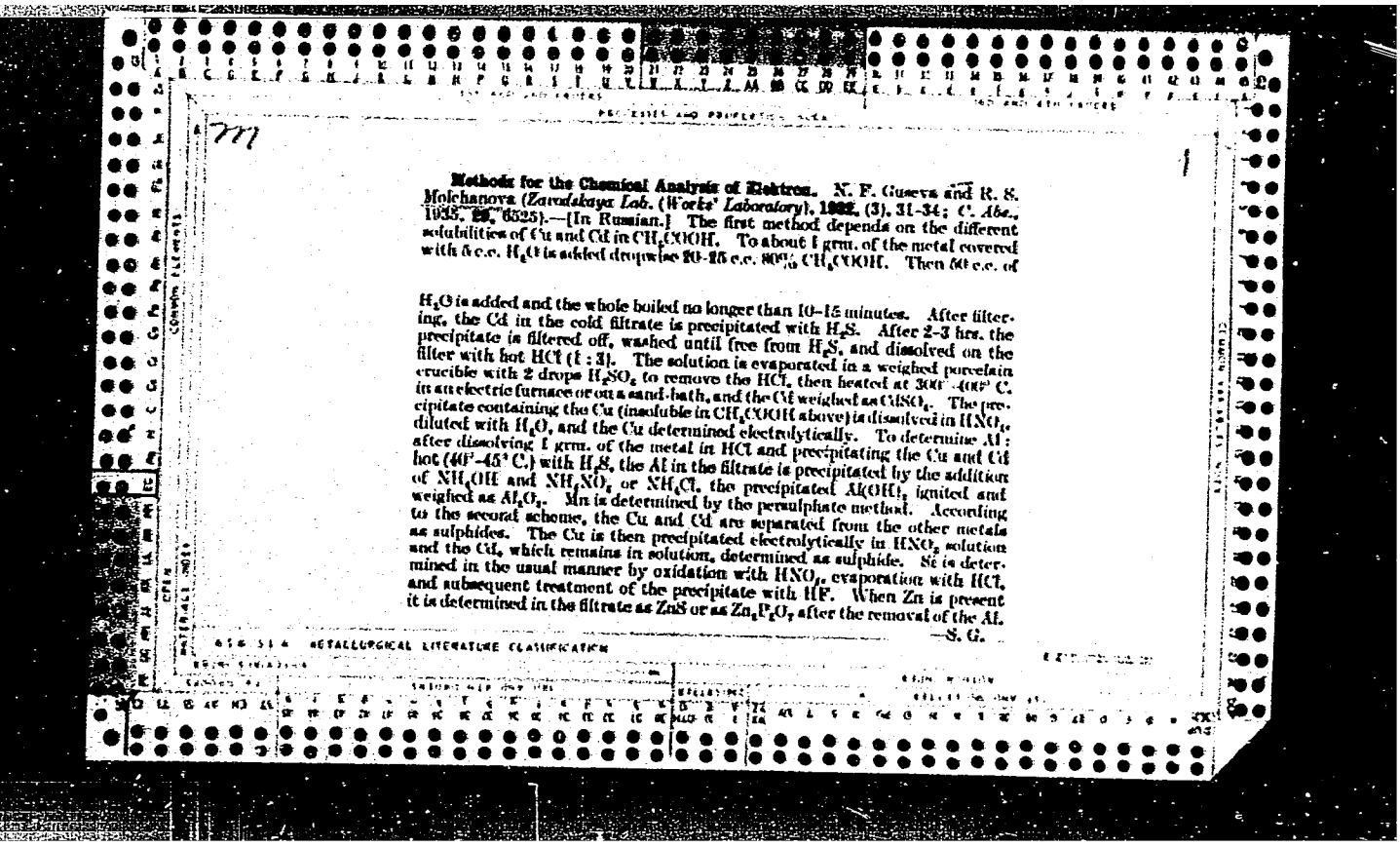
SUB CODE: CH, ML NO REF SOV: 004 OTHER: 002

2/2

Card



Methods of chemical analysis of Elektron metal. N. F. Guseva and R. S. Malchanova. *Zavodskaya Lab.* 1932, No. 1, 41-4; *Chem. Zentr.* 1934, I, 3625-6.—The 1st method depends upon the different solubilities of Cu and Cd in HOAc. To about 1 g. of the metal covered with 5 cc. water is added dropwise 2½-5 cc. 80% HOAc. Then 5 cc. of water is added and the whole boiled no longer than 10-15 min. After filtering, the Cd in the cold filtrate is pptd. with H_2S. After 2-3 hrs. the ppt. is filtered off, washed until free from H_2S, and dissolved on the filter with hot HCl (1:3). The soln. is evapd. in a weighed porcelain crucible with 2 drops H_2SO_4 to remove the HCl, then heated at 300-400° in an elec. furnace or on a sand bath and the Cd weighed as $CdSO_4$. The ppt. contg. the Cu (insol. in HOAc above) is dissolved in HNO_3, dild. with water, and the Cu detd. electrolytically. Detn. of Al. After dissolving 1 g. of the metal in HCl and ppte. the Cu and Cd hot (40-50°) with H_2S, the Al in the filtrate is pptd. by the addn. of NH_4OH and NH_4NO_3 or NH_4Cl, the pptd. $Al(OH)_3$ ignited and weighed as Al_2O_3. Mn is detd. by the persulfate method. According to the 2nd scheme the Cu and Cd are sepd. from the other metals as sulfides. The Cu is then pptd. electrolytically in HNO_3 soln. and the Cd, which remains in soln., detd. as sulfide. Si is detd. in the usual manner by oxidation with HNO_3, evapn. with HCl_4 and subsequent treatment of the ppt. with HF. When Zn is present it is detd. in the filtrate after the removal of the Al as ZnS or as $Zn_2Fe(CN)_6$. M. G. Moore



777

1

Methods for the Chemical Analysis of Elektron. N. F. Guseva and R. S. Molchanova (*Zavodskaya Lab.* (*Works' Laboratory*), 1933, (3), 31-34; *C. Abs.*, 1935, **29**, 6525).—[In Russian.] The first method depends on the different solubilities of Cu and Cd in CH_3COOH. To about 1 grm. of the metal covered with 6 c.c. H_2O is added dropwise 20-25 c.c. 80% CH_3COOH. Then 60 c.c. of H_2O is added and the whole boiled no longer than 10–15 minutes. After filtering, the Cd in the cold filtrate is precipitated with H_2S. After 2–3 hrs. the precipitate is filtered off, washed until free from H_2S, and dissolved on the filter with hot HCl (1 : 3). The solution is evaporated in a weighed porcelain crucible with 2 drops H_2SO_4 to remove the HCl, then heated at 300°–400° C. in an electric furnace or on a sand-bath, and the Cd weighed as $CdSO_4$. The precipitates containing the Cu (insoluble in CH_3COOH above) is dissolved in HNO_3, diluted with H_2O, and the Cu determined electrolytically. To determine Al: after dissolving 1 grm. of the metal in HCl and precipitating the Cu and Cd hot (40°–45° C.) with H_2S, the Al in the filtrate is precipitated by the addition of NH_4OH and NH_4NO_3 or NH_4Cl, the precipitated $Al(OH)_3$ ignited and weighed as Al_2O_3. Mn is determined by the persulphate method. According to the second scheme, the Cu and Cd are separated from the other metals as sulphides. The Cu is then precipitated electrolytically in HNO_3 solution and the Cd, which remains in solution, determined as sulphide. Sb is determined in the usual manner by oxidation with HNO_3, evaporation with HCl, and subsequent treatment of the precipitate with HF. When Zn is present it is determined in the filtrate as ZnS or as $Zn_2P_2O_7$ after the removal of the Al.

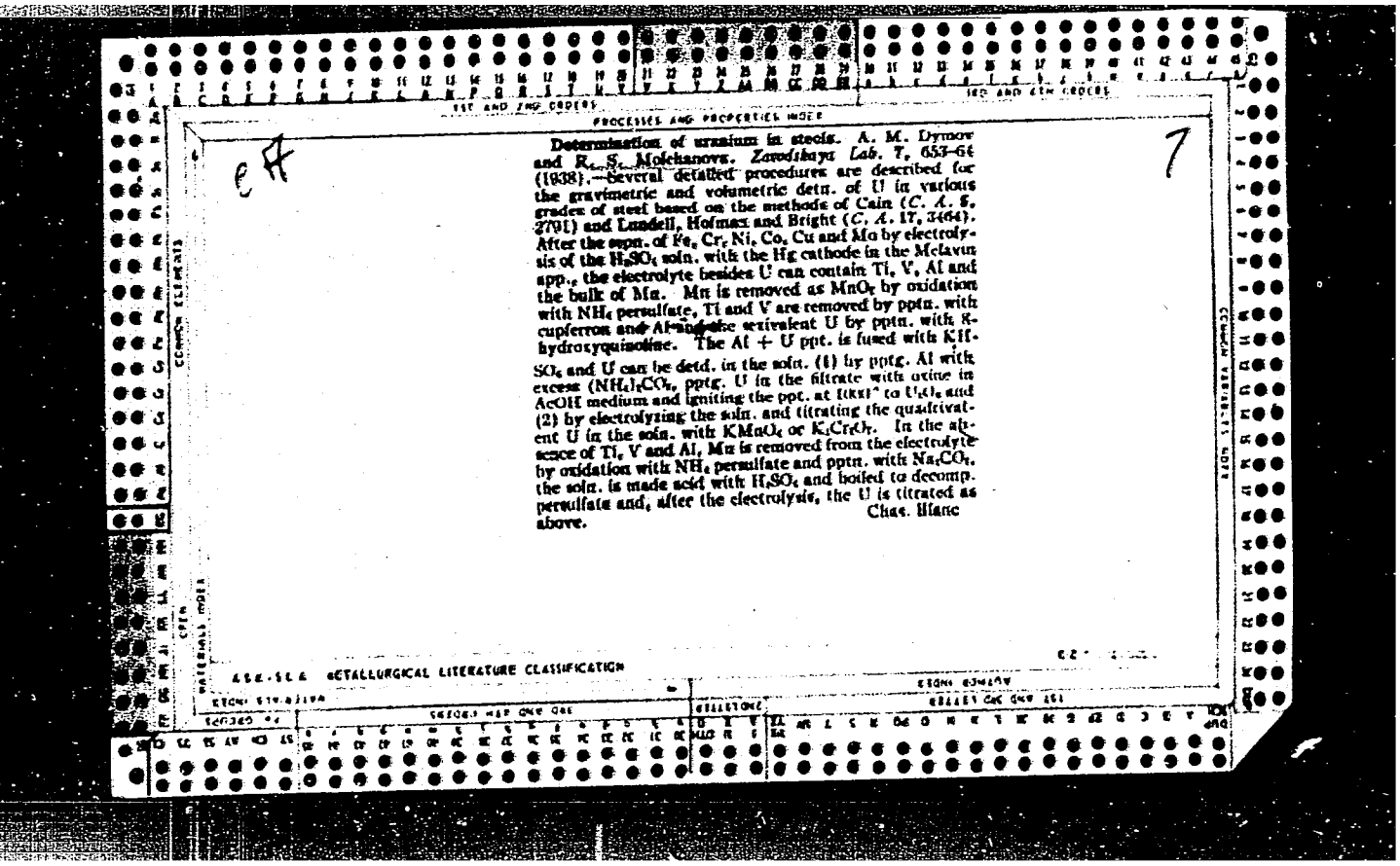
—S. G.

PROCESSES AND PROPERTIES INDEX

Determination of aluminum in steel. A. M. Dymov and R. S. Mokhanova. *Zavodskaya Lab.* 8, 718-22 (1939).—Dissolve 1-2 g. of steel in 30-50 ml. of 20% H_2SO_4. Oxidize with HNO_3 and evap. to strong fumes. Cool, dil. with 100 ml. of water, boil and filter. Treat the residue with HF + H_2SO_4 to remove SiO_2 and fuse with $KHSO_4$. Dissolve the melt in water and evap. with H_2SO_4 to ppt. WO_3. Dil., filter and add this filtrate to that originally obtained. Evap. to 75 ml., neutralize with Na_2CO_3, add 10-15 ml. of H_2SO_4 and electrolyze with a cathode of Hg to remove Fe. Treat the electrolyzed soln. with $(NH_4)_2S_2O_8$ to ppt. MnO_2 and det. Al by pptn. with 8-hydroxyquinoline.

H. C. A.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION



PROCESSES AND PROPERTIES INDEX

Determination of uranium in steels. A. M. Dymov and R. S. Molchanova. *Zavodskaya Lab.* 7, 653–64 (1938).—Several detailed procedures are described for the gravimetric and volumetric detn. of U in various grades of steel based on the methods of Cain (*C. A.* 8, 2791) and Lundell, Hoffman and Bright (*C. A.* 17, 3464). After the sepn. of Fe, Cr, Ni, Co, Cu and Mo by electrolysis of the H_2SO_4 soln. with the Hg cathode in the Melaven app., the electrolyte besides U can contain Ti, V, Al and the bulk of Mn. Mn is removed as MnO_2 by oxidation with NH_4 persulfate, Ti and V are removed by pptn. with cupferron and Al and the remaining U by pptn. with 8-hydroxyquinoline. The Al + U ppt. is fused with KHSO$_4$ and U can be detd. in the soln. (1) by pptg. Al with excess $(NH_4)_2CO_3$, pptg. U in the filtrate with oxine in AcOH medium and igniting the ppt. at [illegible]° to U_3O_8 and (2) by electrolyzing the soln. and titrating the quadrivalent U in the soln. with $KMnO_4$ or $K_2Cr_2O_7$. In the absence of Ti, V and Al, Mn is removed from the electrolyte by oxidation with NH_4 persulfate and pptn. with Na_2CO_3, the soln. is made acid with H_2SO_4 and boiled to decomp. persulfate and, after the electrolysis, the U is titrated as above.

Chas. Blanc

METALLURGICAL LITERATURE CLASSIFICATION

MOLCHANOVA, R. S.; DYMOV, A. M. (Prof.) (Dr. Chem. Sci.);

"The Determination of Phosphorus in Ferroniobium," in book The Application of Radioisotopes in Metallurgy, Symposium XXXIV, Moscow; State Publishing House for Literature on Ferrous and Nonferrous Metallurgy, 1955.

Prof. A. M. Dymov, Dr. Chem. Sci.; R. S. Molchanova, Assistant, Chair of Analytical Chemistry, Moscow Inst. of Steel im I. V. Stalin.

MOLCHANOVA, R. S., DYMOV, A. M. (Prof., Dr. Chem. Sci.);

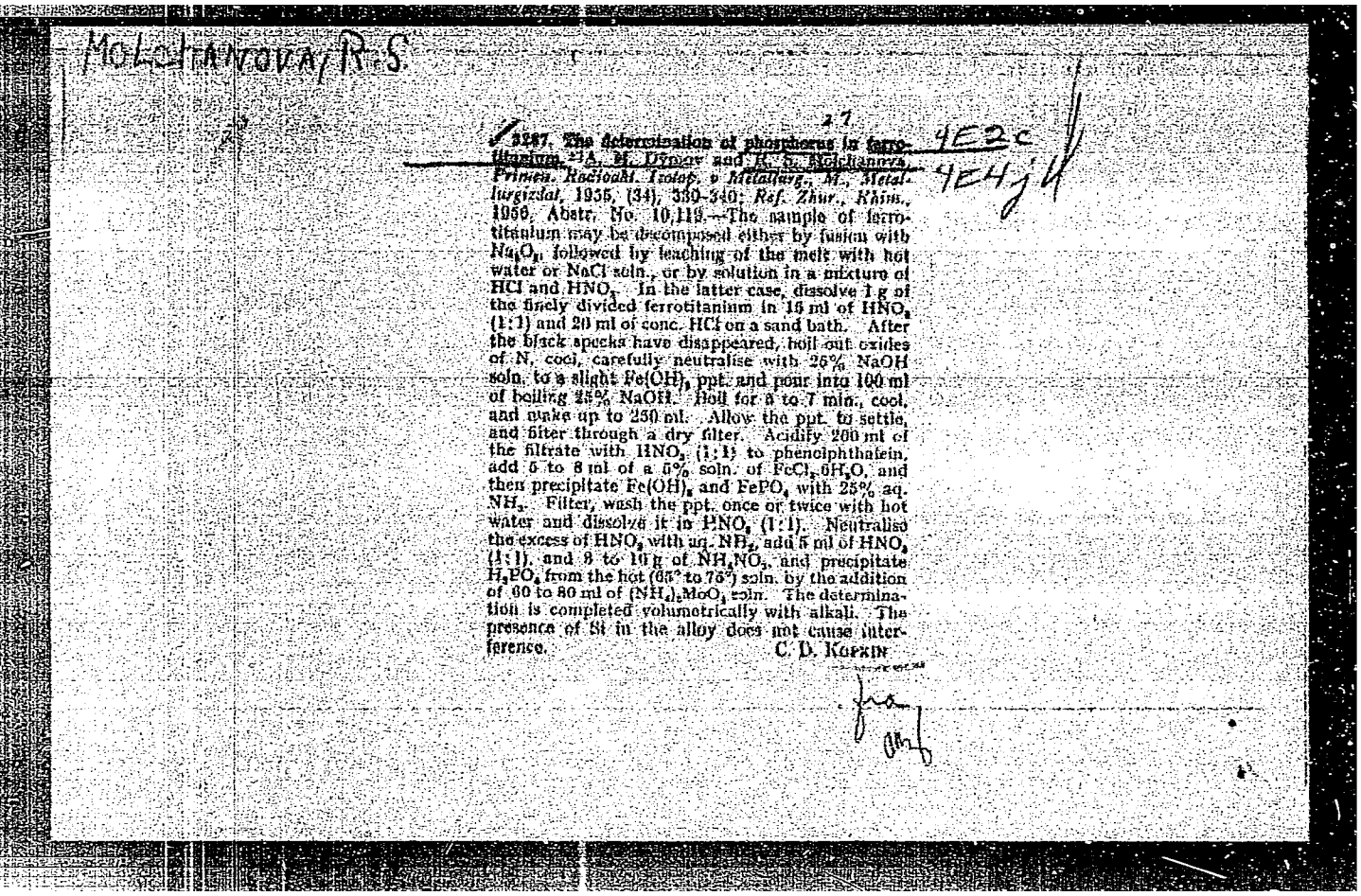
"The Determination of Phosphorus in Ferrotitanium," in book The Application of Radioisotopes in Metallurgy, Symposium XXXIV; Moscow; State Publishing House for Literature on Ferrous and Nonferrous Metallurgy, 1955.

Prof. A. M. DYMOV, Dr. Chem. Sci.; R. S. Molchanova, Assistant, Chair of Analytical Chemistry, Moscow Inst. of Steel im I. V. Stalin.

DYMOV, A.M., professor, doktor khimicheskikh nauk; MOLCHANOVA, R.S., assistent.

Determining phosphorus in ferroniobium. Sbor.Inst. stali 34:306-319 '55. (MLRA 9:7)

1.Kafedra analiticheskoy khimii.
(Phosphorus--Isotopes) (Iron-niobium alloys)



Molchanova, R. S.

4E2c
4E4j

27

3287. The determination of phosphorus in ferrotitanium. [1]A. M. Dymov and [2]R. S. Molchanova. *Primen. Radioakt. Izotop. v Metallurg., M., Metallurgizdat*, 1955, (34), 339-340; *Ref. Zhur., Khim.*, 1956, Abstr. No. 10,118.—The sample of ferrotitanium may be decomposed either by fusion with Na_2O_2, followed by leaching of the melt with hot water or NaCl soln., or by solution in a mixture of HCl and HNO_3. In the latter case, dissolve 1 g of the finely divided ferrotitanium in 15 ml of HNO_3 (1:1) and 20 ml of conc. HCl on a sand bath. After the black specks have disappeared, boil out oxides of N, cool, carefully neutralise with 25% NaOH soln. to a slight $Fe(OH)_3$ ppt. and pour into 100 ml of boiling 25% NaOH. Boil for 5 to 7 min., cool, and make up to 250 ml. Allow the ppt. to settle, and filter through a dry filter. Acidify 200 ml of the filtrate with HNO_3 (1:1) to phenolphthalein, add 5 to 8 ml of a 5% soln. of $FeCl_3.6H_2O$, and then precipitate $Fe(OH)_3$ and $FePO_4$ with 25% aq. NH_3. Filter, wash the ppt. once or twice with hot water and dissolve it in HNO_3 (1:1). Neutralise the excess of HNO_3 with aq. NH_3, add 5 ml of HNO_3 (1:1), and 8 to 10 g of NH_4NO_3, and precipitate H_3PO_4 from the hot (65° to 75°) soln. by the addition of 60 to 80 ml of $(NH_4)_2MoO_4$ soln. The determination is completed volumetrically with alkali. The presence of Si in the alloy does not cause interference.

C. D. Kopkin

MERZHEYEVSKAYA, O.I. [Merzhyeuskaia, V.I.]; KHOT'KO, E.I. [Khats'ko, E.I.]; KUNDAKOVA, S.V.; MOLCHANOVA, R.V. [Malchanava, R.U.]

Feeding habits of Agrotis segetum Schiff and Agrotis exclamationis L. Vestsi AN BSSR. Ser. biial. nav. no.4:121-129 '64. (MIRA 18:12)

MOLCHANOVA,S.I.; MOROZOVA,O.Ye.; SHCHEKIN,V.V.

Catalytic cracking with magnesium silicate catalysts. Trudy Inst. nefti no.6:30-34 '55. (MLRA 8:12)

(Cracking process)

Translation D 347557

MOLCHANOVA, S.I

Category: USSR B-9

Abs Jour: Zh--Kh, No 3, 1957, 7589

Author : Shchekin, V. V., Molchanova, S. I., and Antonova, A. I.
Inst : Petroleum Institute of the Academy of Sciences USSR
Title : On Changes in the Activity and Selectivity of Aluminosilicate Catalysts

Orig Pub: Tr. In-ta Nefti AN SSSR, 1956, Vol 8, 107-113

Abstract: The activity of synthetic aluminasilicate catalysts (K) is reduced less by carbonization in the redistribution of hydrogen in cyclohexane (1) than in the isomerisation of cyclohexane (2). Preliminary poisoning of K with pyridine or quinoline reduces the pentamethylenes yield to a greater extent than the carbonisation of K. Decreasing the pore size of K. has a more beneficial effect in the case of reaction (1) than in the case of reaction (2). It has been

Card : 1/2 -38-

Category: USSR B-9

Abs Jour: Zh--Kh, No 3, 1957, 7589

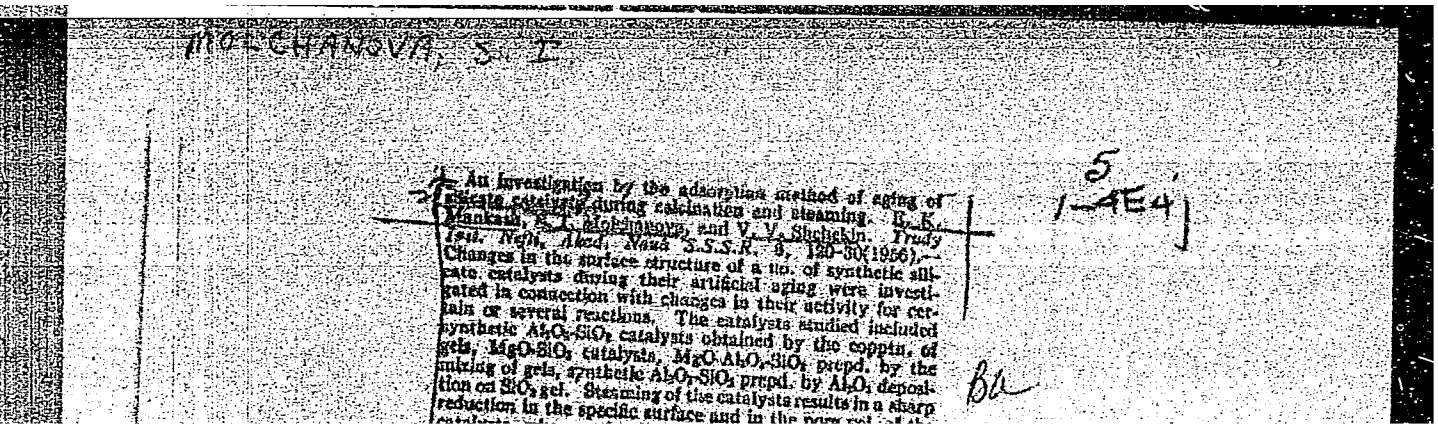
noted that the change in selectivity caused by the carbonisation of K may be caused by external diffusive complications or by the preferential closing of small pores. The authors recommend the utilisation of K with large pores for the attainment of optimal isomerisation product yields. A method is described for the determination of six- and five-membered cycloalkanes and cycloalkenes in the reaction mixture.

Card : 2/2 -39-

Title: ... and Treatment with Vapors by the Adsorption Method

... AN SSSR, 1956, Vol 8, 120-130

followed by treatment with vapors, S decreases, but the pore size remains almost unchanged. Vapor treatment increases the activation energy from 8.200-10,000 to 15,300-16,400 cal/mole. It has been noted that the decrease in the activity of the catalyst observed after vapor treatment is caused both by a decrease in S and by phase transformations.



MOLCHANOVA, S. I.

An investigation by the adsorption method of aging of silicate catalysts during calcination and steaming. G. K. Yanikeev, S. I. Molchanova, and V. V. Shcheklin. *Trudy Inst. Neft. Akad. Nauk S.S.S.R.* 6, 120-30(1956).—Changes in the surface structure of a no. of synthetic silicate catalysts during their artificial aging were investigated in connection with changes in their activity for certain or several reactions. The catalysts studied included synthetic Al_2O_3-SiO_2 catalysts obtained by the coppn. of gels, MgO-SiO_2 catalysts, MgO-Al_2O_3-SiO_2 prepd. by the mixing of gels, synthetic Al_2O_3-SiO_2 prepd. by Al_2O_3 deposition on SiO_2 gel. Steaming of the catalysts results in a sharp reduction in the specific surface and in the pore vol. of the

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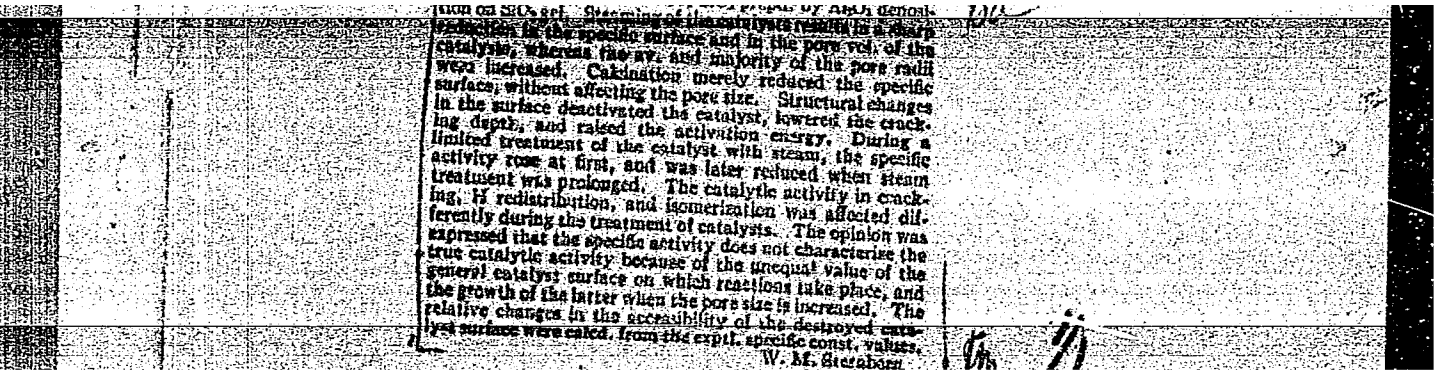

from on SiO_2 gel. Steaming of the catalysts results in a sharp reduction in the specific surface and in the pore vol. of the catalysts, whereas the av. and uniformity of the pore radii were increased. Calcination merely reduced the specific surface, without affecting the pore size. Structural changes in the surface deactivated the catalyst, lowered the cracking depth, and raised the activation energy. During a limited treatment of the catalyst with steam, the specific activity rose at first, and was later reduced when steaming was prolonged. The catalytic activity in cracking, H redistribution, and isomerization was affected differently during the treatment of catalysts. The opinion was expressed that the specific activity does not characterize the true catalytic activity because of the unequal value of the general catalyst surface on which reactions take place, and the growth of the latter when the pore size is increased. The relative changes in the accessibility of the destroyed catalyst surface were calcd. from the exptl. specific const. values.

W. M. Sterabon

5(4)

AUTHORS: Ballod, A. P., Molchanova, S. I., Topchiyev, A. V., Academician, Fedorova, T. V., Shtern, V. Ya. SOV/20-123-3-23/54

TITLE: Three Types of Kinetic Curves of the Interaction of Methane and Propane With Nitrogen Dioxide (Tri vida kineticheskikh krivykh vzaimodeystviya metana i propana s dvuokis'yu azota)

PERIODICAL: Doklady Akademii nauk SSSR, 1958, Vol 123, Nr 3, pp 464-467 (USSR)

ABSTRACT: The kinetics of methane and propane nitration by means of nitrogen dioxide was carried out by the authors in a vacuum device with a self-recording colorimetric photometer; thus, the consumption of nitrogen dioxide was recorded. A diaphragm gauge recorded the increase in pressure. According to the composition of the reaction mixture, the initial pressure and temperature 3 types of the reaction course were determined: a) slow reaction (Figs 1a, 2a). A continuous

increase at 250-300° is S-shaped if there is no high initial pressure and the mixture consists of C_3H_8 : NO_2 = 1 : 1; 2 : 1 and 4 : 1 (Fig 2a). The total pressure sometimes remains practically constant up to 30-40 seconds, although NO_2 is rapidly consumed. In methane nothing of that kind was observed. b) Reaction with a maximum (Figs 1b, 1v, 2v). With an increase in the initial pressure or in temperature the reaction of type a (at constant composition of the mixture) passes to a reaction with a maximum. After a period of 1.5-7 seconds (according to initial conditions) during which an autocatalytic reaction is seen, the pressure increases abruptly, while NO_2 is consumed to a considerable extent or practically completely. The abrupt increase in pressure has no relation with a visible flash. Afterwards, a rapid pressure decrease occurs, sometimes (in the case of propane) down to the initial pressure. It is followed by a slow increase in pressure up to saturation. Figure 2 b shows limiting cases between

reactions of type a and type b. c) Reaction with flash (Figs 1g, 2g). At a further increase in the initial temperature and initial pressure the reaction passes to an actual explosion process. The entire reaction practically ends in a flame, wherein NO_2 is completely consumed. The intensity of the shining increases at constant temperature with the initial pressure, wherein the pink-reddish-lightblue coloration is turning white-yellow. No luminiscence (Ref 1) was found. The ratio of the pressure increases at the moment of the completed NO_2 consumption to the NO_2 initial pressure in the mixture $\Delta P_1/P_{\text{initial } NO_2}$ for the reaction between CH_4 and NO_2 depends - within the limits of the corresponding mixture - neither on the type of the reaction kinetics nor on the initial pressure, nor on temperature. This ratio varies insignificantly with the composition of the mixture. On the other hand, $\Delta P_1/P_{\text{initial } NO_2}$ for the reaction between C_3H_8 and NO_2 is influenced by the

reaction kinetics and composition of the mixture. This ratio is the lowest for the reaction of type b and the highest for type c. There are 4 figures, 1 table, and 1 reference.

SUBMITTED: July 18, 1958

5(3), 5(4)

AUTHORS: Ballod, A. P., Molchanova, S. I., Patsevich, I. V., Topchiyev, A. V., Shtern, V. Ya.

SOV/75-14-2-8/27

TITLE: Polarographic Analysis of the Liquid Products of Nitration of Alkanes With Nitrogen Dioxide (Polyarograficheskiy analiz zhidkikh produktov nitrovaniya alkanov dvuokis'yu azota)

PERIODICAL: Zhurnal analiticheskoy khimii, 1959, Vol 14, Nr 2, pp 188-197 (USSR)

ABSTRACT: The gas-phase nitration of alkanes (C_1 to C_3) with nitrogen dioxide yields a complex mixture of products the quantitative analysis of which is very difficult. In the reaction mixture nitroparaffins, alkyl nitrites, alkyl nitrates, aldehydes, alcohols, alkanes, alkenes, carbon monoxide, carbon dioxide, nitric oxides, and water were found. The nitric oxides, carbon oxides, and hydrocarbons may be determined by the usual chemical or chromatographical methods. For this purpose the liquid reaction products (nitroparaffins, alkyl nitrites, alkyl nitrates, aldehydes, and alcohols) must be separated beforehand by dissolving them in water. In the present paper

a quantitative polarographical method of analyzing liquid nitration products in the absence and in the presence of NO_2 is described. The method devised makes it possible to determine the sum of nitroparaffins, the sum of alkyl nitrites, and the determination of formaldehyde and of the sum of higher aldehydes in the absence and in the presence of NO_2. The determination of formaldehyde in a 0.2 molar solution of LiOH is possible if the concentration of NO_3^- is below 0.01 - 0.05 mol/l. If alkyl nitrites and alkyl nitrates are simultaneously present, only the total sum of these compounds can be determined. The authors obtained for the first time a polarogram of methyl nitrolic acid. In a 0.2 molar solution of LiOH the polarogram of the methyl nitrolic acid consists of two waves with half-wave potentials $\pi_{1/2}$ = -0.6 v and $\pi_{1/2}$ = -1.1 v with reference to a saturated calomel electrode. In a buffer solution of 0.2 molar NaOH

Polarographic Analysis of the Liquid Products of Nitration of Alkanes With Nitrogen Dioxide

and 0.2 molar NaH_2PO_4 (pH 5-7) only one wave is observed ($\pi_{1/2}$ = -0.25 to -0.3 v). The polarographic methods of analysis devised are described in detail, and the polarograms are reproduced. The following tables are contained in the paper: 1) half-wave potentials of RNO_2, RONO, $RONO_2$ HCHO and CH_3CHO with reference to a saturated calomel electrode (for an acid, neutral, and alkaline medium); 2) change of the height of the reduction wave of formaldehyde with respect to time in the following solution: 0.006 molar at HCHO, 0.002 molar at CH_3NO_2 and 0.13 molar at LiOH; 3) results of the polarographical analysis of artificial mixtures of CH_3CHO, HCHO, C_2H_5ONO and CH_3NO_2 in the absence of NO_2; 4) influence exercised by time beginning with the preparation of the mixture on the height of the waves; 5) results of the analysis of artificial mixtures in the

Polarographic Analysis of the Liquid Products of Nitration of Alkanes With Nitrogen Dioxide

presence of HO_2. There are 7 figures, 5 tables, and 9 references, 4 of which are Soviet.

ASSOCIATION: Institut neftekhimicheskogo sinteza AN SSSR, Moskva (Institute of Petroleum-chemical Syntheses of the AS USSR, Moscow)

SUBMITTED: July 23, 1958

LEVIN, A., kand. tekhn. nauk; MOLCHANOVA, T., inzh.;
OKSYUTA, G., inzh.

Using gas burners for drying buildings. Zhil.-kom. khoz. 11
no.11:22-23 N '61. (MIRA 16:7)

(Gas burners) (Drying apparatus)

LEVIN, A.M., kand. tekhn. nauk; BRYUKHANOV, O.N., mladshiy nauchnyy sotrudnik; MOLCHANOVA, T.A., mladshiy nauchnyy sotrudnik; OKSYUTA, G.M., mladshiy nauchnyy sotrudnik; KHAYKINA, M.A., mladshiy nauchnyy sotrudnik

Temperature regimes and spectral characteristics of infrared gas burners. Ispol'. gaza v nar. khoz. no.2:53-70 '63. (MIRA 18:9)

1. Laboratoriya bytovykh gazovykh priborov Saratovskogo gosudarstvennogo nauchno-issledovatel'skogo i proyektnogo instituta po ispol'zovaniyu gaza v narodnom khozyaystve.

MOLCHANOVA, T. B.

25422 Molchanova, T. B. Vykhody Nizhnego Proterozoya K Vostoku Ot Eniseyskogo Kryzha. Zov. Geologiya, No. 32, 1948, s. 64-66

SO: Letopis' Zhurnal Statey, No. 30, Moscow, 1948

VINOGRADOV, N.V.; MOLCHANOVA, T.B.

Cost of sugar and profitableness of its production. Sakh.prom. 28 no.2:37-42 '54. (MLRA 7:4)

1. Tsentral'nyy nauchno-issledovatel'skiy institut sakharnoy promyshlennosti.

(Sugar industry)

MOLCHANOVA, T.K.

Country : USSR
Category : Farm Animals. Q
Cattle.
Abs. Jour : Ref Zhur-Biol., No 21, 1958, 96866

Author : Guzhova, T. P.; Zakharova, T. P.; Kolpakova,*
Institut. : Moscow Technological Institute of Meat and**
Title : The Feeding of Calves with the View of Their Future Economic Utilization.

Orig Pub. : Sb. stud. rabot. Mosk. tekhnol. in-t myasn. i molochn. prom-sti, 1958, vyp. 5, 112-114
Abstract : As young stock, 18-24 months old, was kept basically on coarse fodder and silage during the stall period and subsequently fattened on pasture without additional feeding with concentrates, it reached a live weight of 520-530 kg. The carcass yield of young stock, 28 months old, amounted to 52 percent.

Card: 1/1

*T. P.; Molchanova, T. K.

AZERBAYEV, N.N.; MOLCHANOVA, T.Kh.

Efficient use of Central Kazakhstan coal. Vest. AN Kazakh. SSR 15 no.4:43-46 '59. (MIRA 12:7)
(Kazakhstan--Coal)

AZERBAYEV, I.N.; MOLCHANOVA, T. Kh.

Isomerization of thiocyanates containing a tertiary carbon atom. Vest. AN Kazakh. SSR 20 no.12:35-40 D '64
(MIRA 18:2)

AZERBAYEV, I.N., akademik; MOLCHANOVA, T.Kh.; OMAROVA, R.G.

Thiocyanogen and chlorine derivatives of acetylene glycols.
Vest. AN Kazakh. SSR 21 no.12:44-48 D '65. (MIRA 18:12)

MOLCHANOVA, T.V.

AUTHOR: Molchanova, T.V. 11-7-6/23

TITLE: "About Genesis of Alkaline Rocks of the Irisu Intrusion (Talass Ala Tau)"--- (O genezise shchelochnykh porod intruzii Irisu (Talasskiy Alatau)

PERIODICAL: "Izvestiya Akademii Nauk SSSR", Seriya Geologicheskaya, 1957, No. 7, pp. 87-97, (USSR)

ABSTRACT: The alkaline rocks of the Irisu intrusion which consist of pyroxenites with nepheline, shonkinites and nephelinic syenites, have formerly been regarded as products of differentiated magma. Based on the available material, the author draws the conclusion that some of the rocks were formed as a result of metasomatosis, some were of hybrid origin, and only a small portion of intrusive rocks were of magmatic nature. The Irisu mountain range breaks through the 3,000m-thick carbonate stratum of hardcoal. Especially high sections of this mighty stratum are exposed at the Irisu district, represented by layers of the Lower, Middle and Upper Wise, as well as of bottom sections of the Middle Carboniferous Period. The northern half of the intrusion is located in the Lower Wise, consisting of limestone, partly dolomitized, marlaceous, interspersed by siltstone and dolomites. The southern section of

Card 1/3

"About Genesis of Alkaline Rocks of the Irisu Intrusion (Talass Ala Tau)"

the intrusion is composed of rocks of higher layers of the Upper Wise and the Middle Carboniferous Period, where limestone predominate. The northern sections of the intrusion are composed of various skarns, which gradually change into rocks of the pyroxenite type. To the group of hybride rocks belong varieties which contain besides the products of metasomatosis considerable quantities of magmatic substances, 60% or more. To these varieties belong the shonkinites, syenites and monzonites. Rocks of the strictly magmatic group show no characteristics of hybridization and are products of crystallized magmatic fusion, such as nephelites, syenites and various kinds of dike rocks. Nowhere among the different rocks of the Irisu intrusion were found any indications of their multiphase formation. On the contrary, the gradual transitions, with the exception of dikes, offer no distinctive marks between adjacent strata. It must be concluded that the Irisu and likely the Kainda alkaline rocks have been formed from alkali earth magma, whereby its unusual composition accounts for deep reprocessing of the magma by carbonate rocks.

Card 2/3

11-7-6/23

"About Genesis of Alkaline Rocks of the Irisu Intrusion (Talass Ala Tau)"

The article contains 1 geological map, 2 figures and 1 diagram. The bibliography lists 8 references, all Slavic (Russian).

ASSOCIATION: Kazakhstan Geological Administration, city of Alma-Ata. (Kazakhskoye geologicheskoye upravleniye g. Alma-Ata)

SUBMITTED: April 4, 1957

AVAILABLE: Library of Congress

Card 3/3

AUTHOR: Molchanova, T.V. SOV/5-58-4-28/43

TITLE: The Intrusive Alkaline Complex of the North Western Spurs of the Talasskiy Alatau (Intruzivno-effuzivnyy shchelochnoy kompleks severo-zapadnykh otrogov Talasskogo Alatau)

PERIODICAL: Byulleten' Moskovskogo obshchestva ispytateley prirody, Otdel geologicheskiy, 1958, Nr 4, p 154 (USSR)

ABSTRACT: This is a summary of a report given by the author at a conference of the Moscow Society of Naturalists on 17 April 1958. The author gives a detailed description of the chemical composition of the intrusive alkaline complex of the north spurs of the Talasskiy Alatau.

1. Alkaline earths--Geology 2. Alkaline earths--Chemical properties

Card 1/1

SPASSKIY, S.S.; TOKAREV, A.V.; MIKHAYLOVA, M.A.; TARASOV, A.I.; MOLCHANOVA, T. V.; MAT'KOVA, M. Ye.

Copolymerization of unsaturated polyesters with vinyl monomers. Trudy Inst. khim. UFAN SSSR no.3:21-32 '59 (MIRA 14:3)
(Esters) (Vinyl compounds) (Polymerization)

5 (4), 15 (8)

AUTHORS: Spasskiy, S. S., Mikhaylova, M. A., Tarasov, A. I., Molchanova, T. V., Mat'kova, M. Ye. SOV/76-33-7-1/40

TITLE: Copolymerization of Unsaturated Polyesters With Vinyl Monomers. IV. Copolymerization of Polydiethylene Glycol Fumarate With Styrene, Acrylonitrile, Methyl Methacrylate, and Vinyl Acetate

PERIODICAL: Zhurnal fizicheskoy khimii, 1959, Vol 33, Nr 7, pp 1449 - 1454 (USSR)

ABSTRACT: In a previous paper (Ref 1) it was found among other things that acrylonitrile during copolymerization (C) with unsaturated polyesters (PE) shows decreasing activity compared with that in (C) with diesters of fumaric acid. It was assumed that these phenomena are due to steric factors. In order to confirm this assumption, the authors investigated the (C) of polydiethylene glycol fumarate (I) with styrene (II), acrylonitrile (III), methyl methacrylate (IV), and vinyl acetate. The properties of the vinyl monomers are listed (Table 1). The (C) constants (CC) were determined according to the Mayo-Lewis equation (Ref 4). The experimental results obtained are listed (Table 2) from

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which the (CC) as well as the reaction rate of the chain radicals of the (PE) and of the vinyl monomers were calculated (Table 3). The activity of the vinyl derivatives increases (with respect to the chain radical of the (PE)) from (II) to (V), while during the (C) of vinyl monomers an opposite phenomenon may be observed (Ref 5), i.e. (II) possesses the strongest and (V) the weakest activity. The experimental results obtained confirm the above effect of steric factors. It is assumed that the latter increases with increasing size of the radical at the double bond and with decreasing elasticity of the monomer molecule. The authors plotted diagrams of the integral composition of the systems under investigation (Figs 1 - 4); furthermore, they pointed out among other things that no azeotropic mixtures are formed by the systems (I) + (II) and (I) + (IV). The above diagrams permit determination of the conditions for preparing homogeneous copolymers. There are 4 figures, 3 tables, and 9 references, 7 of which are Soviet.

Copolymerization of Unsaturated Polyesters With Vinyl Monomers. IV. Copolymerization of Polydiethylene Glycol Fumarate With Styrene, Acrylonitrile, Methyl Methacrylate, and Vinyl Acetate

SOV/76-33-7-1/40

ASSOCIATION: Ural'skiy filial Akademii nauk SSSR Sverdlovsk (Ural Branch of the Academy of Sciences of the USSR, Sverdlovsk)

SUBMITTED: March 17, 1957

Card 3/3

83473

S/190/60/002/009/004/019
B004/B060

15.8000 also 2109, 2209

AUTHORS: Spasskiy, S. S., Molchanova, T. V.

TITLE: Copolymerization of Unsaturated Polyesters With Vinyl Monomers. X. Thermomechanical Study of Copolymers of Three-component Systems

PERIODICAL: Vysokomolekulyarnyye soyedineniya, 1960, Vol. 2, No. 9, pp. 1320-1325

TEXT: The authors utilized the apparatus designed by V. L. Tsetlin, V. I. Gavrilov, et al. (Ref. 12) (method by V. A. Kargin et al., Ref.11) to study the thermomechanical behavior of copolymers of polydiethylene glycol fumarate + styrene + vinyl acetate (I) and polydiethylene glycol fumarate + methyl methacrylate + styrene (II) under a stress of 40 kg/cm^2. The copolymerization constants are given in Table 1, and the physical data regarding vinyl monomers in Table 2. In a previous paper (Ref. 5) on two-component systems, the authors established two types of thermomechanical curves. In the first type, corresponding to cross-linked copolymers, deformation starts only at decomposition temperature.

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Copolymerization of Unsaturated Polyesters With Vinyl Monomers. X. Thermomechanical Study of Copolymers of Three-component Systems

S/190/60/002/009/004/019
B004/B060

The second type characterizes linear structures, and deformation occurs already at a low temperature, remains constant on a temperature rise, and further increases at decomposition temperature. Fig. 1 shows the diagrams of the composition of I and II. In spite of different primary ratio of the three components, the composition of the forming copolymer tends toward the azeotropic composition. The thermomechanical properties of I and II are graphically represented in Fig. 2. In azeotropic I the deformation curve forms no plateau, while plateaux appear in nonazeotropic I, since linear structures are formed after saturation of the active bonds of the polyester. In II, the deformation curve features a plateau. These results fit those obtained on the strength of the copolymerization constants. In opposition to other researchers (Refs. 9,10), the authors found that the constants of copolymerization of low-molecular diesters of fumaric acid with vinyl monomers are not applicable to the calculation of the copolymer composition (Fig. 3). There are 3 figures, 2 tables, and 12 references: 8 Soviet, 2 US, and 2 British.

83473

Copolymerization of Unsaturated Polyesters With Vinyl Monomers. X. Thermomechanical Study of Copolymers of Three-component Systems

S/190/60/002/009/004/019
B004/B060

ASSOCIATION: Ural'skiy filial AN SSSR, Institut khimii (Ural Branch of the AS USSR, Institute of Chemistry)

SUBMITTED: February 8, 1960

X

Card 3/3

87338
S/190/60/002/010/021/026/XX
B004/B064

15.8340 2209, 2109, 2808

AUTHORS: Spasskiy, S. S., Molchanova, T. V.

TITLE: Copolymerization of Unsaturated Polyesters With Vinyl- and Allyl Monomers. XI. Copolymerization of Polydiethylene Glycol Fumarate Adipinate and of Low-molecular Polydiethylene Glycol Fumarate With Styrene

PERIODICAL: Vysokomolekulyarnyye soyedineniya, 1960, Vol. 2, No. 10, pp. 1481-1485

TEXT: In previous papers (Refs. 1-6) the authors reported on the copolymerization of polyglycol fumarates. Copolymers of this kind are used for glass reinforced plastics. Since, however, no pure compounds are used in the practice, this paper discusses the effect of an addition of saturated acids to the unsaturated polyester upon the molecular weight and the copolymerization constants. The copolymerization with styrene of polydiethylene glycol fumarate-adipinate (I), molecular weight 1610, and of two samples of polydiethylene glycol fumarate (II), molecular weight 510 and 1970 was investigated. The reaction took place in sealed glass ampouls

Card 1/2

87338

Copolymerization of Unsaturated Polyesters With Vinyl- and Allyl Monomers. XI. Copolymerization of Polydiethylene Glycol Fumarate Adipinate and of Low-molecular Polydiethylene Glycol Fumarate With Styrene

S/190/60/002/010/021/026/XX
B004/B064

in nitrogen atmosphere at 60°C. Benzoyl peroxide served as initiator. After the non-polymerized products had been removed by washing with acetone (5 - 6 days), the composition was determined on the basis of the oxygen content in the copolymer. The number of polyester links entered into reaction was determined on the basis of the additivity of the specific volumes and the known shrinkage in polymerization. The following results were obtained: 1) The copolymerization constants for I and II with styrene differ little. 2) The styrene activity increases with decreasing molecular weight of the polyester. It reaches its maximum in the reaction with diethyl fumarate. 3) Since due to the changed styrene activity also its content in the copolymer changes, this fact must be taken into account in the production of binding agents for glass reinforced plastics. There are 1 figure, 2 tables, and 9 references: 6 Soviet, 2 US, and 1 German.

ASSOCIATION: Ural'skiy filial AN SSSR, Institut khimii (Ural Branch of the AS USSR, Institute of Chemistry)

SUBMITTED: April 18, 1960

Card 2/2

ALEKSEYEVA, I.A.; SPASSKIY, S.S.; Prinimali uchastiye: MOLCHANOVA, T.V.; SEMERNEVA, G.A.

Copolymerization of unsaturated polyesters with vinyl and allyl monomers. Part 12: Study of polydiethyleneglycol fumarate - styrene copolymers by infrared spectroscopy and chemical methods. Vysokom. soed. 2 no. 11:1645-1654 N '60. (MIRA 13:11)

1. Institut khimii Ural'skogo filiala AN SSSR.
(Fumaric acid) (Styrene) (Polymers--Spectra)

5.3830

77395
SOV/79-30-1-56/78

AUTHORS: Spasskiy, S. S., Tokarev, A. V., Mikhaylova, M. A., Molchanova, T. V., Mat'kova, M. Ye.

TITLE: Copolymerization of Unsaturated Polyesters With Vinyl Monomers. III Concerning the Nature of Copolymerization of Unsaturated Polyesters With Vinyl Monomers

PERIODICAL: Zhurnal obshchey khimii, 1960, Vol 30, Nr 1, pp 250-257 (USSR)

ABSTRACT: Copolymers of poly(1,3-butylene glycol fumarate) with vinylcarbazole, acrylonitrile, vinyl acetate, methyl methacrylate, and poly(ethylene glycol fumarate) with vinyl acetate were prepared in order to study the nature of this copolymerization. Literature data concerning the copolymerization constants of different copolymers are reviewed. Copolymerization of polyesters with acrylonitrile, vinyl acetate, and methyl methacrylate was conducted in sealed glass ampoules in a

Card 1/4

2

nitrogen atmosphere. The ampoules were placed in a thermostat at 60 + 0.1°. Benzoyl peroxide was used as an initiator. After completion of the reaction (to the given extent), the ampoules were removed from the thermostat and frozen with liquid nitrogen. The trimeric copolymer was separated from other products of reaction and the initial products by treatment with acetone containing traces of hydroquinone, and washing with acetone. Copolymerization of poly(1,3-butylene glycol fumarate) with vinylcarbazole was conducted in toluene solution (in nitrogen atmosphere) in the presence of benzoyl peroxide (up to 1%). The mixture was heated for 65 hr at 100°, but no copolymers were obtained. From the data obtained, the following conclusions were made: activity of acrylonitrile in the reactions with polyesters is low in comparison with its acti.ity in the reactions with diesters of fumaric acid. Copolymerization of vinylcarbazole with polyesters does not take place at all. Apparently, the bulky substituents cause steric hindrance affecting

the copolymerization process. The activity of vinyl acetate in the copolymerization remains unchanged. Copolymerization constants of the following copolymers were determined:

	r_1	r_2
Poly(1,3-butylene glycol fumarate) - acrylonitrile	1.12 ± 0.040	1.03 ± 0.2
Poly(1,3-butylene glycol fumarate) - methyl methacrylate	0.5 ± 0.5	2.1 ± 0.30
Poly(1,3-butylene glycol fumarate) - vinyl acetate	0.2 ± 0.2	0.15 ± 0.07
Poly(ethylene glycol fumarate) - vinyl acetate	0.2 ± 0.1	0.020 ± 0.02

Copolymerization of Unsaturated Polyesters With Vinyl Monomers. III

77395
SOV/79-30-1-56/78

There are 4 tables; 2 figures; and 16 references, 2 U.S., 5 U.K., 9 Soviet. The 5 most recent U.S. and U.K. references are: B. Hayes, R. Hunter, Chem. and Ind., 1957, 559; V. Wycherly, Chem. and Ind., 1957, 491; W. Robertson, D. Shepherd, Chem. and Ind., 1958, 126; B. Hayes, W. Read, L. Vaygan, Chem. and Ind., 1162 (1957); F. Leavitt, V. Stannett, M. Szwarc, Chem. and Ind., 28, 985 (1957).

ASSOCIATION: Ural Branch of the Institute of Chemistry, Academy of Sciences, USSR (Uralskiy filial AN SSSR, Institut khimii)

SUBMITTED: July 29, 1958

Card 4/4

NAGIBINA, M.S.; MOLCHANOVA, T.V.

Structural position of Mesozoic granites in the Mongolo-Okhotsk zone and the adjacent regions of the Stanovoy Range. Dokl. AN SSSR 136 no.2:424-427 '61. (MIRA 14:1)

1. Predstavleno akademikom N.S. Shatskim.
(Asia--Granite) (Geology, Structural)

MOLCHANOVA, T.V.

Exogeosynclinal Mesozoic granitoids of the arched uplift of the Stanovoy Range and their structural position. Izv. AN SSSR Ser. geol. 29 no.7:38-51 Jl '64 (MIRA 18:1)

1. Geologicheskiy institut AN SSSR, Moskva.

MOLCHANOVA, T.V.

Genesis and structural position of Mesozoic alkali rocks in the central Aldan region. Geotektonika no.2:32-46 Mr-Ap '65. (MIRA 18:5)

1. Geologicheskiy institut AN SSSR.

MOLCHANOVA, T.V.

Tectonic and magmatic conditions governing the formation of Upper Paleozoic alkali rocks in the western part of the central Tien Shan. Biul. MOIP. Otd. geol. 40 no.4:32-45 Jl-Ag '65. (MIRA 18:9)

MOLCHANOVA, V.A.

Apteral grasshoppers Podisma pedestris L. (Orthoptera, Acrididae) as pests of nurseries in the steppe zone. Ent.obor. 33:78-79 '53. (MLRA 7:5)

1. Vsesoyuznyy Institut zashchity rasteniy Vsesoyuznoy Akademii sel'skokhozyaystvennykh nauk im. V.I.Lenina, Leningrad. (Locusts)

KOLOMIYTSOVA, V. A.

"Investigation of the Species and the Biology of Tree Nursery Pests of Voronezhskaya and Balashovskaya Oblasts and Development of Protective Measures." Cand Agr Sci, All-Union Res Inst of Plant Protection; All-Union Order of Lenin Academy of Agricultural Sciences imeni V. I. Lenin, Leningrad, 1955. (KL, No 14, Apr 55)

SO: Sum. No. 704, 2 Nov 55 - Survey of Scientific and Technical Dissertations Defended at USSR Higher Educational Institutions (16).

MOLCHANOVA, V.A.

4) PHASE I BOOK EXPLOITATION SOV/2713

International Conference on the Peaceful Uses of Atomic Energy. 2nd, Geneva, 1958

Doklady sovetskikh uchenykh; polucheniye i primeneniye izotopov (Reports of Soviet Scientists; Production and Application of Isotopes) Moscow, Atomizdat, 1959. 388 p. (Series: Its: Trudy, vol. 6) 8,000 copies printed.

Eds. (Title page): G.V. Kurdyumov, Academician, and I.I. Novikov, Corresponding Member, USSR Academy of Sciences; Ed. (Inside book): Z.D. Andreyenko; Tech. Ed.: Z.D. Andreyenko.

PURPOSE: This book is intended for scientists, engineers, physicians, and biologists engaged in the production and application of atomic energy to peaceful uses; for professors and graduate and nongraduate students of higher technical schools where nuclear science is taught; and for the general public interested in atomic science and technology.

COVERAGE: This is volume 6 of a 6-volume set of reports delivered by Soviet scientists at the Second International Conference on the Peaceful Uses of Atomic Energy held in Geneva from September 1 to 13, 1958. Volume 6 contains 32 reports on: 1) modern methods for the production of stable radioactive isotopes and their labeled compounds, 2) research results obtained with the aid of isotopes in the field of chemistry, metallurgy, machine building, and agriculture, and 3) dosimetry of ionizing radiation. Volume 6 was edited by: S.V. Levinskiy, Candidate of Medical Sciences; V.N. Prusakov, Candidate of Chemical Sciences; and V.V. Sedov, Candidate of Medical Sciences. See SOV/2081 for titles of volumes of the set. References appear at the end of the articles.

ANDREYEV, S.V.; MOLCHANOVA, V.A.; MARTENS, B.K.

Applying radioactive isotopes for marking insects. Zashch.rast. ot vred.i bol. 5 no.2:45-47 F '60. (MIRA 15:12)

1. Vsesoyuznyy institut zashchity rasteniy.
(Radioisotopes—Insects, Marking of)

MOLCHANOVA, V.A., kand.sel'skokhozyaystvennykh nauk

Method and description of the equipment used in investigating Chemotaxis in insects. Trudy VIZR no.15:329-330 '60.
(MIRA 14:3)

(Chemotaxis) (Entomological research)

MOLCHANOVA, V.A.; TIMONOV, V.V.

Calculation of tidal phenomena in a shallow bay by the method of boundary values. Trudy GOIN no. 57:28-43 '60. (MIRA 14:1)
(Tides)

41626

27.1220

S/205/62/002/005/014/017
D243/D307

AUTHORS: Andreyev, S.V., Martens, B.K., Molchanova, V.A., and Stepanov, A.S.

TITLE: Investigation of the effect of the radiation dose on the mortality and sexual sterilization of the barn weevil

PERIODICAL: Radiobiologiya, v. 2, no. 5, 1962, 758 - 762

TEXT: In view of its economic importance the author wished to discover the minimum radiation dose effectively disinfecting grain. A γ-unit illustrated in Fig. 1, developed by the biophysics laboratories of the author's Institute, was used. 50 insects, Calandra granaria L, were placed in a linen container with 10 g of previously sterilized grain and, after irradiation, was transferred to glass jars to which a further 30 g of sterilized grain was added. The jars were kept in a thermostat at 23 - 25°C, at suitable humidity. The radiation doses were 0.5, 1, 8, 12 and 40 kr. Mortality estimates were made after 7, 14, 27, 34 and more days. The sterilizing effect was calculated from the number of second generation insects.

Card 1/4

Investigation of the effect of ...

The author concludes that doses of 0.5 - 1 kr increase mortality and sterility slightly. For complete sterilization a dose of 8 kr is required, when the lethal effect is more clearly apparent. These figures can be used as a basis for planning an industrial γ-unit for grain disinfestation. There are 2 figures and 2 tables.

ASSOCIATION: Vsesoyuznyy nauchno-issledovatel'skiy institut zashchiti rasteniy, Leningrad (All-Union Scientific Research Institute of Plant Protection, Leningrad)

SUBMITTED: May 12, 1961

Card 2/4

S/205/62/002/005/014/017
D243/D307

Investigation of the effect of ...

Fig. 1. Diagram of γ-unit.

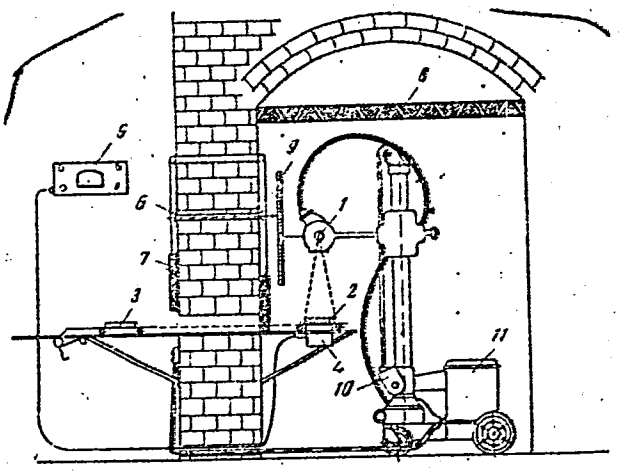

Рис. 1. Схема γ-установки

Card 3/4

Investigation of the effect of ...

Legend: 1 - radiation source, 50 g.equ.R.; 2 - carriage with object to be irradiated in operative position; 3 - carriage in non-operative position; 4 - ionization chamber of x-ray recorder; 5 - x-ray recorder; 6 - view window for determining from ruler (9) distance of radiation source from object; 7 - protective screens of lead glass; 8 - protective layer of lead; 9 - measuring ruler; 10 - motor for moving radiation source in vertical position; 11 - container for keeping radiation source in nonoperative position.

1 — излучатель в 50 г-экв R, *2* — каретка с облучаемым объектом в рабочем положении, *3* — каретка в нерабочем положении, *4* — ионизационная камера рентгенометра, *5* — рентгенометр, *6* — смотровое окошко для определения по линейке *(9)* расстояния излучателя до объекта, *7* — защитные заслонки из свинцового стекла, *8* — защитный слой свинца, *9* — отсчетная линейка, *10* — мотор для перемещения излучателя в вертикальном направлении, *11* — контейнер для хранения излучателя в его нерабочем положении

Card 4/4

KAMENKOVA, K.V.; MOLCHANOVA, V.A.

Use of radioactive phosphorus isotope for marking grain cutworms and their parasites. Vop. ekol. 4:111 '62. (MIRA 15:11)

1. Vsesoyuznyy institut zashchity rasteniy, Leningrad.
(Phosphorus—Isotopes) (Cutworms) (Insects, Marking of)

ANDREYEV, S.V.; BUBNOV, G.M.; MARTENS, B.K.; MOLCHANOVA, V.A.

Automatic light traps. Zashch. rast. ot vred. i bol. 7 no.1:49-50 '62. (MIRA 15:6)

(Insect traps)

ANDREYEV, S.V.; MOLCHANOVA, V.A.; MARTENS, B.K.

Application of radioactive isotopes for marking moths of the grain cutworm. Zool.zhur. 41 no.1:85-91 Ja '62. (MIRA 15:4)

1. All-Union Research Institute of Plant Protection, Leningrad.
(Cutworms) (Radioactive tracers)

ANDREYEV, S.V.; MOLCHANOVA, V.A.; MARTENS, B.K.; RAKITIN, A.A.

Use of radioactive isotopes in marking Eurygaster integriceps Put. (Hemiptera, Pentatomidae). Ent. obozr. 42 no.1:39-48 '63. (MIRA 16:8)

1. Vsesoyuznyy institut zashchity rasteniy, Leningrad.
(Insects, Marking of) (Eurygasters) (Radioisotopes)

SOV/139-58-4-16/30

AUTHORS: Chernykh, N. P., ~~Molchanova, V.B. and~~ Mil', M. I.

TITLE: Long Duration Strength of Certain Steels Subjected to the Pressure of Hydrogen and Nitrogen (Dlitel'naya prochnost' nekotorykh staley pod davleniyem vodoroda i azota)

PERIODICAL: Izvestiya Vysshikh Uchebnykh Zavedeniy, Fizika, 1958, Nr 4, pp 97-104 + 1 plate (USSR)

ABSTRACT: Paper presented at the 7th Scientific Conference of the Tomsk State University, November, 1956.
Some equipment of the petroleum industry has to operate at temperatures of 400 to 550°C with pressures of 325 and 700 atm in presence of hydrogen and other gases. Under such conditions the material is in a state of creep and several instances are known in which sudden brittle failure of the steel of such apparatus occurs after long duration operation in presence of hydrogen under pressure. It was found that the metal in such apparatus became brittle and decarburized. This problem has been extensively investigated in numerous countries. According to Class (Ref 10), the rate of decarburisation is proportional to the stress in the tube walls, the long

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Long Duration Strength of Certain Steels Subjected to the Pressure of Hydrogen and Nitrogen

duration strength of tubes in the presence of hydrogen under pressure is lower than in presence of nitrogen under pressure, also, addition to hydrogen of moisture and other gases affects the long duration strength of the steel. On the basis of analysis of published work and taking into consideration experience gained in hydrogenation plants in 1955, the Irkutsk Branch of NIIKhIMMASh decided to investigate the influence of gaseous media on the long duration strength of high temperature steels. The basic aim of the investigations was to determine the limit long duration strength of such steels in a gaseous medium to obtain more accurate stressing data, since such data are not available either in Soviet literature or in foreign literature. The second aim of the investigations was to study the nature of the action of hydrogen in steel in the state of slow plastic deformation. Solving the main task necessitated establishing the influence of hydrogen on the long duration strength at various temperatures and pressures and various stress states. The choice of the test rig was such as to obtain test conditions for the metal resembling as closely as

possible those pertaining to the hydrogenation equipment and particularly to the tubes. The through flow of hydrogen was provided for removing corrosion products (methane) which may appear as a result of the interaction of hot hydrogen and the steel. For elucidating the influence of hydrogen pressure on the properties of steel under creep conditions and for determining the long duration strength of the tubes under the pressure of the media being processed, an original pilot plant set-up was produced in accordance with a design patented by one of the authors of this paper (Ref 15), a diagrammatic sketch of which is shown in Fig.1. The equipment was designed with the following considerations in mind: there should be a possibility of testing the tubes under conditions approaching normal operating conditions, i.e. the flow must be ensured of various media through the tubes; it must be possible to investigate the tubes at various temperatures, pressures and with various media; it should be possible to ensure long duration operation at a given regime maintain-

ing accurately the temperature and the pressure; it should be possible to test simultaneously several specimens under mutually independent test conditions; the test rig must be safe to operate. The hydrogen or nitrogen is fed from a 600 atm industrial system through valves into a vessel intended for equalisation and for inter-mixing the gases, whereby the pressure is recorded on a self-recording pressure gauge. The gaseous medium is made to flow from this vessel into a collector vessel which feeds simultaneously six tube specimens each of 1000 mm length and an external diameter of 14 to 35 mm. The specimen is placed into a chamber furnace representing a protective tube of the heat and hydrogen resistant steel EI579. The temperature is automatically maintained at a desired value. The chemical compositions and the mechanical properties of the investigated steels are given in Tables 1 and 2. The measured times to failure as a function of the stress are graphed in Fig.3 and entered in Table 3. By extra-

 polation of the graphs, the limit long duration strength

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was determined for the steel EI579 subjected to the pressure of hydrogen and nitrogen; for a temperature of 550°C and a pressure of 600 atm these values (in kg/mm^2) were as follows: after 10 000 hours - 17 for hydrogen and 24 for nitrogen; after 100 000 hours - 7 for hydrogen and 16 for nitrogen. Fig.2 shows the outside view of tubular specimens of the steel 30KhMA after fracture at 550°C caused by differing long duration load conditions; Fig.6 shows a photograph of an oval tube of the Steel 20 which failed after 2 hours at a hydrogen pressure of 600 atm at 500°C. Figs. 4 and 5 show micro-photos of the structure at various states of the material. The results of the work are summarised thus: 1. A test rig was built and tested which is intended for investigating the long duration strength of tubes under pressure produced by any flowing medium at temperatures between 0 and 700°C and pressures up to 1000 atm. This set-up enables investigating pieces of tubes as well as welded tubes to determine the long duration corrosion strength under the influence of the pressure of a

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flowing medium.
2. Testing the long duration strength of tubes under the effect of the pressure of a flowing medium permits determining more accurately the qualitative and quantitative indices for operation of tubes under normal operating conditions (strength, corrosion, diffusion).
3. The long duration strength of tubes made of the steels EI579, ZOKhMA and Steel 20 is lower if subjected to hydrogen under pressure than if subjected to nitrogen under pressure and the difference increases with the test duration, as can be seen from the values quoted above. It was established that an increase in the stress of the tube wall brings about an increase of the speed and depth of decarburization.

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SOV/139-58-4-16/30

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There are 6 figures, 4 tables and 16 references, 9 of which are Soviet, 4 English, 3 German.

ASSOCIATION: Vsesoyuznyy nauchno-issledovatel'skiy i konstruktorskiy institut khimicheskogo mashinostroyeniya, Irkutskiy filial (All-Union Scientific-Research and Design Institute of Chemical Engineering, Irkutsk Branch)

SUBMITTED: February 7, 1958

Card 7/7

MOLCHANOVA, V.D.

PHASE I BOOK EXPLOITATION SOV/3559

Akademiya nauk SSSR. Institut metallurgii. Nauchnyy sovet po probleme sharoprochnykh splavov

Issledovaniya po sharoprochnym splavam, t. 5 (Investigations of Heat-Resistant Alloys, Vol 5) Moscow, Izd-vo AN SSSR, 1959. 423 p. Errata slip inserted. 2,000 copies printed.

Ed. of Publishing House: V.A. Klimov; Tech. Ed.: I.F. Kuz'min; Editorial Board: I.P. Bardin, Academician, G.V. Kurdyumov, Academician, N.V. Ageyev, Corresponding Member, USSR Academy of Sciences (Resp. Ed.), I.A. Oding, I.M. Pavlov, and I.F. Zudin, Candidate of Technical Sciences.

PURPOSE: This book is intended for metallurgical engineers, research workers in metallurgy, and may also be of interest to students of advanced courses in metallurgy.

COVERAGE: This book, consisting of a number of papers, deals with the properties of heat-resisting metals and alloys. Each of the papers is devoted to the study of the factors which affect the properties and behavior of metals. The effects of various elements such as Cr, Mo, and W on the heat-resisting properties of various alloys are studied. Deformability and workability of certain metals as related to the thermal conditions are the object of another study described. The problems of hydrogen embrittlement, diffusion and the deposition of ceramic coatings on metal surfaces by means of electrophoresis are examined. One paper describes the apparatus and methods used for growing monocrystals of metals. Boron-base metals are critically examined and evaluated. Results are given of studies of interatomic bonds and the behavior of atoms in metal. Tests of turbine and compressor blades are described. No personalities are mentioned. References accompany most of the articles.

CHERNYKH, N.P., inzh.; Prinimali uchastiye: MOLCHANOVA, V.D., inzh.; MIL', M.I., inzh.

Study of the effect of hydrogen on the long-period strength of certain steels. Trudy NIIKHIMMASH no.34:33-49 '60. (MIRA 14:1)

1. Irkutskiy filial Nauchno-issledovatel'skogo i konstruktorskogo instituta khimicheskogo mashinostroyeniya.
(Steel—Hydrogen content)

PYATIKOP, B.D.; MOLCHANOVA, V.D.

What a modern metallographic microscope should be like. Zav.lab. 27 no.3:361 '61. (MIRA 14:3)

1. Ukrainskiy nauchno-issledovatel'skiy intitut ogneuporov (for Pyatikop). 2. Irkutskiy filial Vsesoyuznogo nauchno-issledovatel'skogo instituta khimicheskogo mashinostroyeniya (for Molchanova).
(Microscopes)

ACCESSION NR: AR4041597 S/0137/64/000/005/E008/E008

SOURCE: Ref. zh. Metallurgiya, Abs. 5E48

AUTHOR: Turitsina, N. P.; Molchanova, V. D.; Cherny*kh, N. P.

TITLE: Investigation of hydrogen stability of welded joints

CITED SOURCE: Sb. Vliyaniye vodoroda na sluzhebn. svoystva stali. Irkutsk, 1963, 98-115

TOPIC TAGS: welded joint, welded joint property, hydrogen

TRANSLATION: In Irkutsk branch of All Union Scientific Research and Designing Institute of Chemical Machine Building the influence of H_2 on properties of steel welded joint 20Kh2.5 Moscow Branch were investigated in conditions of thick wall body work of high pressure apparatus (under pressure H_2 320 - 600 kgs/ cm^2 at 300 - 350°). Chemical composition and mechanical properties of base and built up metal are given. Method of investigations and results of

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ACCESSION NR: AR4041597

central pipe welded joints test of coiled construction apparatuses are described, and also large sections of welded joints, carried out by automatic welding. 3 illustrations.

SUB CODE: MM ENCL: 00

Card 2/2

ACC NR: AR6035064 SOURCE CODE: UR/0282/66/000/008/0003/0003

AUTHOR: Molchanova, V. D.; Chernykh, N. P.

TITLE: Investigation of the hydrogen effect on the properties of welds in high-pressure equipment

SOURCE: Ref. zh. Khimicheskoye i kholodil'noye mashinostroyeniye, Abs. 8.47.14

REF SOURCE: KhISA. 2-y Mezhdunar. kongr. khim inzh. tekhn., khim. oborud. i avtomat., Marianske lazne, 1965 g. S. l., 1965, Ye. 4.6

TOPIC TAGS: high pressure equipment, metal welding, steel microstructure, hydrogen absorption, hydrogen absorption resistance

ABSTRACT: The results of investigations have shown that the resistance of welded joints to hydrogen absorption depends on the chemical composition of the deposited metal and on its microstructure. [Translation of abstract] [NT]

SUB CODE: 11/

Card 1/1 UDC: 66.02.001

MOLCHANOVA, V. I. Cand Ped Sci -- (diss) "Propaganda ~~ing of~~ Agitation and work of VUZ ~~the~~ physical culture personnel."

Riga, 1957. 22pp 20 cm. (State Order of Lenin and Order of Red Banner Inst of Physical Culture im P.F. Lesgaft).

200 copies. (KL, 22-57, 107).

S/123/61/000/018/003/015
A004/A101

AUTHORS: Gopius, A.Ye., Molchanova, V.P.

TITLE: Investigating the impact corrosion of German silver condenser tubes and developing a more durable alloy

PERIODICAL: Referativnyy zhurnal. Mashinostroyeniye, no. 18, 1961, 16, abstract 18A121 ("Tr. Gos. n.-i. i proyektn. in-ta po obrabotke tsvetn. met.", 1960, no. 18, 127 - 162)

TEXT: It was found that the addition of 0.5% Fe to grade 70/30 German silver considerably increases its corrosion resistance. A further increase in the Fe-content is less effective. If the alloy contains Mn along with Fe its corrosion resistance improves somewhat, but the presence of Mn alone is not sufficient. The optimum German silver composition is the following (in %): Ni + Co 29 - 33; Fe 1.0 - 1.5;, Mn 0.5 - 1.0, the rest being Cu. The corrosion of German silver tubes in running sea water is of an electrochemical nature. The possibility was confirmed of producing condenser tubes from these alloys by the ordinary technology used for German silver tubes. There are 10 references.
[Abstracter's note: Complete translation]

Card 1/1

N. Sazonova

KOZLOVA, G.V., inzh.; SMIRNOVA, T.G., inzh.; MOLCHANOVA, V.P., kand.tekhn. nauk; TUBYSHKINA, Z.A., kand.tekhn.nauk

Electroplated coatings for the protection of molybdenum from high temperature oxidation. Metalloved. i term. obr. met. no.7:7-9 Jl '62. (MIRA 15:6)

1. TSentral'nyy nauchno-issledovatel'skiy institut chernoy metallurgii.

(Molybdenum—Corrosion)
(Chromium plating)

GULYAYEV, A.P., doktor tekhn.nauk, prof.; KOZLOVA, G.V., inzh.;
MOLCHANOVA, V.P., kand.tekhn.nauk; SMIRNOVA, T.G., inzh.

Properties of electroplated coatings on molybdenum. Metalloved. i term. obr. met. no.7:10-13 Jl '62. (MIRA 15:6)

1. TSentral'nyy nauchno-issledovatel'skiy institut chernoy metallurgii.

(Molybdenum)
(Electroplating)

MOLCHANOVA, V.V.; PLYUSNIN, V.G.

Effect of the quantity of aluminum chloride on the reaction of benzene methylation. Izv.Sib.otd.AN SSSR no.1:83-88 '62. (MIRA 15:3)

1. Ural'skiy filial AN SSSR, Sverdlovsk.
(Benzene) (Methylation) (Aluminum chloride)

MOLCHANOVA, V. V.

"New Indicator Devices of the Academy of Sciences Latvian SSR," by V. V. Molchanova, Izmeritel'naya Tekhnika, No 5 Sep/Oct 56, pp 95-96

The design and operation of four new controllers and indicators developed at institutes of the Academy of Sciences Latvian SSR are described. One of the devices described is an automatic indicator-controller which can be preset by moving along the indicator dial a blind on which an ionization counter is mounted behind a slit. The pointer of the indicator is coated with a beta-emitter which has a long half life, such as Tl^{204} or Sr^{90}. When the pointer reaches the slit of the blind, the radiation impinges on the counter and a control mechanism appropriate to the process being regulated is released.. The advantage of this arrangement is that the negligibly small quantity of radiant energy which activates the controller cannot unbalance the circuit.

A second device, called the Radioactive Level Indicator RIU-3 indicates the level of liquids in enclosed vessels such as storage and processing vessels of the food and chemical industries and tank cars. It consists of a source of radiation inside the vessel formed by a long-lived isotope which emits gamma-radiation and is located within a float and an ionization counter of the type STS-5 outside the vessel.

In addition to the devices mentioned above, and electromagnetic gauge is described which measures the thickness of nonferromagnetic metal coatings (e.g., chromium, zinc, copper) on ferromagnetic materials, of ferromagnetic coatings on ferromagnetic materials (nickel on steel), and of nonmetal coatings (e. g., lacquer or paint on steel). Information is also given on a water-flow meter in which the number of revolutions of a rotating propeller is measured by an optical method.

Sum 1239

MOLCHANOVA, V.V.

Automatic dimension control in production. Izm.tekh. no.12:55-57 D '62. (MIRA 15:12)
(Production control)

MOLCHANOVA, V.V. (Leningrad, Polyustrovskiy pr., d.47, kv.4)

Age dependent changes in the reactions of subcutaneous connective tissue in case of serous inflammation [with summary in English]. Arkh.anat.gist. i embr. 34 no.2:47-57 Mr-Ap '57. (MLRA 10:10)

1. Iz kafedry gistologii i embriologii (nauchn.rukovod. - prof. Ye.S.Danini [deceased], prof. A.G.Kiorre) Leningradskogo pediatricheskogo meditsinskogo instituta

(INFLAMMATION, exper.
age changes in reactions of subcutaneous connective tissue in kittens (Rus))
(AGING, eff.
on subcutaneous connective tissue reaction in exper. serous inflammation in kittens (Rus))

MOLCHANOVA, V.V.

MOLCHANOVA, V.V.

Characteristics of subcutaneous loose connective tissues in cats at various ages. Dokl.AN SSSR 112 no.6:1119-1121 F '57. (MLRA 10:5)

1.Leningradskiy pediatricheskiy meditsinskiy institut. Predstavleno akademikom N.N. Anichkovym.

(CONNECTIVE TISSUES)

MOLCHANOVA, V.V., Cand Med Sci - (diss) "Growth variations ~~changes~~ in the reaction of subcutaneous connective tissue in serous inflammation. (Experimental histological study)." Len, 1958, 19 pp (Len Pediatric Med Inst. Chair of Histology and Embryology) 200 copies

MOLCHANOVA, V.V.; PLYUSNIN, V.G.; ALEKSEYEVA, I.A.

Orienting effect in the methylation of benzene by methyl chloride in the presence of aluminum chloride. Izv. Sib. otd. AN SSSR no.3:80-83 '62. (MIRA 17:7)

1. Ural'skiy filial AN SSSR, Sverdlovsk.