

BIGEYEV, A.M.; NIKULIN, Yu.P.; TUROVSKIY, B.G.; TORCHINSKIY, M.A.

Removal of liquid slag from open-hearth furnaces by the drawing-off  
method. Izv. vys. ucheb. zav.; chern. met. 7 no.10:45-48 '64.  
(MIRA 17:11)

1. Magnitogorskiy gornometallurgicheskiy institut.

MINULIN, Y. P. : BOHODIN, I. V.

Using a group drive in drilling. Emerg. bul. no. 5:19-20 Ky '56.  
(NLSA 9:8)

(Oil well drilling--Equipment and supplies)

*NIKULIN, Yu. P.*

BOBKO, I.D., inzhener; NIKULIN, Yu.P., inzhener.

High-voltage electric motors for rig hoists with a capacity of  
130 to 200 tons. Vest. elektroprom. 27 no.10:62-65 0 '56.

(NIMA 10:9)

1. Vsesoyuznyy nauchno-issledovatel'skiy i proektnyy institut po  
bureniyu neftyanikh i gasovykh skvazhin.

(Electric motors)

(Oil fields--Equipment and supplies)

AUTHOR: Nikulin, Yu. P., Engineer

94-58-6-4/19

TITLE: Some Problems in the Operation of (Oilwell) Electrical Drilling Equipment (Nekotoryye voprosy ekspluatatsii burovogo elektrooborudovaniya)

PERIODICAL: Promyshlennaya Energetika, 1958, Nr 6, pp 10-11 (USSR)

ABSTRACT: In recent years the oil industry has adopted electrically driven drilling rigs with motors of 90 - 380 kW at 6 kV using transformers up to 320 kVA. This brief article describes high voltage (flash) testing practice for this equipment. According to the ordinary rules such equipment should be tested every time that it is moved from one place to another, but as oilwell equipment may be moved four times a year this is excessive. Since 1953 the Tuymazaburneft' Trust has made periodic high voltage tests on all electrical equipment. Motors and transformers are tested in the workshop, cables and starters in the field. This practice has greatly reduced the number of outages; data about the occurrence of which are given in Table 1. Since it is excessive to follow the rules and test every time the equipment is erected recommended test periods and values of test voltage are given in Table 2.

94-58-6-4/19

Some Problems in the Operation of (Oilwell) Electrical Drilling Equipment

Motors are tested once a year or after three moves, transformers yearly, starters and cables after each move. After each move 6 kV equipment is tested with a 2500 V megohmmeter and other equipment with a 1000 V megohmmeter. As the tests are still made more often than on normal equipment it is reasonable to reduce the standard test voltages somewhat. It is recommended that the Standard Operating Rules should be modified to take account of the special features of well drilling operations. There are 2 tables.

ASSOCIATION: Tuzmazaburneft

Card 2/2      1. Drilling machines - Operation      2. Electrical equipment -  
Testing equipment

9.6150  
27.9500

4312

36365  
S/208/61/001/004/031/032  
D208/D303

**AUTHORS:** Nibergal', A. V., and Nikulin, Yu. P.  
**TITLE:** An integral condenser dosimeter  
**PERIODICAL:** Radiobiologiya, v. 1, no. 4, 1961, 633-635

**TEXT:** Existing dosimetric apparatus is usually based on radio amplifying systems and often operates unstably. In view of this, the authors developed an integral condenser dosimeter in which the measuring section used an electrostatic C-95 (S-05) voltmeter, class 0.1, which gave direct measurement of the potential on the chamber. The instrument has four measuring ranges and works on the principle of capacity discharge under the action of radiation on the ionization chamber. The operating principle can be seen from Fig. 1 and the circuit diagram from Fig. 3. The initial voltage on the chamber is about 450 v, the final voltage (with the needle in the extreme position) is about 250 v, thus ensuring a saturation current with all commonly encountered dose intensities of X-ray or gamma-radiation. With appropriate regulation, linearity of

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30365  
S/205/61/001/004/031/032  
D298/D303

An integral condenser...

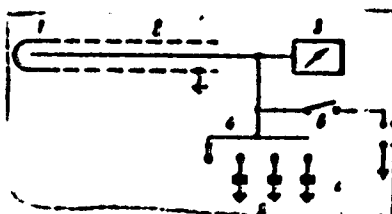
the instrument's scale is achieved with an accuracy of up to  $\pm 2\%$ .  
During 6 - 8 months of observation, the instrument's readings changed  
by no more than  $\pm 3\%$ . There are 3 figures.

ASSOCIATION: Institut biologicheskoy fiziki AN SSSR (Institute of  
Biophysics, AN USSR), Moscow

SUBMITTED: April 12, 1961

Fig. 1. Schematic diagram of the integral  
condensator dosimeter

Legends: 1--ionization chamber; 2--cable;  
3--electrostatic voltmeter; 4--switch;  
5--additional capacitor; 6--high voltage  
supply.



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BISBERGAL', A.V.; BAZIGER, T.G.; NIKOLAI, Ye.P.; LIPISO, V.I.

Some problems in studying radiation parameters in powerful gamma apparatus used in radiation therapy: as exemplified by tests of the Wolfram apparatus. Radiobiologiya 5 no.1:140-146, '66. (KGBA 1P:3)

1. Institut biologicheskoy fiziki /N SSSR, Moskva.



GIL'BIKH, G.S., inzh.; MUKOSEYEV, Yu.I., prof.; NIKULIN, Yu.P., inzh.; BAK, S.I.,  
inzh.

Electric power supply of oil well drilling rigs. Proc. energ. 20  
no.10:28-34 0 '65. (MIRA 18:10)

1. Kazanskoye otdeleniye Gosudarstvennogo proektnogo instituta  
"Elektroproekt" (for Gil'bikh). 2. Ger'kovskiy pol'tekhnicheskiv  
institut (for Mukoseyev). 3. Trest Tuzmazaburneft', Bashkirskaya  
SSR (for Nikulin). 4. Institut Bashneftoproekt (for Bak).

BIGEYEV, A.M.; NIKULIN, Yu.P.; TORCHINSKIY, M.A.

Removal of liquid slag from open hearth furnaces. Metallurg (MIRA 12:2)  
no.8:22-23 Ag '55.

1. Magnitogorskij metallurgicheskiy kombinat i Magnitogorskij  
gornometallurgicheskiy institut.

VASIL'YEV, V.G.; IVANOV, A.P.; VOSTRYAKOV, O.I.; SHMITEL'SKIY, V.N.;  
GAFANOVICH, M.D.; DIDENKO, K.I.; ANUGOV, Yu.O.; SHRAMKO, K.N.;  
ZAGARIY, G.I.; DUDCHENKO-DUDKO, V.M.; NIKULIN, Yu.Ya.;  
YEFIMOV, Yu.N.; BYKOV, V.L.

Inventions. Avt. 1 prib. no.4:73-74 O-D '64 (MIRA 18:2)

AMBARSUMYAN, R.S.; RISEEV, A.A.; TRUBNIK, E.I.; GURENCHIKOV, E.V.; KOSHEV, V.I.;  
and NIKULINA, A.V.

"Mechanical Properties and Corrosion Resistance of Zirconium  
and Its Alloys in Water, Steam, and Gases at High Temperatures."

report presented at the Int'l Conference on the Peaceful Uses of Atomic Energy, 2nd, Geneva,  
1-13 Sept 1958. *Copy sent*

MAGNITSKIY, Konstantin Pavlovich. Prinimali uchastiye: GOSUDAREVA, A.G.; PANITKIN, V.A.; BELYAKOVA, N.G.; KAPUSTYANSKIY, A.E.; ZHUKOV, S.N.; NIKULINA, F.F.; BALABANOV, B.G.; VISHNYAKOVA, Ye., red.; KUZNETSOVA, A., tekhn. red.

[Control of the nutrition of field and vegetable crops] Kontrol' pitaniya polevykh i ovshchnykh kul'tur. Moskva, Mosk. rabochii, 1964. 302 p. (MIRA 17:2)

1. Nauchnyye sotrudniki laboratorii kaliya Nauchnogo instituta po udobreniyam i insektofungitsidam (for Gosudareva, Panitkin, Belyakova, Kapustyanskiy, Zhukov, Nikulina, Balabanov).

KOSTYGOVA, T.; NIKULINA, G.

Why does man need a nose? Nauka i zhizn' 30 no.5:67-69 My '63.  
(MIRA 16:10)

NIKULINA, G.A.

Urease determination in the differential diagnosis of diphtheria  
bacilli. Lab.delo 4 no.2:42-43 Kr-Ap '58. (MIRA 11:4)

1. In laboratorii Krasnoyarskoy gorodskoy sanitarno-epidemiologi-  
cheskoy stantsii.  
(DIPHTHERIA) (UREASE)

NIKULINA, G.A.; FILIPPOVA, O.K.; SHTIBEN, V.D.

Staining the granules of *Corynebacterium diphtheriae*. Lab. delo 8  
no.2:42-43 F '62. (MIRA 15:2)

1. Krasnoyarskaya krayeva i Krasnoyarskaya gorodskaya sanitarno-  
epidemiologicheskiye stantsii (nauchnyy konsul'tant - prof. V.D.Shtiben).  
(*CORYNEBACTERIUM DIPHTHERIAE*) (STAINS AND STAINING (MICROSCOPE))



L 0571111 - 191111 1977

ACC NR: AT6036466

SOURCE CODE: UR/0000/66/000/000/0010/0011

AUTHOR: Agadzhanyan, N.A.; Kalinichenko, I. R.; Kuznetsov, A. G.; Lapikova, I. I.; Nikulina, G. A.; Osipova, M. M.; Reutova, M. B.; Sergiyenko, A. V.; Shevchenko, Yu. V.

ORG: none

23  
B+

TITLE: Effect of rapidly increasing hypoxia on the human organism [Paper presented at conference on problems of space medicine held in Moscow from 24-27 May 1966]

SOURCE: Konferentsiya po problemam kosmicheskoy meditsiny, 1966. Problemy kosmicheskoy meditsiny. (Problems of space medicine); materialy konferentsii, Moscow, 1966, 10-11

TOPIC TAGS: hypoxia, spirometry, electrocardiogram, human physiology

ABSTRACT:

In order to determine the time available for taking countermeasures during a rapid drop in partial oxygen pressure, the resistance of the body to rapidly increasing hypoxia was studied in 28 human subjects by the re-breathing method using a spirometer filled at the start with 0.5 l of atmospheric air. The O<sub>2</sub> content of this air decreased as the oxygen was used up; CO<sub>2</sub> was chemically absorbed.

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U 68271-07

ACC NR: 477(034)01

The external appearance of the subjects, their behavior, and reported subjective sensations were monitored as a check on their general condition; data were recorded on conditioned reflex activity, brain biocurrents, motor coordination, the functional state of the cardiovascular and respiratory systems and blood oxygen absorption levels; and studies of the composition of peripheral blood and the functional state of the adrenal cortex were made.

The results showed that rapidly increasing hypoxia produces functional changes leading to loss of consciousness if oxygen is not quickly administered. Reserve time (time from beginning to breathe the hypoxic mixture until the hypoxic mixture is cut off) amounted on the average to 6 min 28 sec (5 min 27 sec to 10 min 02 sec). This was equivalent to an "altitude ceiling" of 10150 m (9100 to 11400 m). The  $O_2$  content in the respired air at the end of the experiment was 4.44% ( $pO_2 = 31.3$  mm Hg); blood oxygen saturation dropped to an average of 53.2% (42% to 64%). Hypoxia symptoms observed during the experiment included: cyanosis of the epidermis and mucosa; dyspnea, drowsiness, impaired handwriting, and sometimes even muscle spasms in the hands. Many subjects complained of respiratory distress, dimness, dimness of vision, heat, headache, etc.

The time required to solve arithmetical problems increased and the number of errors increased more than three-fold over initial data.

Three phases were distinguished in EEG changes: 1) suppression of the alpha rhythm; 2) reactivation of alpha rhythm; 3) onset of slow waves (2 to 4 per inch).

Frequency and depth of respiration and minute volume increased during hypoxia, and the oxygen requirement and  $O_2$  utilization coefficient decreased. Arterial oxygen saturation decreased from 46% to 98% at the start to 49% to 55% at the end of the experiment.

EKG's made during rapidly increasing hypoxia showed a progressive increase in the pulse rate and a decrease in the amplitude of R and T waves.

Peripheral blood composition immediately and one hour after exposure to hypoxia showed increased erythrocyte counts and hemoglobin content. The amount of 17- $\alpha$ -corticosteroids in the plasma increased from 16 to 17  $\gamma\%$  to onset of 43.5 to 44.2  $\gamma\%$  during the aftereffect period.

REF ID: A66576 / SERIALIZED: 00May66

ACC NR: AT6036615

SOURCE CODE: UR/0000/66/000/000/0294/0295

AUTHOR: Ovechkin, V. G.; Nikulina, G. A.; Rodin, Yu. M.

ORG: none

TITLE: Problem of the effect of hormone preparations on the organism's resistance to accelerations [Paper presented at the Conference on Problems of Space Medicine held in Moscow from 24-27 May 1966]

SOURCE: Konferentsiya po problemam kosmicheskoy meditsiny, 1966. Problemy kosmicheskoy meditsiny. (Problems of space medicine); materialy konferentsii, Moscow, 1966, 294-295

TOPIC TAGS: space medicine, space physiology, acceleration tolerance, hormone, mouse, corticosteroid, biologic acceleration effect

ABSTRACT:

The effects of various hormonal preparations on the resistance of guinea pigs, rats, and mice to radial accelerations were studied. Tests were conducted on a small centrifuge. The animals were exposed to 20 G in a head-pelvis direction for 1.5-2.0 min. The following preparations were used: Desoxycorticosteronacetate (DOCA); hydrocortisone; methyl-androstendiol-dipropionate; and somatotropic hormone (STH) extracted.

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ACC NR: AT6036615

from hypophyses.

It was found that the hormonal preparations had different effects. DOCA noticeably lowered the resistance of animals to acceleration. Otherwise, in tests on rats it was found that hydrocortisone and methyl-androstendiol-dipropionate increased the resistance of animals to accelerations. The most effective preparation was STH. An intraperitoneal injection of this hormone sharply increased the resistance of animals to acceleration.

These data help in understanding the mechanism of the action of acceleration on the organism as well as in planning means of altering the re-activity of the organism to increase its resistance to accelerations.

[U. A. No. 22; ATD Report 66-116]

SUB CODE: 06 / SUBM DATE: 00May66

Card 2/2

ACC NR: AT6016616

SOURCE CODE: UR/0000/66/000/000/0100/0102

AUTHOR: Parin, V. V.; Agadzharjan, N. A.; Isenatsov, A. G.; Esere, A. S.;  
Isabayova, V. A.; Mirzakhimov, M. M.; Davydev, G. A.; Kalinichenko, I. R.;  
Korohova, A. A.; Karpova, L. I.; Nikulina, G. A.; Tikhomirov, Ye. P.; Sokol, Ye. A.;  
Gavrilov, B. A.

ORG: none

TITLE: Establishing the possibility of using alpine acclimatization for the  
preparation and training of cosmonauts (Paper presented at the Conference on Problems  
of Space Medicine held in Moscow from 24-27 May 1966)

SOURCE: Konferentsiya po problemam kosmicheskoy meditsiny, 1966. Problemy  
kosmicheskoy meditsiny. (Problems of space medicine); materialy konferentsii,  
Moscow, 1966, 300-302

TOPIC TAGS: hypoxia, high altitude physiology, alpine acclimatization,  
cosmonaut training

ABSTRACT:

Tasks of the present study were to:

1. Conduct complex physiological and clinical investigations during the  
process of acclimatization at altitudes of 3500 to 4100 m.

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ACC NR: AT6016616

2. Study the influence of alpine acclimatization on human tolerance to extremal spaceflight factors.
3. Study the comparative resistance of alpine inhabitants, valley inhabitants, and alpinists to extremal factors.
4. Develop a system of alpine acclimatization for cosmonauts and issue recommendations on the application of alpine acclimatization for the preparation and training of cosmonauts and on the creation of alpine camps for cosmonauts.

Acclimatization was conducted at the alpine station of the Kirgiz State Medical Institute (Tuya-Ashu mountain pass, altitude, 3300 to 4100 m). A total of 28 male subjects were studied of whom: 11 were indigenous to alpine conditions as farmers of the Tien-Shan--Pamir region (2000 to 2500 m), 11 were valley inhabitants, and 6 were accomplished alpinists. The following indices were studied under alpine conditions and using test stands: Functional condition of the central nervous system; external respiratory and cardiovascular system function; some biochemical indices; the state of the blood coagulation and anticoagulation capacity; and in separate experiments; cerebral circulation using an electroplethysmographic method.

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ACC NR: ATG016616

The experiments showed that after 45 days of alpine acclimatization, human tolerance to prolonged, back-chest accelerations (8 to 10 G) was improved. This was reflected in a relative increase in the amplitude of rheoencephalograms for all subjects and consequently, improved cerebral circulation and lowered pulse rate. EKG changes indicated that the heart was undergoing less strain after alpine acclimatization. After residence in alpine conditions, a decrease in basic metabolic indices and a slight increase in arterial blood oxygen saturation was noted in alpine inhabitants during accelerations.

A study of heat tolerance showed that there was a drop in basic physiological parameters (heat accumulation and basal metabolism) after alpine acclimatization in all three groups. These changes were more pronounced in indigenous alpine inhabitants and less pronounced in alpinists.

The resistance of the organism to hypoxia before and after acclimatization was studied using two approaches; exposure to a certain "altitude ceiling" in a pressure chamber and a method of reverse respiration using a spirometer first filled with atmospheric air. In the latter case as a measure of oxygen consumption, oxygen content under the bell jar of the spirometer decreased and exhaled carbon dioxide was chemically absorbed.

Card 3/4



LIMAR, R.S.; NIKULINA, G.N.

Changes of the carotinoid content in the leaves of wheat and barley  
in connection with their development. Bot. zhur. 50 no.1:113-119  
Ja '65. (MIRA 18:3)

1. Vsesoyuznyy institut rasteniyevodstva, Leningrad.

ACC NR: AP6023427 SOURCE CODE: UR/0190/66/008/007/1180/1184

AUTHOR: Kurilenko, A. I.; Nikulina, I. G.; Fayzi, N. Kh.

ORG: none

TITLE: Electrical conductivity study of the polymerization kinetics of unsaturated oligomers exposed to  $Co^{60}$  gamma radiation

SOURCE: Vysokomolekulyarnyye soyedineniya, v. 8, no. 7, 1966, 1180-1184

TOPIC TAGS: polymerization kinetics, polyester plastic, oligomer, electric conductivity, ionizing radiation, radiation effect, gamma radiation

ABSTRACT: Polymerization induced by ionizing radiation was studied for the first time by means of the electrical conductivity method proposed by R. W. Warfield and H. C. Peepree (J. Polymer Sci., 37, 305, 1959) for studying the kinetics of thermal curing of resins. The experiments involved the unsaturated polyester resin PH-1. Measurements of the volume conductivity  $\rho_v$  of the resin during polymerization were compared with data on the degree of polymerization, obtained by measuring the concentration of  $-C=C-$  double bonds by IR spectroscopy and the content of the gel fraction by extraction. It was thus shown that the degree of polymerization can be obtained from  $\rho_v$ . The polymerization kinetics of PH-1 were determined in the range of 30 to 85°C at dose rates from 50 to 318 r/sec. The kinetic data showed that the curing process is governed by

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UDC: 66.095.26+678.674

NIKULINA, K.

The most important problem. Rab. i sial. 38 no.9:2 S '62.  
(MIRA 15:9)

1. Nachal'nik tekhn. pryadil'nogo proizvodstva No.2 Orshanskogo  
l'nokombinata.

(Orsha—Flax industry)



YIRNIK, A. G.; NIKULINA, L. B.

Cabbage - Ukraine

High yields of seeds of common cabbage in the Ukrainian S.S.R. Sel. i sem. 20,  
No. 3, 1953.

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

NIKULINA, L. B.

"Intervariety Hybridization of Cabbage as a Method of Raising Productivity." Min  
Higher Education USSR, Fruit Vegetable Inst imeni I. V. Michurin, Michurinsk, 1954  
(Dissertation for the Degree of Candidate of Agricultural Sciences)

SO: Knizhnaya Letopis's, No. 32, 6 Aug 55

NEKULINA, L.B., kand. tekhn. nauk, IZHAKOV, I.S., kand. tekhn. nauk;  
KODANOVICH, G.A., inzh., SEMENOV, L.M., inzh.

Состояние в разе. construction. Stroitel. mat. 10 no. 5:16-18  
My 164. (MIRA 17:9)

1. Respublikanskiy gosudarstvennyy proyektnyy institut po  
proyektirovaniyu elektromekhanicheskogo stroitelstva  
Ministerstva proizvodstva i sngotovok elektromekhanicheskikh  
produktov USSR.

KASPANOVA, S.A., kand. sel'skokhoz. nauk [deceased]; NIKULINA, L.B., kand.  
sel'skokhoz. nauk; MIL'TSEVA, L.V., agronom.

Physical and mechanical properties of potato tubers. Trudy VISKHOMa  
no.32:13-35 '62. (MIRA 18:1)



МАЙНСКАЯ, Т.М.

МАЙНСКАЯ, Т.М.; НИГУЛИНА, Л.М.; НИГУЛИНА, Т.В.

Culture of human papilloma of the larynx in a chick embryo. Vop. virus. 1 no.3:42-47 My-Je '56. (NIRA 10:1)

1. Institut virusologii imeni D.I.Ivanovskogo ANU SSSR, klinika bolesny ukha, gerla i nosa pediatricheskogo fakul'teta II Moskovskogo meditsinskogo instituta imeni I.V.Stalina i Gosudarstvennyy kontrol'nyy institut imeni L.A.Tarasevicha, Moskva.

(PAPILLOMA,

larynx, cultivation in chick embryo (Rus))

(LARYNX, neoplasm,

papilloma, cultivation in chick embryo (Rus))

(TUSSEM GULFUM,

cultivation of papilloma of larynx in chick embryo (Rus))

ZORE, V.A.; KUZIKOVA, N.S.; NIKULINA, L.N.

Some new lecture demonstrations. Usp. fiz. nauk 77 no.1:197-200  
Ky '62. (MIRA 15:6)  
(Physics--Study and teaching)

NIKOLINA, L. N.

Possibility of latent phases. Yu. G. Sobolev and L. N. Nikolina. *Tekhnicheskaya Nauka, Institut Khim. Akad. Nauk SSSR*, No. 1, 14 (1961); *Dokl. Akad. Nauk SSSR*, 1961, No. 47000. The effect of  $SiO_2$ ,  $Al_2O_3$ ,  $Na_2O$ ,  $Al_2O_3$ , and  $CaO$  on the crystallization of glasses which contain calcium was studied. The glass was ground to powder, applied on latent tile with a water solution of 9-12%, annealed in a  $SiO_2$  furnace. The quality of the glass was evaluated visually and the presence of crystals in cross sections microscopically. The crystallizability was studied on cylinders made from ground glass powder by the method of fused crystals. The boundary of glass for latent is in inverse relation to their crystallizability. Fast fusing frits were more apt to crystallize than the slow fusing high viscosity frits. The tendency of a frit to crystallize is favored by mol. substitution of  $SiO_2$  for  $Al_2O_3$ , the  $SiO_2$  being added as selected.

①

3

Crystallization phenomena in... and its behavior in the burning process. V. G. Shatalov and I. M. Nizhnik. *Sibsk. Akad. Nauch. Inst. Khim. Fiz.* 1971, 10, 111-114. The authors describe the burning of... in the presence of surface crystals on the glass. These crystals are related to... Several tests were made to determine how to decrease the... The... of... were changed... was replaced by... and... around the... of... was replaced by... rate of... was kept... the best conditions for... and... of... were... with... of... and... The... of... and... The... of... and... of... The... of... and... of...

NIKULINA, L.N.

Mineralogical study of the Troshkovo clay. Trudy GIKI no.1:41-52  
'57. (MIRA 1185)

(Irkutsk Province—Clay)  
(Mineralogy, Determinative)

NIKULINA, L.N.

**AUTHORS:** Shteynberg, Yu.G., Nikulina, L.N. 72-2-6/20

**TITLE:** Porcelain Glazings With Various Forms of Silicon Dioxide  
(Farforovyye glazuri s razlichnyimi formami kremnezema).

**PERIODICAL:** Steklo i Keramika, 1958, Nr 2, pp. 14-18 (USSR)

**ABSTRACT:** Z.K. Sase - Tisovskaya took part in these tests. The authors refer to the works by R. Niderleytner and Ye.V. Yermolayeva [Ref. 1]. The various substances containing silicon dioxide are: quartz, silicon, diatomite, and waste aluminum sulfates (waste products in the production of  $AlCl_3$ ). The task to be performed was to develop glazings without feldspar, which do not require higher temperatures of burning, and which have a number of positive properties: a diminished tendency towards splitting up after burning, increase of the mechanical strength of the products, decrease of dielectric losses, etc. Compositions of glazings were investigated with a ratio between the sum of silicon dioxide and aluminum and alkali earth metal oxides  $\frac{S + A}{R O}$  equal to 8,5:1; 7:1 and 6:1, and  $\frac{S}{A}$  equal to 7:1; 6:1 and 5:1 (in mol percents). Into group RO once calcium- and

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## Porcelain Glazings With Various Forms of Silicon Dioxide

72-2-6/20

magnesium oxides, and another time only calcium oxide in the form of chalk was introduced. The chemical composition of glazing raw materials is shown in table 1. Data concerning the appearance of the surfaces of glazing materials after burning at 1350° are shown in table 2. With an increase of the alumina content the gloss of the glazing decreases (fig. 1). Compositions of silicium glazings with an optimum ratio of components are shown in table 3. In the case of rapid cooling accumulations of cristobalite crystals can be observed in the glazing (fig. 2), which, if cooling is delayed, grow in size (fig. 3). If the alumina content is increased, mullite is separated, which causes a loss of gloss in the glazing after burning (fig. 4). Chalk glazing are in all cases dim (fig. 5). The existence of ferric oxides in diatomite gives the glazing a yellow shade, which is permissible for technical porcelain. In the case of porcelain for general use previous chemical treatment of the diatomite by hydrochloric acid and chlorine is necessary, by which diatomite glazings are given a normal white coloring. Diatomite glazings without a content of feldspar are distinguished by a particularly bright gloss. There are 5 figures, 3 tables, and 8 references, 7 of which are Slavic.

AVAILABLE:

Library of Congress

Card 2/2

15(2)

AUTHORS:

Nikulina, L. N., Tarayeva, T. I.

SOV/72-59-8-12/11

TITLE:

Petrographical Peculiarities of China Stone (Petrograficheskiye osobennosti kitayskogo farforovogo kamnya)

PERIODICAL:

Steklo i keramika, 1959, Nr 8, pp 40-44 (U33M)

ABSTRACT:

G. L. Yefremov, A. I. Avgustinik (Footnote 1) established an analogy between China stone and the Olonets sandstone. The Gosudarstvennyy nauchno-issledovatel'skiy keramicheskii institut (State Ceramic Scientific Research Institute) is studying China stone. The results of microscopic examinations are shown in the ground sections represented in figures 1 and 2, and it was found that China stone consists of quartz, feldspar, cemented sericite and a slight amount of carbonate. A more detailed description is given. The chemical analysis was carried out by T. V. Terent'yeva. Its results are shown in table 1. On the basis of the data found in the analysis the mineralogical composition of the samples was calculated and assembled in table 2. It was found that the fine fraction of China stone consist of 69% sericite, 22% quartz, and 9% carbonate. The thermal investigation of China stone was carried out by V. A. Berezovskaya

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Petrographical Peculiarities of China Stone

SOV/12-59-8-12/17

(Footnote 2) and illustrated in figures 3, 4 and 5. The mechanical composition of the ground samples is given in table 3. The results of ceramic investigations are to be found in table 4. Figure 6 shows the dilatometric curve of the stone Nan'-kan. Conclusions: China stone constitutes a metamorphic kind of the secondary quartzite type. Main components are quartz, sour plagioclase, and sericite. Measures will have to be taken to find similar kinds of stone on Soviet territory, since such a stone constitutes a valuable raw material for the ceramics industry. The types mentioned in the relevant publications (Footnotes 3 and 4) are not suited for these purposes since they contain dark pigments. There are 6 figures, 4 tables, and 4 Soviet references.

Card 2/2

NIKULINA, L.N.; TARAYEVA, T.I.

A variety of Glukhovtsy kaolin. Trudy GIKI no.1:38-45 '60.  
(NIRA 16:1)  
(Glukhovtsy—Kaolin)

15.2160

Year:  
SOV/80-33-3-13/47

AUTHORS: Shchegolev, Yu. G., Iskender, L. N., S. Solinskaya,  
O. T.

TITLE: Study of the Crystallization of Boron-Free,  
Strontium-Calcium Glazes

PERIODICAL: Zhurnal prikladnoy khimii, 1960, Vol 33, Nr 3,  
pp 582-591 (USSR)

ABSTRACT: Frits and glazes of the above type, all without  
magnesium, were studied in order to determine the  
effect of varying quantities of Sr and Ca on  
their crystallization. Chemical compositions of the  
frits used are given by Table 1. It was determined  
that the ability of the frits and of the glazes  
made from them to crystallize is least at SrO and  
CaO concentrations corresponding to the minimum  
of the melting temperature on Eskola's diagram of  
solid solutions of Sr and Ca metasilicates (Fig. 2).  
Also, only glazes made from frits 53 and 54 had

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Study of the Crystallization of Barium-Free, Strontium-Calcium Glazes

78212  
SOV/80-33-3-13/47

normal luster, and these glazes crystallized less than the others. The existence of these minima is probably related to the greatest degree of imperfection of the structurally rearranging lattice and, possibly, the structure of the solid solution on replacement of the Sr by Ca. A continuous series of solid solutions is formed in the crystallized frits, with an almost linear increase of both indices of refraction (Fig. 1), decrease of specific gravity (Fig. 5), interplanar spacing (Fig. 4), and lattice parameters (Fig. 3), as the Ca content in the mixed crystal increases. The interplanar spacing values of the sample "M" (see Figs. 2 and 4) deviate somewhat from the rule, a fact which should be further investigated. X-ray analysis of the powdered, crystallized frits showed the closeness of all the crystals to the hexagonal system and their complete miscibility in the solid phase. The system may be considered isodimorphic. Shmeleva, N. A., and Kondrat'yeva, V. V., took part in the work. Frank-Kamenetskiy, V. A., is thanked for his advice.

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Study of the Crystallization of Boron-Free, Strontium-Calcium Glazes

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Table 1. Chemical composition of investigated frits (wt %). (A) Frit Nr; (B) SrO: CaO (parts by wt)

A	B	SiO <sub>2</sub>	Al <sub>2</sub> O <sub>3</sub>	FeO	CaO	K <sub>2</sub> O	Na <sub>2</sub> O
51	1.00:0	57.7	7.40	23.6	—	3.92	7.40
52	7.45:1	58.5	7.70	19.50	2.60	4.0	7.64
53	2.78:1	60.0	7.85	14.80	5.32	4.1	7.83
54	1.85:1	60.7	7.85	12.50	6.75	4.15	7.83
55	1.23:1	61.5	8.05	10.10	8.17	4.2	8.00
56	0.81:1	62.1	8.14	7.70	9.70	4.24	8.10
57	0.00:1	64.5	8.42	—	14.3	4.40	8.40

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Study of the Crystallization of Boron-Free, Strontium-Calcium Glazes

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SOV/80-33-3-13/47

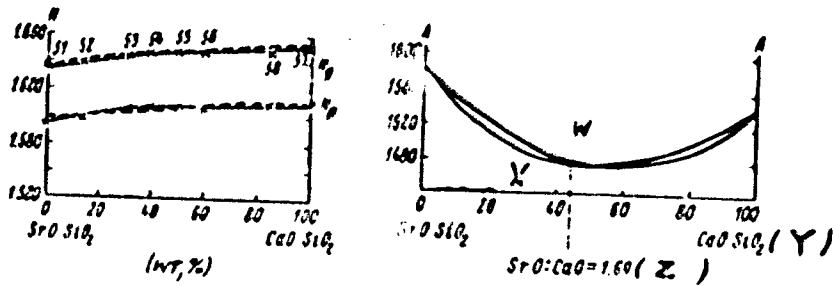


Fig. 1. Indices of refraction  $N$  in system  $\text{SrO} \cdot \text{SiO}_2 - \text{CaO} \cdot \text{SiO}_2$ . Numbers on curves are frit numbers. Dotted lines are Eskola's data, solid lines the present authors'.

Fig. 2. Eskola's diagram for system  $\text{SrO} \cdot \text{SiO}_2 - \text{CaO} \cdot \text{SiO}_2$

(A) Temperature ( $^{\circ}\text{C}$ ); (W) melt; (X) mixed crystals;  
(Y) wt %; (Z) by wt.

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Study of the Crystallization of Boron-Free, Strontium-Calcium Glasses

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 307/60-35-3-13/47

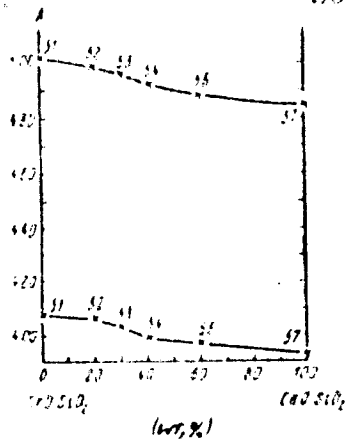


Fig. 3. Lattice parameters in system SrO·SiO<sub>2</sub> - CaO·SiO<sub>2</sub>. (A) Lattice parameters in Angstroms. Numbers on curves are frit numbers.

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Study of the Crystallization of Boron-Free, Strontium-Calcium Glazes

78212  
 SOV/80-33-3-13/47

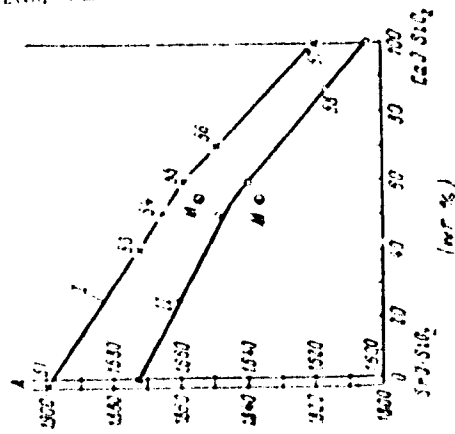


Fig. 4. Interplanar spacing in system SrO·SiO<sub>2</sub> - CaO·SiO<sub>2</sub> for two most intense lines. (A) Interplanar spacing; d/n in Angstroms. Numbers on curves are frit numbers. Note: "M" is with SrO:CaO = 1.69 by wt (see Fig. 2).

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Study of the Crystallization of Strontium-Free, Strontium-Calcium Glasses

(CP) 12  
 SOV/69-33-3-13/47

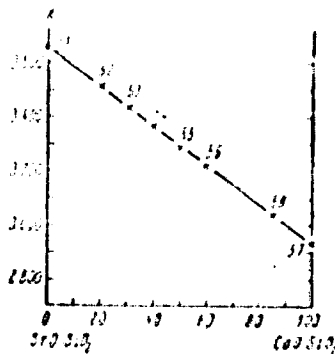


Fig. 5. Specific gravity in system  $SiO \cdot SiO_2 - CaO \cdot SiO_2$ . (A) Specific gravity ( $g/cm^3$ ); B.  $CaO \cdot SiO_2$  content in system (wt %)

There are 4 tables; 5 figures; and 13 references, 3 U.S., 2 U.K., 1 Danish, 7 Soviet. The U.S. and U.K. references are: P. Eskola, Am J. Sci., 4,

Card 7/8

Study of the Crystallization of Boron-  
Free, Strontium-Calcium Glazes

78212  
SOV/80-33-3-13/47

23, 331 (1921); E. T. Carlson, L. S. Wels, J. Res.  
N. Bur. Std., 51, 2, 73 (1953); A. W. Hall, W. P.  
Davey, Phys. Rev., 17, 549 (1921); R. W. Morse, J.  
Appl. Chem., 2, 244 (1932); F. Booth, H. Brenner,  
Brit. Pat., 242996 (1924).

SUBMITTED: May 15, 1959

Card 8/8

LEVIN, B.I., kand. fiz.-matem. nauk; NIKULINA, L.N., kand. geol.-  
mineral. nauk

Use of a microscope with a heating device for studying feldspars.  
Stek. i ker. 20 no.6:30-32 Je '63. (MIRA 16:6)

1. Gosudarstvennyy nauchno-issledovatel'skiy keramicheskiy  
institut.

(Feldspar--Testing)  
(Microscopy--Technique)

NIKULINA, L.N.; SELIVANENKO, N.Ye.; ETKIN, V.S.

Superhigh frequency converter using tunnel diodes. Elektrosviaz' 17  
no.11:1-11 N '63. (MIRA 17:1)

LEVIN, D.I., kand.fiz.-matem.nauk; NIKULINA, L.N., kand.geol.-mineral.nauk

Characteristics of the behavior of potassium and potassium-sodium  
feldspar under the effect of heating. Stek. 1 ker. 22 no.3:26-29  
Mr '65. (MIRA 18:10)

1. Gosudarstvennyy issledovatel'skiy keramicheskiy institut.

NIKULINA, L.P.

881

✓ Compound containing a three-membered ring  
Reaction of compound with water of crystallization  
Y. P. Muzasov, Zh. Fiz. Khim., 1957, 31, 1000  
Sov. Khim., 1957, 35, 1000

3

By  $\text{SOCl}_2$  (MeOH) with 10% excess  $\text{SOCl}_2$  (100%  
100% gave 50%  $\text{H}_2\text{NCO}_2\text{H}$  (p. 1000), isolated as the  
 $\text{HCl}$  salt, decamp. 150-160° from  $\text{H}_2\text{SO}_4$  treated with  
conc.  $\text{H}_2\text{SO}_4$  and heated to 150-170° this gave a mixture  
of gas and the remaining solid. The solid was  
almost dist. yielded  $\text{H}_2\text{NCO}_2\text{H}$  isolated as the  
dinitrophenylhydrazine  $\text{H}_2\text{NCO}_2\text{H}$  at decamp. 150-160° Kmp.

10g 40 g.  $\text{SOCl}_2$  ( $\text{C}_2\text{H}_5\text{OH}$ ) with conc.  $\text{NH}_4\text{OH}$  over-  
night in closed flask gave 50%  $\text{H}_2\text{NCO}_2\text{H}$  (p. 1000),  
100% (from  $\text{C}_2\text{H}_5\text{OH}$ ) if the reaction is run 3 hrs. at 150°

There is formed 50% of  
decamp. 150-160°  
of the solid gas  
1. decamp. 150-160°  
40% more at 150°  
conc.  $\text{H}_2\text{SO}_4$  at 150°  
solid residue

In 3 days at 150° temp.  
the  $\text{H}_2\text{NCO}_2\text{H}$  yield

V.F. MARTYNOV. Zh. V. Vasilov

in 1958 at the ...  
 frequency 253 ...  
 at 140 ...  
 at the ...  
 with ...  
 1958 ...  
 V.F. Martynov ...  
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 ...

STRENGTH, L.P.

6

CONFIDENTIAL - SECURITY INFORMATION  
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SHIKHOV, V.N.; NIKULINA, L.P.

Investigating the process of electrization in a fiber during spreading. Kauch. i rez. 23 no.4:42-45 Ap'64 (MIRA 17:7)

1. Ural'skiy politekhnicheskiy institut, Sverdlovsk.

SHIKHOV, V.N.; ANISIMOV, V.A.; Prinsipal'ni uchastiye: MAKURIN, I.I.;  
~~NIKULINA, L.P.~~; TRACHEV, V.V.; NEMTSEV, I.I.; MIKHAYEVA, G.F.;  
GUSEV, V.P.; TARASOV, A.I.

Measures for the control of static electricity in rubber cement  
coaters. Kauch. i rez. 24 no.11:42-45 '65. (MIRA 19:1)

1. Ural'skiy politekhnicheskiy institut, Sverdlovsk, i Sverdlovskiy  
zavod rezinovykh tekhnicheskikh izdeliy.

NIKULINA, I. M.

№. 2789

Legkikh V Metabolizme Zhira. Soobshch. I. M. M. Nikulina. Soderzhaniye Zhira V  
Legkom V Norme I Pri Razlichnykh Nagruzkakh Zhira. Trudy Leningr. San. -Gigien.  
Med. in-ta, II 1949, s. 71-88. - Bibliogr: s. 88.

SO: Ietopis' Zhurnal'nykh Statey, Vol. 37, 1949

NIKULINA, M. M.

NIKULINA, M. M.: "The fat content of the lungs under normal and pathological conditions (the study of pulmonary lipodiarresis)." Min Health RSFSR. Leningrad Sanitary-Hygiene Medical Inst. Leningrad, 1956. (Dissertations for the Degree of Doctor in Medical Sciences).

SO: Knishnaya Letopis' No. 22, 1956

NIKULINA, M.M. (Leningrad)

Pulmonary fat content following pancreatectomy. Pat. fiziol. i eksp. terap. 3 no.3:11-16 ty-Je '59. (MIA 12:7)

1. Is kafedry patologicheskoj fiziologii (sav. - prof. L.K. Perel'man)  
Leningradskogo sanitarno-gigiyenicheskogo meditsinskogo instituta.

(PANCREAS, eff. of excis.

on lungs lipids (Rus))

(LUNGS, metab.

lipids, eff. of pancreatectomy (Rus))

(LIPIDS, metab.

lung, eff. of pancreatectomy (Rus))

NIKULINA, M.M.

Qualitative study of a nonlinear system of two differential  
equations. Vest. LGU 18 no.13:143-146 '63. (MIRA 16:9)  
(Differential equations)

ACCESSION NR: AP5020036

UR/9348/55/000/008/0020/0021

631 35 633 854 74

AUTHOR: Nikulina, N. (Agronomist, Phytopathologist)

TITLE: Dangerous disease of the sunflower

SOURCE: Zashchita rastenyi ot vreditel'ey i bol'evney. No. 8, 1963, 20-21

DESCRIPTORS: sunflower, false mildew, powdery mildew

ABSTRACT: In the last ten years, great damage has been done to sunflower crops by false mildew in the Northern Caucasus, southern Ukraine, and Moldavia. This disease has also been observed in various parts of the Russian Federation. In 1962-1964, specialists at plant protection stations throughout the Russian Federation studied sunflower plantations. Some of their findings are tabulated in the article in the form of percentages of plants affected by false mildew at the various locations. Proper crop rotation is basic in the fight against this disease. Other important preventing measures are the elimination of weedfall affected by false mildew, the burning of wastes following harvest on affected fields, and the removal of all diseased plants from the field during vegetation.

1/2

ACCESSION NR: AP6020030

ASSOCIATION: None

SUBMITTED: 00

ENCL: 00 SUB CODE: LB

NO REF NOV: 000

OTHER 000



NIKULINA, N.B.

Comparative effect of some antiseptics used in different medication forms on a rabbit's eye. Nauch. trudy Riaz. med. inst. 1984-93 '62. (MIRA 17:5)

1. Kafedra glaznykh bolezney (ispolnyayushchiy obyazannosti zaveduyushchego kafedroy - kand.med.nauk V.S.Goryainov) i kafedry farmakologii (zav. kafedroy - dotsent A.A.Nikulina) Ryazanskogo meditsinskogo instituta imeni Pavlova.

NIKULINA, N.B.; GORYAINOV, V.S.

Use of ethazine, a new local anesthetic preparation in ophthalmological practice. Nauch. trudy Riaz. med. inst. 15:113-115 '62.

(MIRA 17:5)

1. Kafedra glaznykh bolezney (ispolnyayushchiy obyazannosti zav. kafedroy - kand.med.nauk V.S.Goryainov) Ryazanskogo meditsinskogo instituta imeni Pavlova.

PUCHEKOVSKAYA, N.A., prof.; NIKULINA, N.P., nauchnyy sotrudnik

Use of resorptive suture material in ophthalmology. Oft.  
zhur. 18 no.4:229-232 '63. (MIRA 17:4)

1. Iz Ukrainakogo nauchno-issledovatel'skogo eksperimental'nogo  
instituta glaznykh bolezney i tkanovoy terapii imeni akademika  
Filatova.

NIKULINA, M.G. (Moskva)

All-Union conference of workers at the young naturalist stations and  
agricultural experimenters. Biol. v shkole no.2:89-90 M-Ap '63.  
(MIRA 16:4)  
(Agriculture—Experimentation)

KUFAREV, B.P.; NIKULINA, N.G.

Lebesgue measure of subsets of a Euclidean space as the leading  
variation of the function - distance to the closed set. Dokl.  
AN SSSR 160 no.5:1004-1006 F '65.

(MIRA 18:2)

1. Tomskiy gosudarstvennyy universitet im. V.V. Kuybysheva. Sub-  
mitted August 24, 1964.

USSR/Plant Diseases - Diseases of Cultivated Plants. 0.

Abs Jour : Ref Zhur - Biol., No 8, 1958, 34962

Author : Nikulina, N.K., Shvorneva, A.M.

Inst :

Title : Toxic Bacteriosis of the Water Melon.

Orig Pub : Zashchita rast. ot vredit. i boleznoy, 1957, No 5, 55.

Abstract : Typical symptoms: Sharply outlined, brownish protuberant spots. The center of the spots resembles the spots of insect bites or stings. To the touch, the spots are similar to nipplewort. After sectioning the water melon, the decomposition of the flesh is well noticeable. Fruits are gradually yellowing. The intensity of the development of the disease depends on the degree of ripeness (green fruit is not affected), the temperature of the air and the amount of precipitation. The carrier bacteria belongs to the group Proteus. Toxins eliminated by the bacteria cause pathological symptoms in humans and animals. -- D'yakova.

Card 1/1

- 9 -

NIKULINA, N.K., agronom- fitopatolog

Potato disease caused by *Phoma tuberosa*. Zashch. rast. ot vred.  
i bol. 4, no.2:32 Mr-Ap '59. (MIRA 16:5)

Chita Province—Potatoes—Diseases and pests.)  
(Chita Province---Phoma)

**NIKULINA, N.K.**

Distribution of nematodes on vegetables and potatoes in the R.S.F.S.R.  
Trudy Gel'm.lab.9:206-207 '59. (MIRA 13:3)  
(Vegetables---Diseases and pests) (Nematoda)  
(Potatoes---Diseases and pests)



CHENKIN, A.F., NIKULINA, N.K.

In the Russian Federation. Zashch.rast.ot vred.i vol. 5 no.3:  
1-2 Nr '60. (MIRA 16:1)

(Plants, Protection of)

NIKULINA, N.K.

Disinfecting grain crop seeds. Zashch.rast.ot vrod.1 bol. 5  
no.3:29-31 Nr '60. (MIRA 16:1)

(Seeds—Disinfection)

LOBANOV, F.I., starshiy inzh.; NIKOLINA, H.K.; SAVZDARG, E.E., prof.

Questions and answers. Zashch. rast. ot vred. 1 vol. 6 no. 3:4,  
ifr '61. (MIRA 15:6)

1. Gosplan SSSR (for Lobanov).  
(Plants, Protection of)

NIKULINA, N.K., agronom-fitopatolog; KOROTKIKH, G.I.

Questions and answers. Zashch. rast. ot vred. i bol. 6 no.9;  
51 8 '61. (MIRA 16:5)  
(Plants, Protection of)

NIKULINA, N.K.

For efficient socialist competition. Zashch. rast. ot vred.  
i bol. 7 no.1:8-62. (MIRA 15:6)

1. Glavnyy agronom Upravleniya po zashchite rasteniy  
Minist. sel'skogo khozyaystva RSFSR.  
(Plants, Protection of)

NIKULINA, N.K.; LUK'YANENKO, N.M.; NEYPERT, Yu.N.

In Tatarstan. Zashch.rast.ot vred.i bol. 7 no.625-6 Je '62.  
(NIRA 15:12)

1. Glavnyy agronom Ministerstva proizvodstva i sagotovok sel'skokhozyaystvennykh produktov RSFSR (for Nikulina).
2. Sekretar' partiynoy organizatsii Ministerstva proizvodstva i sagotovok sel'skokhozyaystvennykh produktov Tatarskoy ASSR (for Luk'yanenko).
3. Korrespondent zhurnalal "Zashchita rasteniy ot vreditel'ey i bolezn'ey" (for Neypert).

(Tatar A.S.S.R.—Plants, Protection of)

CHENKIN, A.F.; NIKULINA, N.K.

Important changes. Zashch. rast. ot vred. i bol. 8 no.11:1-5  
'63. (MIRA 17:3)

1. Zamestitel' nachal'nika Upravleniya zashchity rasteniy RSFSR  
(for Chenkin). 2. Glavnyy agronom Upravleniya zashchity rasteniy  
RSFSR (for Nikulina).

NIKULINA, N.K.

Timely disinfection of seed. Zashch. rast. ot vred. i bol. 9 no.1:  
33-34 '64. (MIRA 17:4)

1. Glavnyy agronom-fitopatolog Upravleniya zashchity rasteniy  
RSFSR.



NIKULINA, N. N.

2776. NIKULINA, N. N. Uchet i Statistika Truda V Kolkhozakh. M., 1954. 16s.  
20sm. (M-vo Vysah. Obrazovaniya SSSR. Mosk. Ekon.-Stat. In-t). 110 ekz. B.Ts.-  
(54-56116)

SO: Letopis' Zhurnal'nykh Statey, Vol. 42, Moskva, 1949

NIKOLINA, N.N.

2776. Uchet i statistika truda v kolkhozakh. M., 1954. 16c. 20cm (M-vo vyssh. obrazovaniya SSSR. Mosk. Zkoh.-stat.in-T) LLozkr. B.Is.-(54-56116)

So. Knizhnaya Letopis, Vol. 2, 1955

GUSEV, S.M.; NOVOSELOV, S.P.; MIKULINA, O.I.; GIBANOV, I.G.; KOZYRNOVA, L.I.

Lead oxide. Patent U.S.S.R. 77,936, Dec. 31, 1949.  
(CA 47 no.19:9828 '53)

*Excluded from...*

10/1/58

UNIT 1: THE CONSTITUTION

Chapter 1: The Constitution and the Executive Branch  
 The Constitution and the Executive Branch  
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 The Cabinet  
 The Executive Branch and the Judiciary  
 The Executive Branch and the Legislature  
 The Executive Branch and the States  
 The Executive Branch and the People  
 The Executive Branch and the World  
 The Executive Branch and the Future

Chapter 2: The Constitution and the Legislative Branch  
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Chapter 3: The Constitution and the Judicial Branch  
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Chapter 4: The Constitution and the States  
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 The People and the Future

Chapter 6: The Constitution and the World  
 The Constitution and the World  
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 The World and the People  
 The World and the Future

Chapter 7: The Constitution and the Future  
 The Constitution and the Future  
 The Future and the Union  
 The Future and the States  
 The Future and the People  
 The Future and the World

AKUTIN, M.S.; GURMAN, I.M.; STAL'NOVA, M.A.; Prinimall uchastnye: NIKULINA,  
O.S., inzh.; OKHINA, R.F., Laborantka

Block copolymer from epoxide and dimethylresorcinol resins as a  
binder for glass reinforced plastics. Plast.massy no.5:10-11 '60.  
(NIRA 13:7)

(Glass reinforced plastics)  
(Resorcinol)

4.11.65 EWT (M)/EPT (C) ENKIV/VEPA/VP/VT Pt. 2/Pt. 4/Pa. 4 WW/RM  
ACCESSION NO: AR5008439 S. 0081.63/000/003/S063/8063

SOURCE: Ref. zh. Khimiya, Abs. 35367

AUTHOR: Monovalov, P.G.; Nikulina, O. S.

TITLE: Manufacture of an adhesive based on the polycondensation of dimethylresorcinols with formaldehyde

CITED SOURCE: Sb. statey Khim.-tekhnol. fak. Vses. zaachn. politekhn. in-t, vyv. 12, 1964, 78-87

TOPIC TAGS: resin adhesive, PF resin, polycondensation adhesive, adhesive property, polycondensation, dimethylresorcinol copolymer, formaldehyde copolymer

TRANSLATION: The authors studied the polycondensation of a mixture of isomeric dimethylresorcinols with formaldehyde. The products of this reaction are either solid resins or viscous liquids, depending on the proportion of reactants and the environment of the polycondensation. The obtained resins were then plasticized with ethylene glycol. To obtain a resin for adhesive purposes, the reactor flask was charged with 138 parts (by weight) of dimethylresorcinol heated to 45-50C, 41.4 parts of alcohol and 11.4 parts of ethylene glycol. The mixture

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4-131-65

ACCESSION NR: AR5008439

was then enriched with 40.5 parts of formalin after stirring for 5 min., kept for 1 hour at 40-45C, heated to boiling within 15 to 20 min. and boiled for one hour. The resin obtained after cooling had a Ford-Engler viscosity of 15-18°, humidity of 16-18%, dry residue 65-66%, boiling point 98-100C, pH 4.5-5. The resin cures easily when a supplemental amount of formaldehyde is added in the presence of an alkaline catalyst at pH 7.5-7 and about 20C. Curing does not take place in a neutral or weakly acidic medium (pH 5-7), while a strongly acidic medium (pH 1-3) accelerates the curing process. The rate of transition to an insoluble and infusible state accelerates as the amount of catalyst is increased, but the resin's durability drops sharply. The introduction of stabilizers and plasticizers extends the curing time and durability of the resin. Peak durability at minimal curing time is obtained with 30% alcohol and 10% plasticizer. Peak strength of the bond corresponds to a ratio of 1.5 mol. formaldehyde to 1 mol. phenols, or 1.5 mol. and 1 mol., at 2 and 17 concentrations of the accelerator, respectively. Wood flour as the filler has little effect on shrinkage, but improves the strength of the bond. Bonding is obtained after 24 hours at 20C, under pressures of 1 to 2 kg/cm<sup>2</sup>. Bond strength is at least 130 kg/cm<sup>2</sup>, the adhesive has good resistance to temperatures between

4-1/3

2 19 31-65

ACCESSION NR: AR5008439

-40 and +50C, surpasses all PF adhesives in bond strength and has comparable moisture resistance. The resin adhesive is stable for 12 months in terms of viscosity and strength of the bond. 5 Bass.

SUB CODE: MT, OG

ENCL: 00

3/3



L 1777(h-63)  
RM/WG/HAU

EFR/EWP(j)/EPP(c)/EWT(m)/EDS

AFFTC/ASD

Ps-L/Fc-L/Pr-L

ACCESSION NR: AP3005854

S/0051/63/015/002/0274/0280

76  
72AUTHOR: Averina, L.N.; Korner, B.I.; Nikulina, R.A.; Sokolovskaya, T.I.; Tsirlin, Yu.A.

TITLE: Light collection in scintillators

SOURCE: Optika i spektroskopiya, v.15, no.2, 1963, 274-280

TOPIC TAGS: scintillator, light collection, scintillator design

ABSTRACT: Expressions are derived for the light collecting coefficient  $\tau$  of a cylindrical scintillator with polished surfaces and no packaging. The light-collecting coefficient is defined as the ratio of the radiant energy emerging through one face of the scintillator and entering the photomultiplier to the total energy produced by the scintillations in the volume of the scintillator with an absorption coefficient  $k$  and an index of refraction  $n$ . Knowledge of  $\tau$  is obviously important for designing efficient scintillators and evaluating their overall efficiency. Fresnel reflection from the glass face of the photomultiplier tube is taken into account (reflections from the top and bottom ends of the cylinder compensate each other). The results of calculations by means of the deduced formulas were compared with experiment in two ways: 1) modelling, using a plexiglas cup filled with

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L 1778-53

ACCESSION NR: AP3000854

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glycerol into which there was lowered a glass sphere with a persistent phosphor, and 2) measurements with standard plastic scintillators (polystyrene + terphenyl + POPOP) 20 mm in diameter and of different heights, irradiated from an alpha-particle source. The experimental variation of  $\tau$  with the height of the scintillator cylinder is consistent with the calculated dependence. Thus, the deduced formulas can be used for qualitative design calculations as well as for quantitative evaluations if the basic parameters of the scintillator material are known. We thank L.L. Nagornaya for supplying the optical characteristics of the plastic and V.L. Timan for programming the necessary computations on a computer. Orig. art. has: 28 formulas and 8 figures.

ASSOCIATION: none

SUBMITTED: 20Oct82

DATE ACQ: 06Sep83

ENCL: 00

SUB CODE: MI

NO REF SOV: 005

OTHER: 002

Card 2/2

ACCESSION NR: AP4041055

S/0120/64/000/003/0214/0214

AUTHOR: Tsirlin, Yu. A.; Zalyubovskiy, I. I.; Sokolovskaya, T. I.;  
Neznamov, V. G.; Nikulina, R. A.

TITLE: Light response of CsI(Tl) crystal to proton and deuteron energy

SOURCE: Pribory\* i tekhnika eksperimenta, no. 3, 1964, 214

TOPIC TAGS: CsI(Tl) crystal, CsI(Tl) crystal light response, proton energy,  
deuteron energy

ABSTRACT: The light response of CsI(Tl) crystals was measured in the 10-100  
kev range on a Kharkov State University kevatron. The response P to protons was  
found to be lower than the response D to deuterons, the ratio D:P being about 1.3.  
The nonlinear segment of the curve lies below 25 kev. Orig. art. has: 1 figure.

ASSOCIATION: Vsesoyuzny\*y nauchno-issledovatel'skiy institut monokristallov  
(All-Union Scientific-Research Institute of Single Crystals)

SUBMITTED: 05Jun63

ENCL: 00

SUB CODE: KP

NO REF SOV: 000

OTHER: 003

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0212-45 RFF(c)/BWT(1)/BTP(m) COWE(3) 1965-01-01

ACCESSION NR: AP5021490

JR/0368/65/003/002/0156/0161

32

533.344

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B. J. 4. 5

AUTHOR: Tsirlin, Yu. A., Sobolovskaya, T. I., Nikulina, R. A., Magornaya, L. L.

TITLE: Luminescence yield of plastic scintillators as a function of external electron energy

SOURCE: Zhurnal prikladnoy spektroskopii, v. 3, no. 2, 1965, 156-161

TOPIC TAGS: scintillator, polyethylene, thermoplastic material, luminescent material

45

ABSTRACT: The luminescence yield of various plastic scintillators was studied as a function of electron beam energy E. The measurements were made on the apparatus shown schematically in fig. 1 of the Enclosure. An electron beam from source 1 is accelerated in tube 2 to an energy of 70 keV and falls on the plastic scintillator 6 which is coated on an FEU-13 photomultiplier placed in a vacuum chamber. The beam is irised down twice on its path to a final spot size of 3 mm on the specimen. More light was collected by using aluminum reflector 5. The plastic scintillators studied were divided into the following four groups: 1) with different

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ACCESSION NR: AP5021490

used identical primary and secondary additives in optimum concentrations for the given base; 2) with the same base but with various primary additives in optimum concentrations; 3) with the same base and the same primary additive in various concentrations; 4) with identical bases and identical primary additives, but different secondary additives. Plastic scintillators from these groups were made in the form of polished cylinders 18 mm in diameter and 2 mm high. The results are tabulated and also given graphically. The luminescence yield of these plastic scintillators is not proportional to the external electron energy, and the specific light output  $L/E$  is a variable in the low energy range from 0 to 30 keV. It was found that polyvinyl xylene and polystyrene bases are nearly identical in their degree of proportionality, which is higher than that of a polyvinyl toluene base (see fig. 2a of the Enclosure). The proportionality factor depends on the type and concentration of the primary additive (see figs. 2b and 3 of the Enclosure). Secondary additives have only a slight effect on the degree of proportionality: they are somewhat more effective (see fig. 2 and table 1 of the Enclosure). Orig. contains: 4 figures, 2 formulas, 1 table.

CLASSIFICATION: none

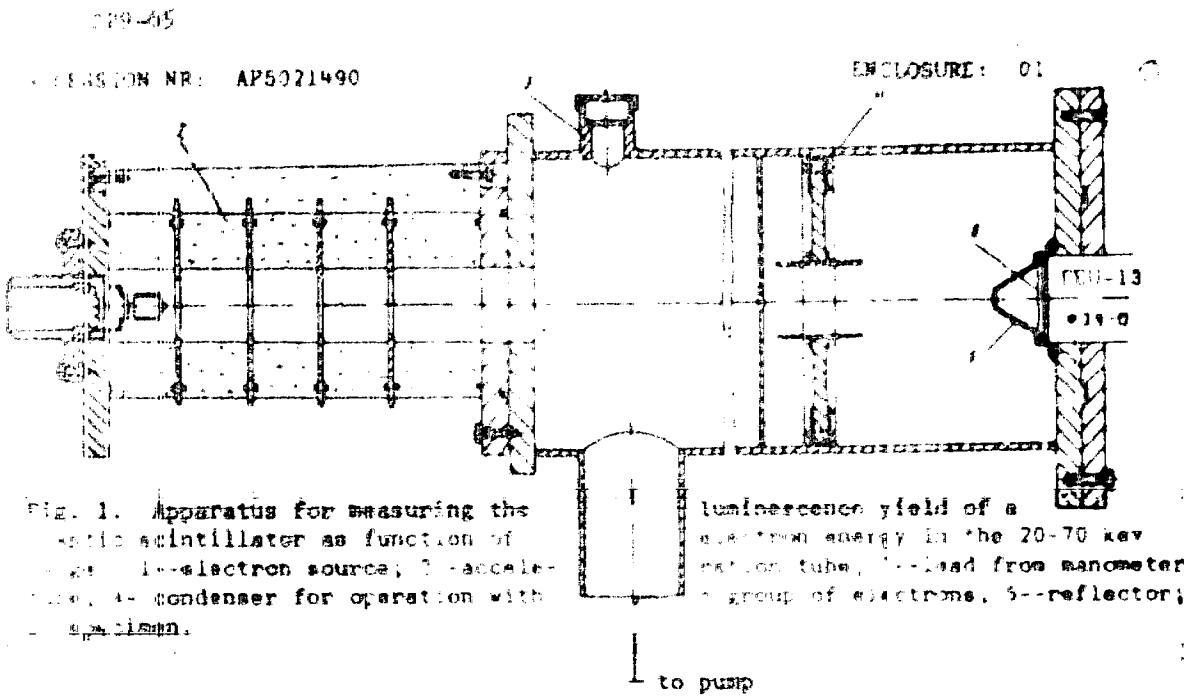
DATE FORWARDED: 24 Aug 64

REF ID: A005

ENCL: 05

OTHER: 005

SUB CODE: 07 NP



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100-29-65

REF ID: A5021490

ENCLOSURE 02

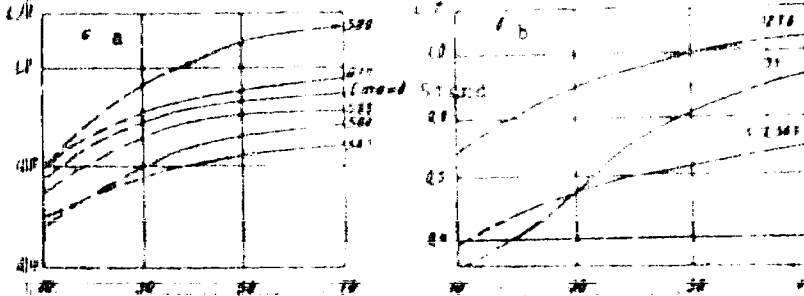


Fig. 2

Scintillation efficiency L/S (relative units per keV) as a function of electron energy (keV) for plastic scintillators in groups I and IV (No 540--polyvinyl chloride base + 2% PVP + 0.1% POPOP; No 541--polyvinyl chloride base + 2% PVP + 0.1% POPOP; No 560--polystyrene base + 2% PVP + 0.1% POPOP; No 561--polystyrene base + 2% PVP + 0.1% POPOP; No 562--polystyrene base + 2% PVP + BBE), b-- plastic scintillators with polystyrene bases and various primary additives in optimum concentrations: (No 570--PPP, No 571--BzNL, No 572--BPO; No 565--2DF; No 566--PPO)

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REPORT ON NP AFS021490

ENCLOSURE 03

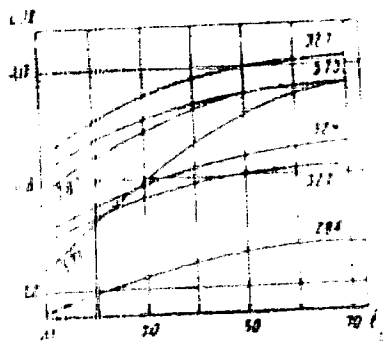


Fig. 3. Scintillation efficiency  $L/E$  (relative units per keV) as a function of electron energy  $E$  (keV) for polystyrene based plastic scintillators with various concentrations of NP and PPP as primary additives (group III): No 287--0.5% BPC, No 321--1.5% BP, No 286--0.5% BPC, No 573--2% PPP; No 322--1.5% PPP, No 324--1% PPP, No 322--0.5% PPP

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ATTENTION NR: AP5021490

ENCLOSURE: 04

Table 1 Plastic scintillator characteristics

No.	Chemical composition of the plastic scintillator	Degree of proportionality
	Polystyrene + 2% PPP + 0.1% BPOBP	68
	Polyvinyl xylene + 2% PPP + 0.1% BPOBP	7
	Polyvinyl toluene + 2% PPP + 0.1% BPOBP	54
	Polystyrene + 1.5% BPO	61.5
	Polystyrene + 1.5% BPO	57
	Polystyrene + 1.5% BPO	57
	Polystyrene + 1.5% BPO	61.5
	Polystyrene + 1.5% BPO	61.5
	Polystyrene + 0.1% BPO	40
	Polystyrene + 0.5% BPO	57
	Polystyrene + 1.5% BPO	32
	Polystyrene + 1.5% BPO	47
	Polystyrene + 1% BPO	51.5
	Polystyrene + 1.5% BPO	47
	Polystyrene + 2% PPP	68.5
	Polystyrene + 2% PPP + 0.1% BPOBP	68
	Polystyrene + 2% PPP + 0.1% BPO	51.5
	Polystyrene + 2% PPP + 0.1% BPOBP	77
	Polystyrene + 2% PPP + 0.1% BPO	68



15958-66 DWT(m)/ZNP(j)/T WW/RM  
ACR: NR: AP6001485

SOURCE CODE: UR/0368/65/003/006/0571/0573

AUTHOR: Tsirlin, Yu. A.; Sokolovskaya, T. I.; Nikulina, R. A.; Nagornaya, L. L.  
Maikes, L. Ya.; Shubina, L. V.

52  
B

ORG: None

TITLE: Plastic scintillator with a light yield proportional to the energy of outer electrons

SOURCE: Zhurnal prikladnoy spektroskopii, v. 3, no. 6, 1965, 571-573

TOPIC TAGS: scintillation, polystyrene, vinyl plastic, electron emission

ABSTRACT: Earlier studies of plastic scintillators investigated the relationship between the light yield and the energy of inner (I. M. Rozman et al., PTE, 6, 27, 1960) and outer (Yu. A. Tsirlin et al., ZhPS, 3, 156, 1965) electrons. The present study attempts to establish the amount of additives (PBE, BPO, or PPP) which will result in the highest degree of proportionality defined as  $(L/E)_{30\text{ keV}} / (L/E)_{70\text{ keV}}$ . 100 (L - light yield, E - incident energy). The polystyrene + 1% PBE showed the highest light yield in the 0-20 keV region and it was, at the same time, proportional to the energy of the outer electrons. It is thus very convenient for the detection of low energy electrons. The other base tested was polyvinylxylene  
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UDC: 535.35

