L 16799-63

ACCESSION NR: AP3006475

0

slightly during passage through the critical speed and because of self-alignmnet sharply diminish thereafter, which ensures a wide range of vibration-free operational velocities. Orig. art. has: 43 formulas and 8 figures.

ASSOCIATION: none

SUBMITTED: 00	DATE ACQ: 30Sep63	ENCL: 03
SUB CODE: PR	NO REF SOV: 007	OTHER: 001

Card 3/3

SMIRNOVA, P. I. Cand Agr Sci -- (diss) "On the problem of the calves need ~~of~~ for vitamin A (carotene)." Kiev, 1957. 12 pp (Min of Agriculture UkSSR. Ukrainian Acad of Agr Sci), 100 copies (KL, 4-58, 85)

SMIRNOVA, P. M.

1341. Smirnova, P. M. Mass spektvometrichyeskoye issledo aniye protsessov ionizatsii i vtorichnykh protsessov v vodorode m., 1954. h s 20 sm. (M. vo khim prom-sti SSSR. ordena trud. Krasnogo Znameni Nauch. ---issled. Fiz. ---Khim. in-t im. L. ya. karpova) 100 ekz. B. ts. (54-55854)

SO: Knizhiaya Letopis, Vol. 1, 1955

SMIRNOVA, P. M.

✓Fractional peaks in the mass spectrum of hydrogen.
N. N. Tunitskii, P. M. Smirnova, and M. V. Tikhomirov.
62 *Doklady Akad. Nauk S.S.S.R.* 101, 1083–4(1955); cf.
Mattauch and Lichtblau, *C.A.* 33, 3600^{8}; Kolotyrkin,
et al., *Doklady Akad. Nauk S.S.S.R.* 92, 1193(1953).—
The collision of high-energy H_2^+ ions with H_2 causes the
dissocn. of H_2^+ to form H^+. This dissocn. leads to the
formation of a diffuse peak in the H mass spectrum which
corresponds to $m = 1/2$. The relative intensity of the
peak ($1/2$) was measured in relation to the ionization energy
of the elution beam. The cross section for the dissocn.
reaction is equal to 1.4×10^{-18} sq. cm. The value is almost
the same for the dissocn. of D_2^+. J. Rovtar Leach

②

SMIRNOVA, P.Z., starshiy prepodavatel'

Moscow railwaymen's labor exploits during the turning point in the Great Patriotic War. Trudy MIIT no.166:128-143 '62. (MIRA 16:6)

(World War, 1939-1945) (Moscow Province--Railroads)
(Socialist competition)

SMIRNOVA, R.D.; ZAMYSLOVA, S.D.; ZARUBIN, G.P.

Sanitary conditions for discharging sewage from phenol and acetone production into open waters. Uch. zap. Mosk. nauch.-issl. inst. san. i gig. no.9:30-33 '61 (MIRA 16:11)

*

GOLUBEVA, M.T.; SMIRNOVA, R.D.

Production and discharge of liquid waste in the manufacture of synthetic alcohol. Uch.zap. Mosk. nauch.-issl. inst. san. i gig. no.9:117-120 '61 (MIRA 16:11)

*

SMIRNOVA, R.D.

Results of a session of the Moscow Research Institute on Hygiene of the Ministry of Public Health of the R.S.F.S.R. Gig. i san. 26 no.8:108-110 Ag '61. (MIRA 15:4)

(PUBLIC HEALTH)

SMIRNOVA, R. F.

5

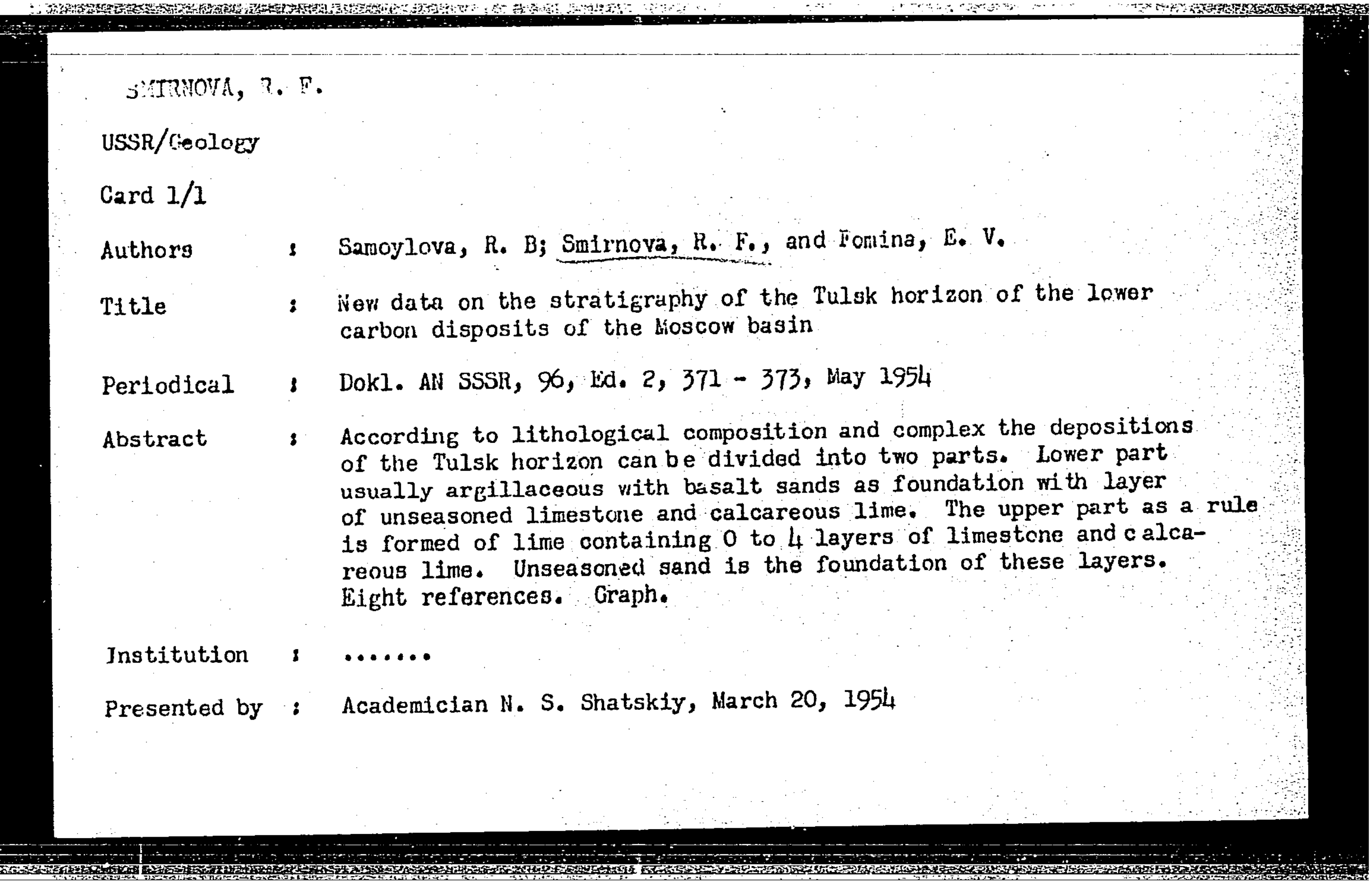
USSR

Determination of the parameters in the structure of olivine (forsterite). N. V. Belov, E. N. Belova, N. N. Andrianova, and R. F. Smirnova. *Doklady Akad. Nauk S.S.S.R.* 81, 399–402(1951).—A revision of the interionic distances Si-O and Mg-O by 3-dimensional Fourier synthesis is given to correct the data of *Strukturberichte* 1, 352(1931), which give for Si-O: 1.81 A. (av.). This rather high distance from Bragg's and Brown's first and preliminary calcns. (*C.A.* 20, 3669) is in contradiction with normally observed values varying between 1.55 and 1.70 A., and rarely above 1.75 A. For the distances Mg-O the corrections must not be so considerable. The revision has given the following results: The space group is D_{2h}^{16} = *Pbnm*; the principle of densest hexagonal packing of the O^{2-} anions which is the basis for the calcns. of Bragg and Brown is only an approximation to the accurate data derived from the electron-d. projections on the three pinacoids. The calcd. distances are: Si-O I = 1.605; Si-O II = 1.769; Si-O III = 1.603; Mg I-O I = 2.03; Mg I-O II = 1.962; Mg I-O III = 1.992; Mg II-O I = 2.278; Mg II-O II = 1.837; Mg II-O III = 2.072 A. W. Eitel

SMIRNOVA, R. F.

"The Crystalline Structure of Cuspidine." Cand Phys-Math Sci, Inst of Crystallography, Acad Sci USSR, 22 Dec 54. (VM, 10 Dec 54)

Survey of Scientific and Technical Dissertations Defended at USSR Higher Educational Institutions (12)
SO: Sum. No. 556, 24 Jun 55



SMIRNOVA, R. F.

USSR/Geology

Card 1/1

Authors : Samoylova, R. B; Smirnova, R. F., and Fomina, E. V.

Title : New data on the stratigraphy of the Tulsk horizon of the lower carbon disposits of the Moscow basin

Periodical : Dokl. AN SSSR, 96, Ed. 2, 371 - 373, May 1954

Abstract : According to lithological composition and complex the depositions of the Tulsk horizon can be divided into two parts. Lower part usually argillaceous with basalt sands as foundation with layer of unseasoned limestone and calcareous lime. The upper part as a rule is formed of lime containing 0 to 4 layers of limestone and calcareous lime. Unseasoned sand is the foundation of these layers. Eight references. Graph.

Institution : ....

Presented by : Academician N. S. Shatskiy, March 20, 1954

SMIRNOVA,R.F.; RUMANOVA,I.M.; BELOV,N.V.

Crystallic structure of cuspidine.Zap.Vses.min.ob-va 84.no.2:
159-169 '55. (MIRA 8:10)

(Cuspidine)

SAMOYLOVA, R.B.; SMIRNOVA, R.F.

New Dizigopleurella genus and new species of Ostracoda from Devonian sediments in the Russian Platform. Paleont.zhur. no.1:79-88 '62.
(MIRA 15:3)

1. Geologicheskoye upravleniye tsentral'nykh rayonov, Moskva.
(Russian Platform--Ostracoda, Fossil)

1

L 24710-66 EWT(m)/ETC(f)/EPF(n)-2/EWG(m) WW

ACC NR: AT6008415 SOURCE CODE: UR/3136/65/000/993/0001/0017

AUTHOR: Ambartsumyan, R. S.; Goncharov, V. V.; Glukhov, A. M.; Yegorenkov, P. M.; Smirnova, R. F.; Shavrov, P. I.

37

ORG: none

B+1

TITLE: Increasing the power of VVR-S reactors 19

SOURCE: Moscow. Institut atomnoy energii. Doklady, IAE-993, 1965. O povyshenii moshchnosti reaktorov VVR-S, 1-17

TOPIC TAGS: water cooled nuclear reactor, water moderated reactor, reactor fuel element, nuclear reactor power / VVR-S water cooled nuclear reactor

ABSTRACT: The authors consider the possibilities for using slightly modified MR fuel assemblies for increasing the power of VVR-S water-cooled water-moderated reactors. A figure is given showing the construction and dimensions of the MR fuel assembly. The assembly consists of five tubular fuel elements of circular cross section. The heat-transfer area of the MR fuel assembly is 2.35 times as great as assemblies using EK-10 elements. The elements are interchangeable, i.e. they may be

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L 24710-66

ACC NR: AT6008415

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placed in any cell of the reactor core. The efficient design of the MR elements assures that 90% of the water passing through the core flows through the fuel assembly. The assembly contains 173 grams of U-235, i.e. 35% more than an assembly with EK-10 elements. The use of these elements makes it possible to irradiate specimens in experimental channels or ampules with an outside diameter of 14 mm. Larger specimens may be irradiated by using fuel assemblies with fewer tubular fuel elements. However, use of the MR fuel assembly cuts down the volumetric fraction of water in the reactor core to 0.65 as against 0.7 when assemblies with EK-10 elements are used. The volumetric water fraction is cut still further to 0.52 by the use of beryllium moderators to reduce nonuniformity in heat release due to localized increases in neutron density in the water spaces between adjacent MR fuel assemblies. The use of these fuel assemblies increases the power of the reactor to 8-11 Mw and the maximum neutron intensity (U-235) to $\sim 9 \cdot 10^{13}$ neutrons/cm^2 sec. The authors discuss the experimental possibilities of the VVR-S reactor with MR fuel assemblies. Orig. art. has: 6 figures, 1 table.

SUB CODE: 18/ SUBM DATE: 00/ ORIG REF: 001/ OTH REF: 003

Card 2/2 fv

1. BUNDEL', A.A.: VAYNBERG, V.I.: DOBROLYUBSKAYA, T.S.: ZOLINSKIY, V.V.: PEKERMAN, F.M.: SMIRNOVA, R.G.: TROFIMOV, A.K.: FRENKEL', S.P.

2. USSR (600)

4. Electrid Lighting, Fluorescent.

7. Development and study of luminophors based on phosphates for luminescent lamps. Izv. AN SSSR, Ser.fiz. 15 No. 6, 1951.

9. Monthly List of Russian Accessions, Library of Congress, January 1953. Unclassified.

BRAUN, E.D. (Moskva); CHICHINADZE, A.V. (Moskva); SMIRNOVA, R.G. (Moskva);
BAYKOV, V.V. (Moskva)

Simulation of the braking process on the IM-58 friction machine.
Mashinovedenie no.2:105-115 '65.
(MIRA 18:8)

L 56500-65 EWP(e)/EPA(s)-2/EWT(m)/EPF(c)/EWP(i)/EPR/EPA(w)-2/EPA(bb)-2/EWP(b)
ACCESSION NR: AP5017823 Pab-10/Pr-4/Ps-4/Pt-7 UR/0286/65/000/011/0054/0054
WW/WH 661.684:621.3.032.35

53
B

AUTHOR: Berchenko, M. A.; Smirnova, R. G.; Bannikova, M. A.

TITLE: A method for producing a potassium silicate solution for applying luminescent coatings. Class 22, No. 171488 15

15

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 11, 1965, 54

TOPIC TAGS: luminescence, phosphorescent material, caustic potash, silicon dioxide

ABSTRACT: This Author's Certificate introduces a method for producing a potassium silicate solution for applying luminescent coatings. The solution consists of silicon dioxide and caustic potash. The bonding strength between the luminescent coating and the base is increased by roasting the silicon dioxide with ammonium fluoride.

ASSOCIATION: none

SUBMITTED: 07Dec63 ENCL: 00 SUB CODE: MT, GC

NO REF SOV: 000 OTHER: 000

Card 1/1

SMIRNOVA, R.I.

Method for the acceleration of the ripening of sunflowers. Masl.-zhir.prom. 29 no.11:12-13 N '63. (MIRA 16:12)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut maslichnykh i efiromaslichnykh kul'tur.

MARKOVSKIY, L.Ya.; SMIRNOVA, R.I.

Chemism of the interaction between zinc sulfide and selenic acid.
Zhur. neorg. khim. 2 no.12:2752-2757 D '57. (MIRA 11:2)
(Zinc sulfide) (Selenic acid)

MARKOVSKIY, L.Ya.; SMIRNOVA, R.I.

Reactions taking place between dry powders of ZnS and SeO_2. Zhur. neorg.khim. 5 no.9:2042-2047 S '60. (MIRA 13:11)

1. Gosudarstvennyy institut prikladnoy khimii.
(Zinc sulfide) (Selenium oxide)

21341

S/078/61/006/004/015/018
B107/B218

5.2200 1160 1155 1043

AUTHORS: Markovskiy, L. Ya., Smirnova, R. I.

TITLE: Chemism of the reaction of cadmium sulfide with selenious acid

PERIODICAL: Zhurnal neorganicheskoy khimii, v. 6, no. 4, 1961, 948-956

TEXT: The authors studied the formation of cadmium selenite by reaction of cadmium sulfide with selenious acid in aqueous solution, and the formation of cadmium selenide by reaction of cadmium selenite and cadmium sulfide at temperature of about 500 to 900°C. The above synthesis of cadmium selenide is of practical importance for the manufacture of zinc-cadmium-selenide luminophores. The initial substances were cadmium sulfide of a purity required for luminophores, produced by the Leningradskiy zavod "Krasnyy khimik" (Leningrad Plant "Red Chemist"), and selenious acid obtained from twice-sublimated anhydride. The reaction between cadmium sulfide and selenious acid proceeds smoothly at 70°C. The authors studied the reaction at different proportions of the initial substances. With an excess of selenious acid and at a temperature of 50 to 60°C, white crystals of an acid cadmium selenite of the composition $3\ CdSO_3 \cdot H_2SeO_3$ were obtained. The

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Chemism of the reaction of...

best yield in cadmium selenite is obtained at a molar ratio of 2:3. The reaction is assumed to proceed as follows:

$$CdS + H_2SeO_3 = CdSeO_3 + H_2S$$

$$CdSeO_3 + H_2SeO_3 = CdSeO_3 \cdot H_2SeO_3$$

$$CdSeO_3 \cdot H_2SeO_3 + CdS = 2\ CdSeO_3 + H_2S$$

$$\underline{2\ H_2S + H_2SeO_3 = 2\ S + Se + 3\ H_2O}$$

$$2\ CdS + 3\ H_2SeO_3 = 2\ CdSeO_3 + 2\ S + Se + 3\ H_2O$$

Besides, small quantities (2 to 5 %) of $CdSO_4$ are formed. If the products of the reaction of cadmium sulfide with selenious acid are heated at 500 to 900°C, mainly cadmium selenite is reduced by the elementary sulfur, and with an excess of cadmium sulfide, the latter reacts with cadmium selenite. The purest yield of cadmium selenide is obtained by rapid heating of the initial composition $CdS : H_2SeO_3 = 1 : 1$. The ideal formation of cadmium selenide would proceed as follows:

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S/078/61/006/004/015/018
B107/B218

Chemism of the reaction of...

$$4/3\ CdSeO_3 + 2/3\ S = 4/9\ CdSe + 2/3\ SO_2$$

$$2/9\ CdS + 2/9\ CdSeO_3 = 2/9\ CdSe + 2/9\ SO_2 + 2/9\ CdO$$

$$2/9\ CdO + 1/9\ CdS + 3/9\ Se = 3/9\ CdSe + 1/9\ SO_2$$

$$CdS + H_2SeO_3 = 2/3\ CdSeO_3 + 2/3\ S + 1/3\ Se + 1/3\ CdS + H_2O = CdSe + SO_2 + H_2O$$

Also in this case, the product obtained contains considerable quantities of oxidic cadmium compounds which are due to the oxidizing action of cadmium selenite. The authors thank Yu. D. Kondrashev for his help. There are 4 figures, 8 tables, and 16 references: 9 Soviet-bloc. The three references to English-language publications read as follows: R. E. Shrader, S. Lasof, H. Leverenz. Preparation and Characteristics of Solid Luminescent Materials, Symposium, Oct. 1946, New York, 1948, p. 238; P. Brown, J. Electronics, 2, 154 (1956); G. Crosby, US Patent 2818301, December 31, 1957.

X

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

SUBMITTED: January 27, 1960

Card 3/3

88674

S/051/61/010/002/001/003
E201/E291

9.4150

AUTHORS: Markovskiy, L. Ya. and Smirnova, R. I.

TITLE: The Luminescent Properties of Gold-Activated Zinc Selenide

PERIODICAL: Optika i spektroskopiya, 1961, Vol. 10, No. 2, pp. 194-197

TEXT: The authors report a study of the photoluminescence and cathodoluminescence of ZnSe:Au. Zinc selenide was prepared from ZnS of phosphor purity and selenious acid using the "wet method". The amount of iron in the initial materials did not exceed 5 x 10^{-5}%; in the final product it was 0.0001%. ZnSe prepared by heating to 800°C contained zinc oxide as an impurity which was removed by treatment with a solution of NH_4OH + NH_4Cl. In some experiments the authors used very pure ZnSe prepared by the hydrogen selenide method (Fe, Cu, Co, Ni were present in amounts smaller than 3 x 10^{-5}%); zinc oxide was removed by reduction at 500°C in hydrogen. The activator was introduced in the form of gold chloride. In all cases NaCl and $MgCl_2$ were used as fluxes. The final heat treatment (30 min. at 900°C) was carried out in

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S/051/61/010/002/001/003
E201/E291

The Luminescent Properties of Gold-Activated Zinc Selenide

closed quartz crucibles either in air or in an atmosphere of purified nitrogen (less than 0.01% O_2). The cathodoluminescence parameters were obtained by placing a sample in a demountable cathode-ray tube. The cathodoluminescence was recorded with a monochromator УМ-I (UM-I) and a photomultiplier ФЭУ-22 (FEU-22). The photoluminescence was recorded with a monochromator ЗМР-3 (ZMR-3) and the same photomultiplier FEU-22. The duration of afterglow was obtained using an oscillographic method. When excited with light of 365 mμ wavelength at room temperature, ZnSe:Au exhibited a maximum which depended on the amount of gold and lay between 690 (0.005% Au) and 720 mμ (0.5% Au). This maximum was due to the activator. A slight inflection was found in the photoluminescence spectrum near 600 mμ; on cooling to -100°C the inflection turned into a prominent band which was due to ZnSe itself. At +100°C the photoluminescence spectrum had the same form as at room temperature but the intensity was generally lower because of temperature quenching. The cathodoluminescence was excited by electrons accelerated to 9kV; the electron beam density

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S/051/61/010/002/001/003
E201/E291

The Luminescent Properties of Gold-Activated Zinc Selenide

was 1 μA/cm^2. The intensity of the cathodoluminescence was compared with that of ZnSe:Cu and $Zn_3(PO_4)_2$: Mn phosphors. Beginning from gold concentrations of 0.01%, two maxima at 600 and 680 mμ were found in the cathodoluminescence spectrum. The 600 mμ maximum was depressed and the 680 mμ maximum was intensified when the amount of gold was increased. Concentration quenching of the gold-activator band occurred at concentrations greater than 0.05%. The intensity of cathodoluminescence of ZnSe:Au was close to that of ZnSe:Cu. The duration of afterglow, defined as the time when only 5% of the initial intensity remained, was about 10^{-5} sec. The long-wavelength band of the ZnSe:Au luminescence was independent of the purity of ZnSe. It was also found that this long-wavelength band was destroyed by heating in hydrogen and re-established by subsequent heating in air. A valuable property of the ZnSe:Au phosphor was the comparatively low inertia of its luminescence. Acknowledgements are made to F. M. Pekerman and O. N. Kazankin for help in some measurements. There are 3 figures, 1 table and 7 references: 1 Soviet and 6 non-Soviet.

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S/051/61/010/002/001/003
E201/E291

The Luminescent Properties of Gold-Activated Zinc Selenide

SUBMITTED: April 28, 1960

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22154

S/048/61/025/004/003/048
B104/B201

24.3500

AUTHORS: Markovskiy, L. Ya. and Smirnova, R. I.

TITLE: Effect of oxygen on the luminescence properties of activatorless zinc selenide

PERIODICAL: Izvestiya Akademii nauk SSSR. Seriya fizicheskaya, v. 25, no. 4, 1961, 449-453

TEXT: The present paper has been read at the 9th Conference on Luminescence (Crystal Phosphors), Kiyev, June 20-25, 1960. In view of the great importance of zinc selenide in the practice, the authors made a detailed study of the luminescence properties of activatorless zinc selenide and clarified the effect of oxygen introduction into the preparation. The latter was directly synthesized from the pure elements, applying a method by Pashinkin (Ref. 8: Pashinkin, A. S., Tishchenki, G. N. et al. Kristallografiya, 5, 261, (1960)). The preparation was free from oxygen and had a cubic lattice constant of a = 5.657 kX. The introduction of given amounts of air into the reaction zone made it possible in different preparations to achieve determined oxygen concentrations. Results are graphically

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S/048/61/025/004/003/048
B104/B201

Effect of oxygen on...

presented in Fig. 1. Fig. 2 shows the spectral distribution of zinc selenide emission as a function of the oxygen content. It may be seen from these results that already 0.5 % O effect an appreciable shift of the maximum, while at larger amounts of ZnO, a ZnO emission becomes manifest, and a temperature drop effects in all preparations a shift of the maximum to the left. Fig. 4 shows the spectral distributions of commercial zinc selenide preparations. It may be seen from Fig. 5 that absorption is reduced in the shortwave region with an increase of the ZnO content. It may be said on the basis of data by Yu. D. Kondrashev that in the ZnSe lattice, ZnO is dissolved to 1 - 1.5 %, as only at a higher oxygen content, zinc oxide can be shown to be present in the X-ray diagram. The possibility is thus given of correlating the changes of the luminescence properties of zinc selenide at an increase of the oxygen content with the formation of a new phase, the solid solution ZnSe-ZnO. Yu. D. Kondrashev is thanked for the measurement of lattice parameters, and M. Z. Aleksandrova for her assistance in producing and analyzing the preparations. There are 5 figures and 9 references: 6 Soviet-bloc and 3 non-Soviet-bloc. The 3 references to English-language publications read as follows: Ref. 1: Leverenz H., Wood E., Lasof S., Shrader R., Preparation and Characteristics of Solid

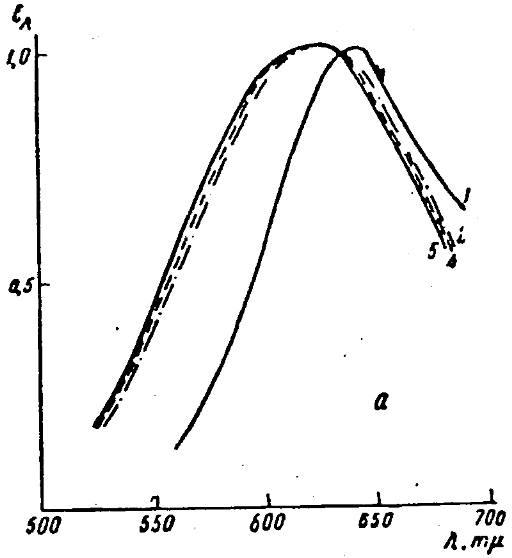
Card 2/7

22154
S/048/61/025/004/003/048
B104/B201

Effect of oxygen on...

Luminescent Materials. Symposium, p. 238, N. Y., 1948. Ref. 2: Leverenz H., An Introduction into Luminescence of Solids, p. 200, 1950. Ref. 3: Laraoh S., J. Chem. Phys., 21, 756, (1953).

Legend to Fig. 1: Spectral distributions of preparations free from oxygen and of such oxidized to various degrees.
a) Cathode excitation.
б) Photoexcitation. λ = 365 mμ;
1) ZnSe without ZnO. 2) ZnSe + 0.5 % ZnO. 3) ZnSe + 2 % ZnO. 4) ZnSe + 4% ZnO.
5) ZnSe + 10 % ZnO.



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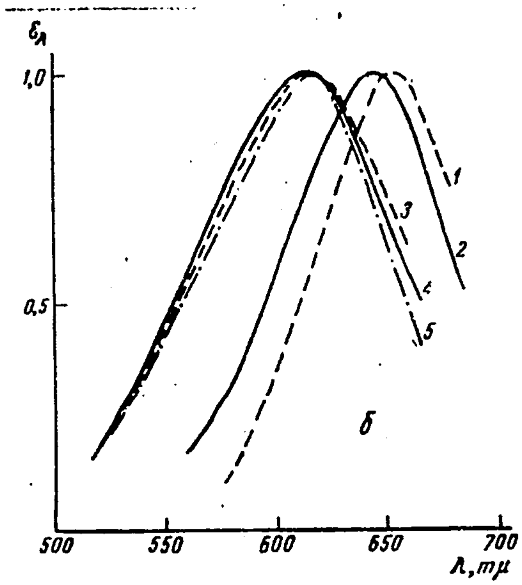
Effect of oxygen on...



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Effect of oxygen on...

Legend to Fig. 2: Spectral distribution of the emission of zinc selenide as a function of the degree of its oxidation (cathode excitation). 1) ZnSe without ZnO.
2) ZnSe + 0.5 % ZnO.
3) ZnSe + 10 % ZnO.
4) ZnSe + 20 % ZnO.

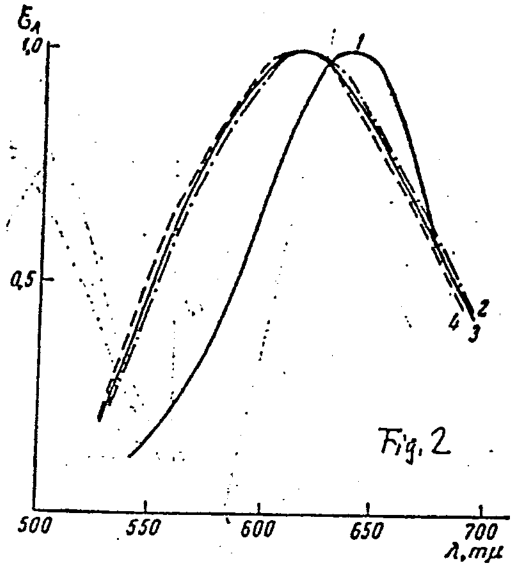

Fig. 2

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Effect of oxygen on...

Legend to Fig. 3: Spectral distribution as a function of temperature in photoexcitation.
1) ZnSe + 1.5 % ZnO (-70°C).
2) ZnSe + 1.5 % ZnO (20°C).
3) ZnSe without ZnO (-70°C).
4) ZnSe without ZnO (20°C).

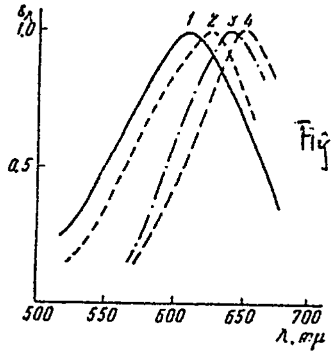

Fig. 3

Legend to Fig. 4: Spectral distribution of industrial preparations (cathode excitation). 1) 2 % NaCl. 2) without flux.

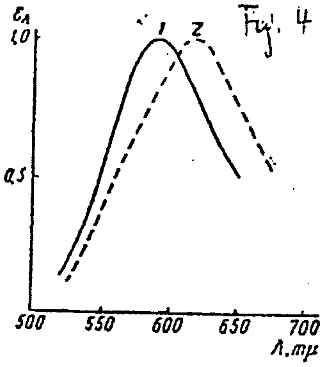

Fig. 4

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22154

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B104/B201

Effect of oxygen on...

Legend to Fig. 5:
Absorption spectra
of zinc selenide
with different
contents of ZnO.
1) Without ZnO.
2) With 4 % ZnO.
3) With 10 % ZnO.
4) ZnO·Se.

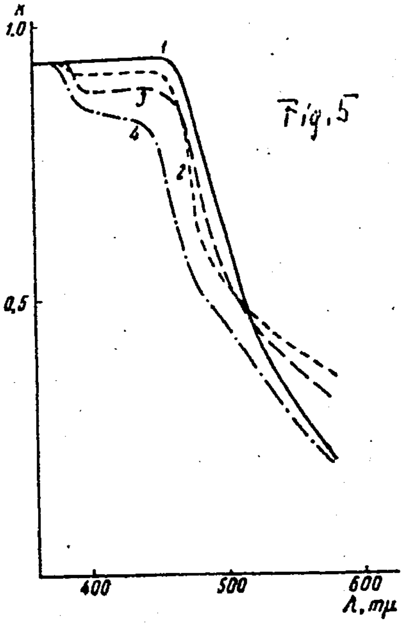

Fig. 5

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S/078/62/007/003/005/019
B110/B138

AUTHORS: Markovskiy, L. Ya., Smirnova, R. I.

TITLE: Reactions accompanying the production of zinc selenide by interaction of zinc sulfide with selenous acid

PERIODICAL: Zhurnal neorganicheskoy khimii, v. 7, no. 3, 1962, 540 - 548

TEXT: In previous papers (Zh. neorg. khimii, 2, 2752 (1957); ibid., 5, 2042 (1960); Tr. gos. in-ta prikl. khimii, 43, 128 (1960)), the authors had studied the following reactions between an aqueous suspension of ZnS and H_2SeO_3:

$$\begin{array}{c} ZnS + H_2SeO_3 \rightarrow ZnSeO_3 + H_2S \\ ZnSeO_3 + H_2SeO_3 \rightarrow ZnSeO_3 \cdot H_2SeO_3 \\ ZnSeO_3 \cdot H_2SeO_3 + ZnS \rightarrow 2ZnSeO_3 + H_2S \\ H_2SeO_3 + 2H_2S \rightarrow Se + 2S + 3H_2O \\ \hline 2ZnS + 3H_2SeO_3 \rightarrow 2ZnSeO_3 + 2S + Se + 3H_2O \end{array} \qquad (1)$$

The reactions taking place in the roasting charge are examined more closely here. The orange-colored mass obtained by the strongly exothermic reaction
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S/078/62/007/003/005/019
B110/B138

Reactions accompanying the...

of ZnS (Zn 66.1% and S 32.2%) and H_2SeO_3 (~20 g of SeO_2 per 100 g of H_2O) was dried at 100 - 120°C. The heating curves were taken on an ФПК-54 (FPK-54) pyrometer at a heating rate of 15 - 20°C/mm. The powder patterns of the roasted powder were taken with Fe K_α radiation. Taking the ratio of 1 mole of ZnS/1 mole of H_2SeO_3, which is the optimum in ZnSe production, the reaction reads:

$$\begin{gathered} ZnS + H_2SeO_3 \rightarrow 2/3ZnSeO_3 + \\ + 2/3S + 1/3Se + 1/3ZnS + H_2O \end{gathered} \qquad (2)$$

Heating curves with the ratios ZnS : H_2SeO_3 = 1: 1 and 2 : 3 display endothermic melting effects at 120°C for S and 220° for Se and strong exothermic effects at ~400°C. Here, $ZnSeO_3$ is probably reduced by S or ZnS as follows:

$$\begin{gathered} ZnSeO_3 + S;\ ZnSeO_3 + ZnS;\ ZnO + ZnS; \\ ZnO + ZnS + Se;\ ZnSeO_3 + SO_2;\ ZnS + SeO_2; \\ ZnSeO_3 \rightarrow ZnO + SeO_2 \end{gathered} \qquad (3)$$

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As the SeO_2 content of the charge rises, so also do the percentage of Se sublimation, and the Zn content in the solid phase. ZnS : H_2SeO_3 = 1 : 1 yields the maximum ZnSe content. Further increase in H_2SeO_3 causes a decrease in ZnSe. ZnS : H_2SeO_3 = 2 : 3 (63% by weight of SeO_2) yields ZnO (~0.1% of Se). This can be attributed to the oxidizing effect of the SeO_2 which is formed at or above 600°C. If ZnSe mixed with $ZnSeO_3$ or $ZnSO_4$ is roasted at 800°C, starting from 600°C it is almost quantitatively transformed to ZnO. The exothermic effect at 600°C is based on ZnSe oxidation, and the endothermic at ~700°C on Se evaporation. 2 $ZnSeO_3$ + 3S roasted in N_2 atmosphere for 30 min yielded 20.0% ZnSe at 400°C, 67.2°C at 600°C and 69.1% at 800°C. The ZnS, also formed at 400°C, results from the secondary reaction: $ZnSe + S \longrightarrow ZnS + Se$; $ZnSO_4$ forms in a yield of 30% after 30 min roasting of $ZnSeO_3$ at 450 - 500°C in SO_2 atmosphere according to the reaction $2ZnSeO_3 + 2SO_2 \longrightarrow 2ZnSO_4 + Se + SeO_2$. At 800°C, it changes into

ZnO via oxysulfate. Zinc sulfite reacts with zinc selenite according to $ZnS + 2ZnSeO_3 \longrightarrow 2ZnO + ZnSO_4 + 2Se$ at 20% selenite content and $ZnS + ZnSeO_3 \longrightarrow ZnSe + ZnO + SO_2$ at 450°C. Since $2ZnO + ZnS \longrightarrow 3Zn + SO_2$ is only thermodynamically possible above 1500°C, SO_2 and ZnSe formation (140 and 38 kcal, respectively) can only be achieved by adding Se. Most of the ZnO is therefore converted into ZnSe. In $2ZnSeO_3 + 2S + Se$, ZnS binds the formed ZnO. Therefore, in the ratio $ZnS : H_2SeO_3 \gg 1$, only slight ZnO impurities are formed, which do not influence the luminescence properties of commercial sulfide selenide luminophores. Without Se, ZnO will form by sublimation with a slow temperature rise. Forced temperature rise and average charges are therefore best:

Reactions accompanying the...

S/078/62/007/003/005/019
B110/B138

ratio 2:3 :

$$2ZnS + 3H_2SeO_3 \rightarrow 2ZnSeO_3 + 2S + Se + 3H_2O:$$
$$4/3ZnSeO_3 + 2S + Se \rightarrow 4/3ZnSe + 2SO_2 + Se$$
$$2/3ZnSeO_3 + 2/3SO_2 \rightarrow 2/3ZnSO_4 + 1/3Se + 1/3SeO_2$$
$$2/3ZnSe + 1/3SeO_2 \rightarrow 2/3ZnO + Se$$
$$2/3ZnSe + 2/3ZnSO_4 \rightarrow 4/3ZnO + 2/3SO_2 + 2/3Se$$

Суммарно имеем:

Total :

$$2ZnSeO_3 + 2S + Se \rightarrow 2ZnO + 2SO_2 + 3Se$$

Для шихты 1:1, полученной по реакции

$$ZnS + H_2SeO_3 \rightarrow 2/3ZnSeO_3 + 2/3S + 1/3Se + 1/3ZnS + H_2O$$

ratio 1:1 :

$$4/9ZnSeO_3 + 2/3S \rightarrow 4/9ZnSe + 2/3SO_2 \qquad (4)$$
$$2/9ZnS + 2/9ZnSeO_3 \rightarrow 2/9ZnSe + 2/9SO_2 + 2/9ZnO$$
$$2/9ZnO + 1/9ZnS + 3/9Se \rightarrow 3/9ZnSe + 1/9SO_2$$

Суммарно имеем:

Total :

$$2/3ZnSeO_3 + 2/3S + 1/3Se + 1/3ZnS \rightarrow ZnSe + SO_2$$

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S/078/62/007/003/005/019
B110/B138

Reactions accompanying the...

The side reactions modifying these "ideal schemes" depend on experimental conditions. M. Z. Aleksandrova is thanked for assistance in the experiments. There are 3 figures, 7 tables, and 13 references: 9 Soviet and 4 non-Soviet. The reference to the English-language publication reads as follows: G. Crosby, U. S. Patent 2018391, December 31, 1957.

ASSOCIATION: Gosudarstvenny institut prikladnoy khimii (State Institute of Applied Chemistry)

SUBMITTED: November 1, 1960

Card 6/6

SMIRNOVA, R.I.; MARKOVSKIY, L.Ya.

Reactions taking place in the interaction of cadmium sulfide dry powders with selenious anhydride. Zhur.neorg.khim. 7 no.6:1366-1369 Je '62. (MIRA 15:6)
(Cadmium sulfide) (Selenium oxide)

L 6946-65 EWT(m)/EWP(q)/EWP(b) AS(mp)-2/AFWL/ESD(gs) RDW/JD

ACCESSION NR: AT4044997 S/3110/64/000/051/0097/0101

48

AUTHOR: Golikova, L. A.; Smirnova, R. I.

47

TITLE: The luminescent properties of zinc-sulfide-selenide luminophors activated by gold

27 27 27

SOURCE: Leningrad. Gosudarstvennyy institut prikladnoy khimii. Trudy*, no. 51, 1964. Khimiya i tekhnologiya lyuminoforov (Chemistry and technology of luminophors) 97-101

TOPIC TAGS: luminophor, zinc sulfide, zinc selenide, luminescence, activator, gold activator, copper activator

ABSTRACT: The authors report on a detailed study of ZnS-ZnSe-Au luminophors containing up to 52% ZnSe and prepared from pure ZnS, twice distilled selenium anhydride, $AuCl_3$ and $CuCl_2$ as activators and NaCl and $MgCl_2$ as fusing materials. The mixture was heated at 900C for 30 minutes, washed with H_2S water, the content of zinc selenide was determined chemically, and the luminescence was determined spectrophotometrically (λ_{max} = 365 mμ). The Au concentration in all the luminophors was 5×10^{-3}%. With an increase of zinc selenide, there was a systematic shift of the luminescence maxima towards longer wave lengths, and the intensity of the band at 480-485 mμ decreased while that at 540 mμ increased. The half-width

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L 6946-65

ACCESSION NR: AT4044997

of the spectral band increased from 80 mμ for pure ZnS to 130-140 mμ for 0.93 ZnS. 0.07 ZnSe, and then decreased to 100-110 mμ for 0.48 ZnS·0.52 ZnSe. The shift in the maximum of the spectral curve as the ZnSe concentration varied from 0.52% was almost twice as great with Au as an activator as with Cu. On the basis of these data, the authors conclude that Au is an effective activator of zinc-sulfide-selenide luminophors. Orig. art. has: 2 figures and 1 table.

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

SUBMITTED: 00 ENCL: 00 SUB CODE: IC, OP

NO REF SOV: 001 OTHER: 004

Card 2/2

ACCESSION NR: AP4036964 S/0078/64/009/005/1129/1133

AUTHOR: Smirnova, R. I.; Markovskiy, L. Ya.

TITLE: Reaction of divalent mercury sulfide with selenious anhydride and selenious acid.

SOURCE: Zhurnal neorganicheskoy khimii, v. 9, no. 5, 1964, 1129-1133

TOPIC TAGS: mercuric sulfide, mercuric selenide, selenium dioxide, selenious acid, mercuric selenide synthesis, production

ABSTRACT: The possibility of producing HgSe by the reaction of HgS with selenium dioxide or with selenious acid was investigated. The overall reaction $HgS + SeO_2 \longrightarrow HgSe + SO_2 + 11.1$ kcal starts at about 200C and is almost quantitatively completed in 3 to 5 seconds. It is suggested the reaction proceeds in two stages: (1) $2HgS + 3SeO_2 \longrightarrow 2HgO + 2SO_2 + 3Se - 5.4$ kcal (2) $2HgO + HgS + 3Se \longrightarrow 3HgSe + SO_2 + 38.7$ kcal. The presence of 0.5-5% moisture in the reaction mixture lowers the initial reaction temperature from 200 to 95-100C. Traces of HgO, $HgSO_4$ and Se (less than 0.1%) are also formed. This method is recommended for the production of HgSe.

Card 1/2

GOLIKOVA, L.A.; SMIRNOVA, R.I.

Luminescent properties of gold activated zinc-sulfide-selenide luminophors. [Trudy] GIPKH no.51:97-101 '64. (MIRA 18:5)

L 4088-66 EWT(m)/EWP(t)/EWP(b) IJP(c) JD/JG

ACC NR: AP5020517 SOURCE CODE: UR/0286/65/000/019/0049/0049

19
B

INVENTOR: Smirnova, R. I.; Pesina, E. Ya.

ORG: none

TITLE: Preparation of cathodophosphorescent materials. Class 22, No. 175162 [announced by State Institute of Applied Chemistry (Gosudarstvennyy institut prikladnoy khimii)]

SOURCE. Byulleten' izobreteniy i tovarnykh znakov, no. 19, 1965, 49

TOPIC TAGS: cathodophosphorescent material, lanthanum compound, rare earth element, phosphor

27

ABSTRACT: An Author Certificate has been issued for a preparative method for cathodophosphorescent materials based on lanthanum compounds activated with rare-earth elements. To improve the brightness of the phosphors and to shorten the afterglow, lanthanum borate is used as the phosphor base. [BO]

SUB CODE: GC / SUBM DATE: 22May64/ ORIG REF: 000/ OTH REF: 000/ ATD PRESS: 4127

BVK
Card 1/1

UDC: 621.3.032.35
546.654'273

L 34505-65 EWT(m)/EWG(m)/EWP(t)/EWA(b) IJP(c) RDW/JD

ACCESSION NR: AP5004803 S/0078/65/010/001/0166/0171

23

AUTHOR: Markovskiy, L. Ya.; Smirnova, R. I.

TITLE: Chemical reactions occurring during the interaction of lead sulfide with selenious anhydride and selenious acid

27

SOURCE: Zhurnal neorganicheskoy khimii, v. 10, no. 1, 1965, 166-171

TOPIC TAGS: lead sulfide, selenious anhydride, selenious acid, reaction, lead selenide formation, lead oxide formation, lead sulfate formation

ABSTRACT: The reactions of PbS with SeO_2 and with H_2SeO_3 were studied. Thermographic studies showed that reaction between PbS and SeO_2 starts at 80C and it accompanied by significant exothermic effects caused mainly by the oxidation to PbS: $2PbS + 3SeO_2 \longrightarrow 2PbO + 2SO_2 + 3Se$, and $PbS + 2SeO_2 \longrightarrow PbSO_4 + 2Se$. The presence of PbSe in the reaction products should be considered primarily the result of the secondary reaction $2PbO + PbS + 3Se \longrightarrow 3PbSe + SO_2$. In addition, the principal reaction is complicated by a whole series of other secondary reactions:

$$PbO + SeO_2 \longrightarrow PbSeO_3;\ 3PbO + 3Se \longrightarrow 2PbSe + PbSeO_3;$$

$$PbS + Se \longrightarrow PbSe + S;\ 3PbSO_4 + PbS \longrightarrow 4PbO + 4SO_2$$

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L 34505-65

ACCESSION NR: AP5002603

and also by the reaction between $PbSeO_3$ and PbS. PbS reacts on heating with aqueous solutions of H_2SeO_3: $2PbS + 3H_2SeO_3 \rightarrow 2PbSeO_3 + 2S + Se + 3H_2O$. There is a rough analogy between the properties of PbS and the sulfides of zinc and cadmium in their reaction with selenious anhydride and selenious acid solution, only heat and sufficiently concentrated H_2SeO_3 being required for the reactions to proceed at significant rates. Orig. art. has: 3 tables, 3 figures, and 9 equations.

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

SUBMITTED: 03Aug63 ENCL: 00 SUB CODE: GC

NO REF SOV: 010 OTHER: 002

Card 2/2

L 32662-65 EWT(m)/EWP(t)/EWP(b) IJP(c) JD/JG
ACCESSION NR: AP5005571 S/0080/65/038/002/0411/0414

18
17
B

AUTHOR: Markovskiy, L. Ya.; Pesina, E. Ya.; Smirnova, R. I.

TITLE: The use of carbon disulfide as a sulfiding agent in the synthesis of rare earth sulfides 27 27

SOURCE: Zhurnal prikladnoy khimii, v. 38, no. 2, 1965, 411-414

TOPIC TAGS: sulfiding, 47 carbon disulfide, rare earth sulfide, cerium sulfide, lanthanum sulfide

ABSTRACT: Cerium dioxide (CeO_2) and lanthanium sesquioxide (La_2O_3) were sulfided under laboratory conditions with carbon disulfide to optimize the process efficiency and product quality as compared with the conventional sulfidation with hydrogen sulfide. The process was shown to be thermodynamically more favorable than H_2S sulfidation and the oxides were treated in a simple flow reactor in a carbon disulfide-saturated stream of nitrogen at 800-1100C. Stoichiometric compositions of the sesquisulfide Ce_2S_3) were reached with CS_2 in 120 min. at 900-1000C, while the reaction with H_2S gave a composition of approximately 95% Ce_2S_3 after 240 min. at 1000-1100C. The theoretical composition of La_2S_3 was obtained with CS_2 after

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L 32662-65

ACCESSION NR: AP5005571

90 min. at 1000C. Samarium and praseodymium oxides were also sulfidized with good results with CS_2. Orig. art. has: 4 tables and 1 figure.

ASSOCIATION: Gosudarstvennyy institut prikladnoy khimii (State applied chemistry institute)

SUBMITTED: 25Jan63 ENCL: 00 SUB CODE: IC

NO REF SOV: 009 OTHER: 010

Card 2/2

[illegible], [illegible]; SMIRNOVA, R.I.

Chemical reactions taking place in the interaction of lead sulfide with selenium anhydride and selenious acid. Zhur. neorg. khim. 10 no.1:166-171 Ja '65. (MIRA 18:11)

1. Gosudarstvennyy institut prikladnoy khimii, Leningrad. Submitted Aug. 3, 1963.

S[illegible]OVA, [illegible]

"Mass-Spectrometric Investigation of Ionisation Processes and Secondary Processes in Hydrogen." Cand Chem Sci, Sci-Res Physicochemical Inst, Moscow, 1954. (KL, No 1, 1955)

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

SMIRNOVA, R. M.

USSR/ Physics - Physical chemistry

Card 1/1 Pub. 22 - 28/47

Authors : Tunitskiy, N. N.; Smirnova, R. M.; and Tikhomirov, M. V.

Title : About "broken" peaks in the mass spectrum of hydrogen

Periodical : Dok. AN SSSR 101/6, 1083 - 1084, Apr. 21, 1955

Abstract : A 60° mass spectrometer of low resolving power and magnetic sweep of the mass spectrum was employed in determining the relation between the cross sections of H_2^+ ion dissociation and the energies of the ionizing electron beam. It is shown that the dissociation process results in the formation of a blurred peak (band) in the mass spectrum of hydrogen at an apparent mass of 1/2. It was established that the (1/2) peak, corresponding to dissociation protons, has a width approximately 5 times greater than the basic peak. The relation between dissociation cross section and ion energy is explained. Five references: 4 USSR and 1 German (1939-1954). Graphs.

Institution : The L. Ya. Karpov Sc. Res. Phys. Chem. Inst.

Presented by: Accademician V. N. Kondratyev, November 12, 1954

SMIRNOVA. R. M.

"The role of female labor in the econimics of the developing countries of Africa"

report to be submitted for the United Nations Conference on the Application of Science and Technology for the Benefit of the Less Developed Areas - Geneva, Switzerland, 4-20 Feb 63.

KORDYUM, V.A.; SMIRNOVA, R.M. [Smyrnova, R.M.]

Oligodynamic action of corrosive sublimate and its elimination during the sterilization of seed surfaces. Mikrobiol.zhur. 24 no.3:63-67 '62. (MIRA 15:8)

1. Institut mikrobiologii AN UkrSSR.
(SEEDS--DISINFECTION) (MERCURY)

KRYUKOV, Yu.B.; SMIRNOVA, R.M.; SELEZNEV, V.A.; KAMZOLKIN, V.V.;
BASHKIROV, A.N.

Intermediate stages in the liquid phase oxidation of secondary alcohols to ketones. Neftekhimiia 3 no.2:238-245 Mr-Ap '63. (MIRA 16:5)

1. Institut neftekhimicheskogo sinteza AN SSSR imeni A.V.Topchiyeva.
(Alcohols) (Oxidation) (Ketones)

KRYUKOV, Yu.B.; BASHKIROV, A.N.; FRIDMAN, R.A.; LIBEROV, L.G.; SMIRNOVA, R.M.;
PEGOV, A.A.

Studying the synthesis of organic compounds from CO and H_2 using tagged ethyl alcohol. Neftekhimiia 5 no.1:62-67 Ja-F '65.
(MIRA 18:5)

1. Institut neftekhimicheskogo sinteza imeni Topchiyeva AN SSSR.

1 C

L 34000-65 EWT(m)/EPF(c)/EWP(j)/T Pc-4/Pr-4 RM S/0204/65/005/001/0062/0067

35

34

B

ACCESSION NR: AP5006078

AUTHOR: Kryukov, Yu. B.; Bashkirov, A. N.; Fridman, R. A.; Liberov, L. G.; Smirnova, R. M.; Pegov, A. A.

TITLE: Study of the mechanism of synthesis of organic compounds from CO and hydrogen using labeled ethyl alcohol

SOURCE: Neftekhimiya, v. 5, no. 1, 1965, 62-67

TOPIC TAGS: organic synthesis, carbon monoxide, hydrocarbon synthesis, catalytic hydrogenation, hydrogen exchange, deuterium, radiocarbon, alcohol dehydration

ABSTRACT: The synthesis of organic compounds from carbon monoxide and hydrogen on the surface of a non-specified catalyst was studied by measuring the hydrogen exchange between reacting compounds and the participation of ethanol carbon in the formation of the synthesis products. Labeled ethanols $CH_3C^{14}D_2OH$ and $CD_3C^{14}H_2OH$ were prepared and introduced into a flow reactor at 20 atm, 184C, 2000 hr^{-1} flow rate and a $CO:H_2$ ratio of 1:2 i.e, under conditions where both hydrocarbons and alcohols are formed, and at atmospheric pressure, 270C, a $CO:H_2$ ratio of 1:1.75, and a flow rate of 300 hr.$^{-1}$. The products, comprising CH_4 and C_2-C_4 alkanes and alkenes, C_5-C_9 hydrocarbons, H_2O, C_2-C_5 alkanols, and alkanols and hydrocarbons of

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L 34000-65

ACCESSION NR: AP5006078

150C boiling point, were analyzed by radioactivity measurements, densimetry and mass spectroscopy. The molar activity of the hydrocarbons or higher alcohols formed was shown to be constant, indicating the growth of the carbon chain primarily from the α-carbon of alcohol and suggesting the general validity of this mechanism, which had been observed in previous studies. Hydrogen exchange was shown to involve the intermediate oxygen compounds formed and to proceed at a much higher rate than the growth of the chain. The results indicated that both α- and β-hydrogen participate in the hydrogen exchange and dehydration reactions of alcohol and that the reactions of dehydration, hydrogen exchange and participation of alcohol in the synthesis of hydrocarbons from carbon monoxide and hydrogen are similarly affected by reaction conditions. Orig. art. has: 3 tables and 1 formula.

ASSOCIATION: Institut neftekhimicheskogo sinteza im. A. V. Topchiyeva, AN SSSR (Petrochemical synthesis institute, AN SSSR)

SUBMITTED: 03Aug64 ENCL: 00 SUB CODE: OC

NO REF SOV: 006 OTHER: 002

Card 2/2

MURAV'YEV, A.I.; SMIRNOVA, R.P.; MURAV'YEV, A.I., polkovnik, red.;
MYASNIKOVA, T.F., tekhn. red.

[New flight into outer space]Novyi polet v kosmos! Moskva, Voenizdat, 1961. 215 p. (MIRA 15:8)
(Space flight)

SOKOLOV, V.D.; SMIRNOVA, R.P.; MURASHOVA, L.A., tekhn. red.

[Once more to the stars!] Snova k zvezdam! Moskva, Voenizdat, 1963. 127 p. (MIRA 16:5)
(Astronauts) (Space flight)

YURZANOV, Vladimir Vasil'yevich; SMIRNOVA, R.P., red.; ANIKINA, R.F., tekhn.red.

[Steel soldiers; sketches on soldiers of the Chinese National Army of Liberation] Stal'nye soldaty; ocherki o voinakh Narodno-osvoboditel'noi armii Kitaia. Moskva, Voen.izd-vo M-va obor.SSSR, 1959. 108 p. (MIRA 12:12)

(China--Army)

KAMSYUK, S.A., polkovnik; SURIN, P.I., polkovnik; VOSTOKOV, Ye.I., polkovnik, otv.red.; SMIRNOVA, R.P., red.; KRASAVINA, A.M., tekhn.red.

[Universities of culture for Soviet troops; methodological and bibliographical materials] Universitety kul'tury dlia sovetskikh voinov; metodicheskie i bibliograficheskie materialy. Moskva, Voen.izd-vo M-va obor.SSSR, 1960. 94 p. (MIRA 13:4)

1. Russia (1923- U.S.S.R.) Glavnoye politicheskoye upravleniye Sovetskoy Armii i Voyenno-Morskogo Flota. Upravleniye propagandy i agitatsii.

(Russia--Army--Education, Nonmilitary)

PETROV, Mikhail Aleksandrovich, polkovnik; SMIRNOVA, R.P., red.;
SOKOLOVA, G.F., tekhn. red.

[Bases of aggression] Bazy agressii. Moskva, Voenizdat, 1963.
117 p. (MIRA 16:5)
(North Atlantic Treaty Organization--Armed forces)
(United States--Armed forces--Foreign countries)

BORISOV, Boris Afanas'yevich; SOKOLOV, V.D., podpolkovnik,
red.; SMIRNOVA, R.P., red.

[Letters to a sergeant]Pis'ma serzhantu. Moskva,
Voenizdat, 1965. 86 p. (MIRA 18:12)

SMIRNOVA, Rufina Sergeyvna; GUSAROVA, Ol'ga Ignat'yevna; SUKHAREV, M.I., kand. tekhn. nauk, red.; SHILLING, V.A., red.izd-va; GVIRTS, V.L., tekhn. red.

[Design and construction of light children's clothing graded by age and size; report transcript] Konstruirovanie osnovnogo detskogo legkogo plat'ia po vozrastnym gruppam i rostam; stenogramma doklada. Leningrad, Leningr. Dom nauchno-tekhn. propagandy, 1961. 40 p. (MIRA 14:12)

(Children's clothing)

SMIRNOVA, Rufina Sergeyevna; GUSAROVA, Ol'ga Ignat'yevna; SUKHAREV, M.I., kand. tekhn. nauk, red.; FREGER, D.P., red.izd-va; BELOGUROVA, I.A., tekhn. red.

[Pattern design for three (small, medium and large) sizes of women's dressmaker-type clothing]Konstruirovanie legkogo zhenskogo platiia na tri polnoty. Leningrad, 1962. 43 p. (MIRA 15:9)

(Dressmaking—Pattern design)

LILICH, L.S.; SMIRNOVA, R.S.; OKATOVA, A.I.

Water vapor pressure in the system $Me(ClO_4)_2 - HClO_4 - H_2O$. Zhur. neorg.khim. 7 no.2:377-378 F '62. (MIRA 15:3)
(Perchlorates) (Systems (Chemistry)) (Vapor pressure)

SMIRNOVA, R.S.: SUNTSOV, A.A.

Soil Conservation, Runoff

Technical measures to control the washing of soil. Dokl. Ak. Sel'khoz. no. 4 (1952)
Vsesoyuzmyy N-I. Institut Udobreniy, Agroteknki I agropochvovedeniya
rcd. 9 Nov. 1951

SO: Monthly List of Russian Accessions, Library of Congress, August 1952, Uncl.

SMIRNOVA, R. S.

[illegible]: "[illegible] Southern Part of [illegible], [illegible] fertilizers, [illegible]" [illegible] 54, [illegible] Soil Science, 17 Jun 54. ([illegible], [illegible] Jun 54)

SO: [illegible], [illegible] 1954

SMIRNOVA, R. D.

SMIRNOVA, R. S.: "Experimental investigation of the hygienic principles of the maximum permissible concentration of simple cyanides in reservoirs." First Moscow Order of Lenin Medical Inst imeni I. M. Sechenov. Moscow, 1956. (DISSERTATION FOR THE DEGREE OF CANDIDATE IN MEDICAL SCIENCE).

Knizhnaya letopis'
No. 35, 1956. Moscow.

USSR/Cultivated Plants - Fodders.

M

Abs Jour : Ref Zhur Biol., No 18, 1958, 82402

148, oats - 85 kilograms/ha) was obtained in thin plantings of 70 x 70 centimeters. With the additional sowing on the 10th of June, the yield was 110 and with the sowing on the 1st of July - 81 centners/ha. The number of intercrops was reduced from 3 to 1. Labor expenditure per production unit was considerably decreased. -- Ye. F. Tropova

Card 2/2

USSR / Cultivated Plants. Fodder Grasses and Root Crops. M-3

Abs Jour : Ref Zhur - Biologiya, No 2, 1959, No. 6296

Science Institute in the southern part of Moskovskaya Oblast'. Turnips and leguminous cereal mixtures sown over stubble produced a yield of 161 and 382 cwt/ha, respectively, on a sector, where a vetch-oat mixture, which had been sown early, was used for green fodder. White mustard and buckwheat harvested after rye in order to produce green fodder produced a yield of green mass of 200.8 and 340.4 cwt/ha and 5.1 and 17.0 cwt/ha of grain. The yield of mustard and of leguminous-cereal mixtures was respectively 176.2 and 42.2 cwt/ha, when they were sown after harvesting winter rye for grain. -- B. T. Konik

Card 2/2

SMIRNOVA, R.S., kand. sel'skokhozyaystvennykh nauk.

Corn-legume mixtures in Moscow Province. Zhivotnovodstvo 20 no.4: 39-41 Ap '58. (MIRA 11:3)

(Moscow Province--Forage plants)
(Corn (Maize)) (Legumes)

ACC NR: AP7006165 (A) SOURCE CODE: UR/0115/67/000/001/0033/0035

AUTHOR: Novikov, L. V.; Smirnova, R. S.

ORG: none

TITLE: Germanium thin-film strain gages

SOURCE: Izmeritel'naya tekhnika, no. 1, 1967, 33-35

TOPIC TAGS: strain gage, germanium semiconductor, METAL FILM, METAL DEPOSITION

ABSTRACT: The technology of manufacture of thin-film strain gauges by evaporation and condensation in a vacuum is discussed in general terms, with special emphssis on strain gauges made of n-type germanium with a specific resistance of 0.02 ohm·m. The germanium is usually evaporated in a vacuum of the order of 133, $322 \cdot 10^4$ n/m^2. The choice of the base significantly influences the characteristics of the strain gauges thus obtained. In many cases the orientation of crystals in the deposited germanium depends on the type of base used. Either aluminum foil with a deep surface oxidation or mica plates may be used as a base. The temperature of the base on which the germanium is deposited plays an important role in the formation of conducting layers. It was shown that a temperature of the base of the order of 320°C may be considered the threshold temperature at which complete formation of the conducting films takes place. Thin films whose bases were kept at temperatures of 450—550°C during formation, were found to possess the least resistance. In order to obtain high-sensitivity strain gauges, however, the bases must be heated to temperatures of 700—800°C. The

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ACC NR: AP7006165

manufacture of so-called non-adhesive strain gauges is also discussed briefly. The relationship between resistance and the coefficient of strain sensitivity on one hand and temperature on the other hand was found to be one of the most important characteristics of germanium strain gauges. Orig. art. has: 2 figures. [JR]

SUB CODE: 14, 20/ SUBM DATE: 29Jan66/ OTH REF: 001/

Card 2/2

SMIRNOVA, R.V.

Calculating the vertical distribution of the temperature and depth of mixing in the period of chilling based on the example of one of the seas. Trudy GOIN no.77:9-26 '64. (MIRA 18:1)

YATSIMIRSKIY, K.B.; BUDARIN, L.I.; BLAGOVESHCHENSKAYA, N.A.;
SMIRNOVA, R.V.; FEDOROVA, A.P.; YATSIMIRSKIY, V.K.

Determination of microquantities of iodide by its catalytic action on thiocyanate oxidation reactions. Zhur. anal. khim. 18 no.1:103-108 Ja '63. (MIRA 16:4)

1. Ivanovo Chemico-Technological Institute.
(Iodides) (Thiocyanates) (Oxidation)

TSIKUNOV, V.A.; SMIRNOVA, R.V.

Precalculation of temperature and the depth of mixing during the cooling period of the sea. Trudy GOIN no.74:87-101 '63. (MIRA 16:7)

(Ocean temperature)

CHIGARKIN, A.V.; TRIFONOVA, T.M.; SMIRNOVA~~, R.Ya.~~; KAZANSKAYA, Ye.A.; VILESOVA, L.A., MUKHAMETZHANOV, S., kand. geologo-miner. nauk; GLADYSHEVA, Ye.N., kand. geogr. nauk; BAZARBAYEV, K.; KUZNETSOVA, Z.V.; ABDRAKHMANOV, S.; NAZARENKO, I.M., kand. geogr. nauk; YESAULENKO, P.I., kand. sel'khoz. nauk; LAVROVA, I.V., kand. ekonom. nauk; PAL'GOV, N.N., akademik, red.; CHEZGANOV, L., red.; NAGIBIN, P., tekhn. red.

[The Virgin Territory; brief studies on nature, population and economy]TSelinnyi krai; kratkie ocherki o prirode, naselenii i khoziaistve. Alma-Ata, Kazakhskoe gos. izd-vo, 1962. 188 p. (MIRA 15:9)

1. Otdel geografii Akademii nauk Kazakhskoy SSR (for all except Chezganov, Nagibin). 2. Akademiya nauk Kazakhskoy SSR (for Pal'gov).

(Virgin Territory—Economic geography)

SAMOYLOVA, Z.T.; SMIRNOVA, S.; FROLOV, S.; TALK, L.I.; ZAPADNYUK, V.I.

Brief news. Farm. i toks. 25 no.4:502-508 Jl-Ag '62. (MIRA 17:10)

SMIRNOVA, S.A.

Taking protective measures against rodents of the mouse family in an arboretum. Biul.Glav.bot.sada no.21:78-79 '55. (MIRA 8:12)

1. Glavnyy botanicheskiy sad Akademii nauk SSSR.
(Rodent control)

S/020/62/147/002/015/021
B106/B101

AUTHORS: Perevalova, E. G., Gubin, S. P., Smirnova, S. A., Nesmeyanov, A. N., Academician

TITLE: Redox properties of compounds containing two ferrocenyl groups

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 147, no. 2, 1962, 384-387

TEXT: The authors studied the effect produced by one ferrocene ring on the redox properties of a second ferrocene ring bound to the first either directly (diferrocenyl) or by groups Y of different conductivity (-Hg-, $-CH_2-$, $-CH_2-CH_2-$, $-CH_2-O-CH_2-$, $-CH_2-N^+(CH_3)_2-CH_2-$). They measured the first and second redox potentials E'_{f_0} and E''_{f_0} (Table 1). The significance of E'_{f_0} and E''_{f_0} is evident from the following scheme:

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Und ... Fe atom
onl ... density increases
at t ... ate that the methylene
grou ... y any of the electron-donor
effec ... as the effect of the positively
charge ... erred even across bridges of 3 atoms.
The in ... also how some substituents in the methyl group
of meth ...
too, the ... of electron-acceptor substituents was transferred via the methylen group to a notably greater extent than that of electron-donor substituents. There are 4 figures and 2 tables. The most important English-language references are: R. W. Taft Jr., J. Am. Chem. Soc., 75,

Card 2/4

SOKOLOVSKAYA, Ya.I.; KOZLOVA, A.A.; SMIRNOVA, S.A.; KRYLOVA, O.M.;
GLAZKOVA, T.S.; ALEKSANDROVA, V.R.; KAPETANAKI, K.G.

Viacheslav Viktorovich Kosmachevskii; on his 75th birthday. Zhur. mikrobiol., epid.i immun. 33 no.4:154-155 Ap '62. (MIRA 15:10)
(KOSMACHEVSKII, VIACHESLAV VIKTOROVICH, 1887-).

PEREVALOVA, E.G.; BUBIN, S.P.; SMIRNOVA, S.A.; NESMEYANOV, A.N., akademik

Redox potentials of heteroannual disubstituted ferrocenes. Dokl. AN SSSR 155 no. 4:857-860 Ap '64. (MIRA 17:5)

1. Moskovskiy gosudarstvennyy universitet im. Lomonosova i Institut elementoorganicheskikh soyedineniy AN SSSR.

KADEN, N.N.; SMIRNOVA, S.A.

Carpology of the fruit of Scrophulariaceae. Biul. MOIP. Otd. biol. 69 no.3:77-90 My-Je '64. (MIRA 17:7)

L 27592-66

ACC NR: AP6018404 SOURCE CODE: UR/0217/65/010/006/0974/0978

25
B

AUTHOR: Bronskaya, L. M.; Smirnova, S. A.; El'piner, I. Ye.

ORG: Institute of Biological Physics, AN SSSR, Moscow (Institut biologicheskoy fiziki AN SSSR)

TITLE: Polarography of histidine exposed to ultrasonic waves

SOURCE: Biofizika, v. 10, no. 6, 1965, 974-978

TOPIC TAGS: polarography, histidine, ultrasonic irradiation, catalysis, cobalt, ammonia, ammonium

ABSTRACT: The authors found that among the amino acids lacking in sulfur (lysine, serine, proline, valine, alpha-alanine, leucine, tyrosine, tryptophan, and alpha-phenyl-beta-alanine) that they investigated, only histidine was able to produce polarographic waves provided that the background used contained cobalt or nickel ions. Double polarographic waves with a half-wave potential of 1.56 and 1.82 v appeared in the presence of histidine in an ammonia-cobalt background. When the histidine concentration was increased, the waves became higher while the height of the polarographic wave caused by the reduction of cobalt ions on a mercury cathode decreased. The double polarographic histidine waves were found when the pH of the background used was alkaline, i. e., in the presence of ammonia and ammonium chloride with cobalt or nickel ions (pH 9.8)

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ACC NR: AP6018404

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in the solution. Catalytic waves also appeared in a neutral or slightly alkaline medium. But only single catalytic polarographic waves arose in a neutral or acid medium.

A histidine solution (2.5 mg/ml) was exposed to ultrasonic waves with a frequency of 800 kc, intensity of 10 w/cm^2, duration 3-5 hours. An ammonia-cobalt solution was the background. Under these conditions catalytic waves did not appear. The height of the polarographic wave resulting from the reduction of cobalt ions on the mercury cathode rose considerably in the presence of the sonicated histidine. A similar phenomenon was observed when histidine was sonicated in the presence of O_2 or H_2. However, in these cases the catalytic waves did not completely disappear. Sonicated in the presence of O_2 or H_2, histidine produced a single wave that corresponded in half-wave potential to the first catalytic wave found during polarographic analysis of non-sonicated histidine. This wave was higher than that of the first catalytic wave of the non-sonicated amino acid. Orig. art. has: 2 figures. [JPRS]

SUB CODE: 06, 07, 20 / SUBM DATE: 09Mar65 / ORIG REF: 007 / OTH REF: 003

Card 2/2

RODZAYEVSKIY, V.V.; SMIRNOVA, S.A.; PINEGINA, N.D.

Fluorine in the production of sulfuric acid from metallurgical gases. TSvet. met. 38 no.5:44-45 My '65. (MIRA 18:6)

RECHIN, V.D., inzh.-ekonomist; SMIRNOVA, Z.A., inzh.-ekonomist;
SHLYAZHAS, R.I., inzh.-ekonomist

Factors in differentiating the amounts of amortization deductions in Kuznetsk Basin mines. Ugol' 40 no.4:58-62 Ap '65.
(MIRA 18:5)

1. Vsesoyuznyy nauchno-issledovatel'skiy i proyektno-konstruktorskiy institut dobychi uglya gidravlicheskim sposobom.

6c

L 47385-65 EWT(m)/EPF(c)/T/EWP(t)/EWP(b) Pr-4 IJP(c) JD/WE

S/0065/65/000/002/0003/0006

ACCESSION NR: AP5006819

39

AUTHOR: Masagutov, R. M.; Berg, G. A.; Varfolomeyev, D. F.; Selivanov, T. I.; Kulinich, G. M.; Mironov, A. A.; Kirillov, T. S.; Pau, G. M.; Anipin, M. K.; Derevyanko, P. I.; Smirnova, S. G.

38

B

TITLE: Water purification of diesel fuel with a lowered expenditure of hydrogen using an industrial unit

27

SOURCE: Khimiya i tekhnologiya topliv i masel, no. 2, 1965, 3-6

TOPIC TAGS: water purification, diesel fuel, hydrogen

ABSTRACT: Prolonged operation of the UNPZ 24-5 "Order of Lenin" water purification unit which removes water from petroleum verified the recommendations of the Bashkir Scientific Research Institute of the Chemical Industry and the All-Union Scientific Research Institute of the Chemical Industry on the possibility of reducing hydrogen consumption. The average annual hydrogen consumption for 1963 in removing water from directly distilled and redistilled diesel fuel at a reactor pressure of 380°C and a pressure of 28-36 *at* amounted to 0.46, or less than planned by a factor of 1.5. Lowering the pressure in the reactors from 34-36 to 28-30 *at*

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ACCESSION NR: AP5006819

made it possible to reduce hydrogen consumption by 1.3 times without degrading the quality of the work. The regeneration period for operation of the catalyst was 8 months. The activity of the first reactor catalyst decreases more quickly than the catalyst from subsequent reactors. A depth of purification of raw materials of sulfur compounds below 50% occurs in the first reactor after processing 1200 tons of raw material per cubic meter of catalyst and in the second reactor upon the purification of 2300 tons of raw material per cubic meter of catalyst. Orig. art. has: 2 figures, 1 table.

ASSOCIATION: BashNII, Ordena Lenina UNFZ

SUBMITTED: 00

ENCL: 00

SUB CODE: GC, OC

NO REF SOV: 005

OTHER: 000

bp

Card 2/2

MASAGUTOV, R.M.; BERG, G.A.; VARFOLOMEYEV, D.F.; SELIVANOV, T.I.; KULINICH, G.M.;
MIRONOV, A.A.; KIRILLOV, T.S.; PAU, G.M.; ANTIPIN, M.K.; DEREVYANKO,
P.I.; SMIRNOVA, S.G.

Hydrofining of diesel fuel with decreased expenditure of hydrogen on an industrial plant. Khim. i tekh. topl. i masel 10 no.2:3-6 F '65.

(MIRA 18:8)

1. Bashkirskiy nauchno-issledovatel'skiy institut po pererabotke nefti i ordena Lenina Ufimskiy neftepererabatyvayushchiy zavod.

REEL

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SMIRNOVA, S.G.

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