"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001342220017-9

POPKOV, I.F.

Obshchaia lotsiia vnutrennikh vodnykh putei. [General sailing directions for inland waterways]. (Moskva) Izd-vo Ministerstva rechnogo flota Soiuz SSR, 1946 354 p. ullus. (Revue by D. S. Artamonov in Rechnoi transport, 1947, no. 9, p.25

SO: Soviet Transportation and Communications, A Bibliography, Library of Congress, Reference Department, Washington, 1952, Unclassified.

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001342220017-9"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001342220017-9

POPKOV, I. F.

Ovshchaia lotsiia vnutrennikh vodnykh putei. [General sailing directions for inland waterways.]. Izd. 2., perer. i dop. Rekomendovano v kachestve uchebnika dlia shturmanskikh otd-nii rechnykh uchilishch i rechnykh tekhnikumov. Moskva, Izd-vo Ministerstva rechnogo flota SSSR, 1950. 351 p. illus.

Bibl iography: p 348. DLC: VK145. P6 1950

SO: Soviet Transportation and Communications, A Bibliography, Library of Congress, Reference Department, Washington, 1952 , Unclassified.

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001342220017-9"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001342220017-9

POPKOV, I.F.; DENISOVICH, P.A., redaktor, MAKRUSHINA, A.N., redaktor; VOLKOVA, Ye., tekhnicheskiy redaktor.

[General instructions for navigation in inland waterways] Obshchaia lotsiia vnutrennikh vodnykh putei. Moskva, Gos.izd-vo vodnogo transporta, 1954. 261 p. (MLRA 9:4)
(Inland navigation)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001342220017-9"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001342220017-9

POPKOV, Ivan Fedorovich, inzhener; MATLIN,G.M., redaktor; GRIGOR'YEV,S.N., retsenzent; MOREKHODOV,I.S., retsenzent; MAKRUSHINA,A.N., redaktor; KRASNAYA,A.K., tekhnicheskiy redaktor

[General sailing directions for inland waterways] Obshchaia lotsiia vnutrennikh vodnykh putei. Moskva, Izd-vo "Rechnoi transport," 1955. 331 p. (MLRA 9:3)

(Inland navigation)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001342220017-9"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001342220017-9

POPKOV, I.F.

DOMANEVSKIY, N.A.; IVANITSKIY, V.A., retsenzent; POPKOV, I.F., retsenzent; MATLIN, G.M., red.; VINOGRADOVA, N.M., red.izd-va; TSVETKOVA, S.V., tekhn.red.

[Dredging] Dnouglublenie. Moskva, Izd-vo "Rechnoi transport," 1957. 449 p. (MIRA 10:12)
(Dredging)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001342220017-9"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001342220017-9

MATUSEVICH, Valdimir Antonovich; POPKOV, I.F., retsenzent; DOMANEVSKIY, N.A., red.; VINOGRADOVA, N.M., red. izd-va; GORCHAKOV, G.N., tekhn.red.

[Straightening of rivers] Vypravlenie rek. Izd. 2-oe, perer. i dop. Moskva, Izd-vo "Rechnoi transport," 1958. 254 p. (MIRA 11:4)
(Rivers--Regulation)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001342220017-9"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001342220017-9

POPKOV, I. F., Candidate Tech Sci (diss) -- "Improving the shipping conditions of rivers in branched sections by dredging the bottom". Moscow, 1959. 17 pp (Moscow Order of Labor Red Banner Construction Engineering Inst im V. V. Kuybyshev) 130 copies (KL, No 22, 1959, 116)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001342220017-9"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001342220017-9

POPKOV, Ivan Fedorovich, kand. tekhn. nauk; PYATLIN, A.A., retsenzent; CHALKIN, I.Ya., retsenzent; POROCHKIN, Ye.M., red.; LOBANOV, Ye.M., red. izd-va; RIDNAYA, I.V., tekhn. red.

[General sailing directions for inland waterways]Obshchaia lotsiia vnutrennikh vodnykh putei. Izd.2., dop. i perer. Moskva, Izd-vo "Rechnoi transport," 1962. 277 p. (MIRA 16:2)
(Inland navigation)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001342220017-9"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001342220017-9

POPKOV, I. G.

POPKOV, I. G.

Choice of active therapy in pulmonary tuberculosis. Probl. Tuberk., Moskva No. 6, Nov.-Dec. 50. p. 61-3

1. Of the Tuberculosis Division of the First Infectious Diseases Hospital and of the Tuberculosis Division of the Central Polyclinic of Stalin Railroad, Dnepropetrovsk).

CLML 20, 3, March 1951

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001342220017-9"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001342220017-9

POPKOV, I.G. (Dnepropetrovsk)

Pain symptom and pulmonary cases. Prob.tub.no.4:56-58 Jl-Ag '55. (MLRA 8:10)

1. Iz tuberkuleznogo otdeleniya ob"yedinennoy dorozhnoy bol'nitsy Stalinskoy zheleznoy dorogi (nach.K.A.Suvorova)
(TUBERCULOSIS, PULMONARY, diag.
role of pain)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001342220017-9"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001342220017-9

GALKIN, Mikhail Aleksandrovich; POPKOV, Ivan Varfolomeyevich; SURGANOV, B.S., red.; KHODASEVICH, Yu.G., mlad. red.

[Collection of problems for the course "The organization and planning of an industrial enterprise"] Sbornik zadach po kursu "Organizatsiia i planirovanie promyshlennogo predpriiatiia." Moskva, Ekonomika, 1965. 135 p. (MIRA 18:5)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001342220017-9"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001342220017-9

PETROV, Liuben, inzh.; POPOV, Kiril, inzh.

The Strazhitsa-1 sliding pumping station. Khidrotekh i melior 8 no. 10:305-306 '63.

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001342220017-9"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001342220017-9

SHASHKOVA, Z.S.; GRINEVICH, K.P.; POPKOV, K.K.

Synthesis of methylbromochlorosilanes. Plast.massy no.8:20-21 '61. (MIRA 14:7)

(Silane)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001342220017-9"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001342220017-9

ARTEM'YEVA, N.A.; POPKOV, K.K.; RUBANOV, S.M.; SHKORBATOVA, L.S.

Use of various approximations of the method of spherical harmonics in claculating the penetration of neutrons through shielding. Atom. energ. 19 no.6:531-532 D '65. (MIRA 19:1)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001342220017-9"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001342220017-9

L 28026-66 EWT(m)/ETC(f)/EPF(n)-2/EWG(m)/EWP(t)/ETI IJP(c) JD/JG

ACC NR: AP5026446 (N) SOURCE CODE: UR/0089/65/019/004/0383/0383

AUTHOR: Goryanina, Ye. N.; Popkov, K. K.; Rubanov, S. M.; Tsvetkova, S. A.

ORG: None

37
B

TITLE: Reduction of capture gamma rays and of radiative heat release in reactors by means of borated thermal shields and other protective measures.

19

SOURCE: Atomnaya energiya, v. 19, no. 4, 1965, 383

TOPIC TAGS: nuclear reactor, nuclear reactor shield

ABSTRACT: An abbreviated version of the original paper is presented. In their paper the authors investigated theoretically the effect of introducing an admixture of boron to the thermal water-iron shielding of water-cooled and water-moderated reactors. In homogeneous reactors, the boron admixture was added to a 25-cm thick water-iron mixture, while in heterogeneous reactors, the shields made of boron steel were used. In the original paper, the concentration of boron was calculated for various areas including the exterior surface of the reactor. It was also shown that: (1) the addition of boron to thermal shields considerably reduced the radiative heat release; (2) the use of boron steel shields

2

Card 1/2 UDC: 539.121.73:539.122

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L 28026-66

ACC NR: AP5026446

with a boron content exceeding 2% was not advisable; (3) the use of lead and boron-containing materials for protection of the reactor exterior surface, reduced considerably (3 to 5 times) the capture gamma radiations from thermal shields and the reactor vessel. In this respect, the use of lead was the most effective measure, although in thick lead layers (over 6 cm) the increase of capture gamma rays from lead was observed.

SUB CODE: 18 / SUBM DATE: 22May65 / ORIG REF: 004 / OTH REF: 000

Card 2/2

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001342220017-9"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001342220017-9

L 28389-66 EPF(n)-2/EWA(h)/EWT(m)/ETC(f)/EWG(m)/EWP(t)/ETI IJP(c) WW/JD/JG

ACC NR: AP6001796 SOURCE CODE: UR/0089/65/019/006/0531/0532

40
B

AUTHOR: Artem'yeva, N. A.; Popkov, K. K.; Rubanov, S. M.; Shkorbatova, L. S.

ORG: None

TITLE: Applicability of various spherical-harmonic approximations to calculations of neutron passages through shielding 19

SOURCE: Atomnaya energiya, v. 19, no. 6, 1965, 531-532

TOPIC TAGS: nuclear reactor shield, neutron shielding, neutron flux

ABSTRACT: An abbreviated version of the original paper is presented. The accuracy of multigroup approximations of P_1-, P_2- and P_3-orders for analyzing the neutron flux distributions in various media was investigated in the original paper. The age-diffusion approximation was also considered. Theoretical calculations were compared with experimental data obtained on space-energy distributions of neutron fluxes. An 18-group system was used for calculating P_1-, P_2- and P_3 approximations. A 7-group system was used for age-diffusion approximations. Shielding compositions containing water, graphite, boron carbide, iron, lead and various homogeneous and heterogeneous mixtures were considered. It was concluded that by using spherical-harmonic method the calculations

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L 28389-66

ACC NR: AP6001796

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could be limited by P_3-approximations. The P_1-approximation could be applied only for shielding thicknesses not exceeding 5 to 8 free-path lengths. It was also proven that the shielding functionals for materials of heavy and middle atomic weights were determined by neutrons of intermediate energy. A satisfactory coincidence in distribution of fast neutron fluxes was obtained by applying P_2- and P_3-approximations to heterogeneous compositions. This coincidence effect was still better for moderated and thermal neutrons.

SUB CODE: 18 / SUBM DATE: 15June65 / ORIG REF: 002 / OTH REF: 000

Card 2/2

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001342220017-9"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001342220017-9

L 36503-66 EWT(m)/EWP(j) RM

ACC NR: AP6017877 (A) SOURCE CODE: UR/0062/66/000/005/0855/0861

AUTHOR: Zhinkin, D. Ya.; Morgunova, M. M.; Popkov, K. K.; Andrianov, K. A.

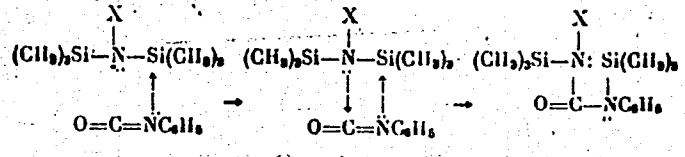
ORG: none

TITLE: Reactions of alkylsilazanes with organic isocyanates

SOURCE: AN SSSR. Izvestiya. Seriya khimicheskaya, no. 5, 1966, 855-861

TOPIC TAGS: organic isocyanate compound, organosilicon compound, urea compound, chemical reaction

ABSTRACT: Reactions of organic isocyanates with various organosilazanes containing a hydrogen or a radical at the nitrogen atom were studied. The reaction of phenyl isocyanate and N-methylhexamethyldisilazane or phenyl isocyanate and N-diethyltrimethylsilylamine at 30-35° and atmospheric pressure involves rupture of the ≡Si-N= bond and the addition of the silyl group $(CH_3)_3Si$ to the nitrogen of the isocyanate group, with formation of the corresponding urea derivatives. The following mechanism is proposed for the reactions between alkylsilazanes and phenyl isocyanate:



Card 1/2 UDC: 661.518.5

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"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001342220017-9

L 41315-66 EWT(m)/EWP(j) RM

ACC NR: AP6024019 SOURCE CODE: UR/0062/66/000/006/1009/1016

AUTHOR: Golubtsov, S. A.; Korobov, V. V. (Deceased); Popkov, K. K.; Trofimova, I. V.; Turetskaya, R. A.; Andrianov, K. A.; Belikova, Z. V.; Golosova, R. M.; Cygenblik, A. A. Aristova, V. G.

ORG: none

59
B

TITLE: Reactions of formation of alkyl(aryl)chlorosilanes in a direct interaction between alkyl (aryl) chlorides and silicon. Report No. 6. Role of cuprous chloride in the formation of dialkyldichlorosilanes

SOURCE: AN SSSR. Izv. Ser khim, no. 6, 1966, 1009-1016

TOPIC TAGS: silane, chloride, silicon compound, copper compound, CHEMICAL REACTION

ABSTRACT: A mechanism is proposed for the formation of dimethyl(diethyl)dichlorosilane and methyl(ethyl)trichlorosilane during the reaction of methyl (ethyl) chloride with silicon on cuprous chloride. The proposed mechanism for the formation of dialkyldichlorosilanes is as follows:

Card 1/2 UDC: 546.287+542.91+541.124+543.422

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L 41313-66

ACC NR: AP6024019

$$RCl + Cu \rightarrow RCl \cdot Cu$$

$$2RCl \cdot Cu \rightarrow 2CuCl + 2R$$

$$Si + 2CuCl \rightarrow SiCl_2 + 2Cu$$

$$SiCl_2 + RCl \cdot Cu \rightarrow RSiCl_2 + CuCl$$

$$RSiCl_3 + RCl \cdot Cu \rightarrow R_2SiCl_3 + CuCl$$

$$Si + 2RCl \xrightarrow{Cu} R_2SiCl_2$$

The formation of alkyltrichlorosilane is represented as follows:

$$Si + 2CuCl \rightarrow SiCl_2 + 2Cu$$

$$SiCl_2 + RCl \cdot Cu \rightarrow RSiCl_3 + Cu$$

Experimental data obtained confirmed these mechanisms. Thermodynamic calculations of the initial stages of the reactions of methyl and ethyl chloride with silicon were performed. The formation of dichlorosilene is thermodynamically quite probable under the conditions of synthesis of alkylchlorosilanes. UV spectra of the products formed by the reaction of cuprous chloride with silicon showed a group of bands characteristic of the spectrum of $SiCl_2$. Orig. art. has: 2 figures and 5 tables.

SUB CODE: 07/ SUBM DATE: 12Feb64/ ORIG REF: 008/ OTH REF: 012

Card 2/2

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001342220017-9"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001342220017-9

L 63105-65 EWT(m)/EPF(c)/EPF(n)-2/EWG(m) WW/DM

ACCESSION NR: AP5014544 UR/0089/65/018/005/0522/0525
539.122:539.121.73

AUTHOR: Kozlovskiy, S. A.; Kyz'yurov, V. S.; Popkov, K. K.; Lebedev, D. N.

TITLE: Influence of boron-containing block structures on the yield of capture γ radiation

SOURCE: Atomnaya energiya, v. 18, no. 5, 1965, 522-525

TOPIC TAGS: reactor shielding, boron shielding, capture Gamma radiation, neutron distribution, thermal neutron, epithermal neutron

ABSTRACT: The authors investigated the effect of various boron-containing block structures on the amount of capture γ radiation that leaves the primary shield of a water-water reactor. The reactor shell, the heat screens, and the layers of water between the screens were imitated respectively by sheets of steel (St3) and Plexiglas measuring 800 x 800 mm. Block assemblies made of boron carbide and borated lead were tested. The geometry of the experiment is shown in Fig. 1 of the Enclosure. The emitter was a Po-Be source of 10^8 neut/sec. The spatial distribution of the neutrons in the shield with and without the block layers are plotted for both thermal and epithermal neutrons. The results are compared with calculations. The yields of the capture γ radiation were estimated from the areas under

Card 1/3

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the curves. Certain discrepancies with the results of others are attributed to differences in the geometry. "The authors thank L. D. Broder for valuable advice, and V. N. Dorofeykov, V. G. Komov, L. G. Kocherova, V. A. Lazukov, and Yu. K. Spivak for help with the work." Orig. art. has: 6 figures.

ASSOCIATION: none

SUBMITTED: 22May64 ENCL: 01 SUB CODE: NP

NR REF SOV: 003 OTHER: 000

Card 2/3

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"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001342220017-9

L 63105-65
ACCESSION NR: AP5014544

ENCLOSURE: 01

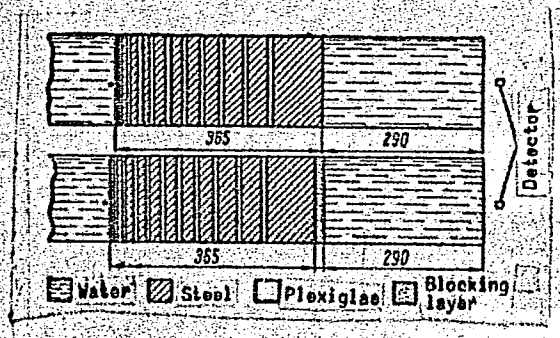

Fig. 1. Geometry of the experiment

Card3/3

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"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001342220017-9

L 19586-63 EPF(c)/EWT(1)/EPF(n)-2/EWT(m)/BDS AFFTC/ASD/AFWL/SSD
Pr-4/Pu-4

ACCESSION NR: AP3006490 S/0170/63/006/009/0047/0051

AUTHOR: Bokacheva, L. P.; Kiselev-Fedorov, V. P.; Popkov, K. K.; Rubanov, S. M.

TITLE: Problem of calculating heat release by gamma components

SOURCE: Inzhenerno-fizicheskiy zhurnal, v. 6, no. 9, 1963, 47-51

TOPIC TAGS: nuclear reactor, Gamma radiation, thermal shielding, heat release, scattered Gamma radiation, capture Gamma radiation, radiative capture, water water reactor, reactor vessel, buildup factor

ABSTRACT: A simplified method is proposed for calculating the heat generated by capture γ-radiation in the thermal shielding and reactor-vessel material of a water-water reactor. The method is based on hypothetical substitution of the water layers located between the shieldings by equivalent layers of steel; the calculations are then carried out using the buildup factor for scattered γ-radiation for homogeneous iron shielding. Tests showed that for

Card 1/2

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L 19586-63

ACCESSION NR: AP3006490

iron 1 cm thick, the error does not exceed 1%. Graphs of the heat flux generated by capture γ-radiation in iron and water are presented. Orig. art. has: 3 figures and 5 formulas.

ASSOCIATION: none

SUBMITTED: 04Jan63 DATE ACQ: 30Sep63 ENCL: 00

SUB CODE: NS NO REF SOV: 006 OTHER: 001

Card 2/2

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001342220017-9"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001342220017-9

ZHINKIN, D.Ya.; MORGUNOVA, M.M.; POPKOV, K.K.

Reaction of silazanes with organic isocyanates. Dokl. AN SSSR 158 no 3: 641-644 S '64. (MIRA 17:10)

1. Chlen-korrespondent AN SSSR (for Andrianov).

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001342220017-9"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001342220017-9

ACCESSION NR: AT4019057 S/0000/63/000/000/0234/0242

AUTHOR: Broder, D. L.; Kondrashov, A. P.; Naumov, V. A.; Popkov, K. K.; Turusova, A. V.

TITLE: Heat release in the shield and body of a reactor

SOURCE: Voprosy* fiziki zashchity* reaktorov; sbornik statey (Problems in physics of reactor shielding; collection of articles). Moscow, Gosatomizdat, 1963, 234-242

TOPIC TAGS: nuclear reactor, reactor shielding, heat release, heat emission, reactor heat dissipation

ABSTRACT: A considerable amount of energy is liberated in the active zone of a reactor due to the long-range neutron and γ radiation. This excess of energy is particularly important in the construction of water shielded reactors. Consequently, the following processes must be considered in the calculation of heat release: (1) γ radiation in the active zone of the reactor; (2) γ radiation arising from the capture of neutrons; and (3) α-particles from the $B^{10}(n\alpha)Li^7$ reaction. The γ radiation thus comes from five processes: (a) Flux of γ rays from the active zone:

$$\varphi_\gamma^a = \frac{\overline{q_\gamma^a}}{2\mu_{a.z}} \sum_{j=1} A_j^{Fe} \left\{ E_2 \left[(1+\alpha_j^{Fe}) \sum_i \mu_i x_i \right] - E_2 \left[(1+\alpha_j^{Fe}) \left(\sum_i \mu_i x_i + 1 \right) \right] \right\}, \quad (1)$$

Card 1/5

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ACCESSION NR: AT4019057

(b) Flux of γ radiation from neutron capture in the shield and body of the reactor;

$$\varphi^b_{\gamma h} = \frac{q^b_{\gamma h}}{2\mu^{Fe}} \sum_{j=1}^{2} \frac{A_j^{Fe}}{1+\alpha_j^{Fe}} \left\{ E_2 \left[(1+\alpha_j^{Fe}) \sum_i \mu_i x_i \right] - E_2 \left[(1+\alpha_j^{Fe}) \left(\sum_i \mu_i x_i + \mu_S d \right) \right] \right\}, \quad (2)$$

$$\varphi^b_{\gamma h} = \varphi^b_{\gamma h}(1) + \varphi^b_{\gamma h}(2) \quad (3a)$$

$$\varphi^b_{\gamma h}(1) = \frac{q^b_{\gamma h}(1)}{2\Sigma_1} \sum_{j=1}^{3} A_j^{Fe} \left\{ e^{-\Sigma_1 \left(d + \frac{\sum_i \mu_i x_i}{\mu_S} \right)} E_1 \left\langle \left[(1+\alpha_j^{Fe}) - \frac{\Sigma_1}{\mu_S} \right] \sum_i \mu_i x_i \right\rangle - e^{-\Sigma_1 d} E_1 \left[(1+\alpha_j^{Fe}) \sum_i \mu_i x_i \right] - e^{-\Sigma_1 \left(d + \frac{\sum_i \mu_i x_i}{\mu_S} \right)} E_1 \left\langle \left[(1+\alpha_j^{Fe}) - \frac{\Sigma_1}{\mu_S} \right] \times \left(\mu_S d + \sum_i \mu_i x_i \right) \right\rangle + E_1 \left[(1+\alpha_j^{Fe}) \mu_S d + \sum_i \mu_i x_i \right] \right\};$$

Card 2/5

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ACCESSION NR: AT4019057

$$\varphi^{b}_{\gamma h}(2) = -\frac{q^{b}_{\gamma h}(2)}{2\Sigma_2}\sum_{j=1}^{2} A_j^{Fe}\Big\{e^{\Sigma_2\left(d+\frac{\sum_i \mu_i x_i}{\mu_S}\right)}E_1\Big\langle\Big[(1+\alpha_j^{Fe})+\frac{\Sigma_2}{\mu_S}\Big]\sum_i \mu_i x_i\Big\rangle -$$

$$-e^{\Sigma_2 d}E_2\Big[(1+\alpha_j^{Fe})\sum_i \mu_i x_i\Big] - e^{\Sigma_2\left(d+\frac{\sum_i \mu_i x_i}{\mu_S}\right)}E_1\Big\langle\Big[(1+\alpha_j^{Fe})+\frac{\Sigma_2}{\mu_S}\Big]\times \tag{3b}$$

$$\times\Big(\mu_S d+\sum_i \mu_i x_i\Big)\Big\rangle + E_1\Big[(1+\alpha_j^{Fe})\Big(\mu_S d+\sum_i \mu_i x_i\Big)\Big]\Big\},$$

(c) Flux of γ rays from the radiative capture of neutrons

$$\varphi^{c}_{\gamma} = \frac{q^{c}_{\gamma}}{2\mu_S}\sum_{j=1}^{2}\frac{A_j}{1+\alpha_j}\{2 - E_2[(1+\alpha_j)\mu_S x] - E_2[(1+\alpha_j)\mu_S(d-x)]\}, \tag{4}$$

$$q^{c}_{\gamma}(x) = q^{c}_{\gamma}(1)\,e^{-\Sigma x}; \tag{5}$$

(d) Flux of γ rays due to neutron capture in the water in the space between the shielding;

$$\varphi^{d}_{\gamma h} = \frac{q^{E}_{\gamma} d}{2}\sum_{j=1}^{2} A_j^{Fe} E_1\Big[(1+\alpha_j^{Fe})\sum_i \mu_i x_i\Big]. \tag{6}$$

Card 3/5

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001342220017-9"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001342220017-9

ACCESSION NR: AT4019057

(e) Flux of captured γ radiation in the water in the reactor

$$\varphi_{\gamma}^{c} = -\frac{q_0}{2\Sigma}\sum_{j=1}^{2} A_j^{Fe}\Big\{e^{-\Sigma d}E_1\Big[(1+\alpha_j^{Fe})\sum_i \mu_i x_i\Big] - e^{-\left[\frac{(1+\alpha_j^{Fe})\sum_i \mu_i x_i}{\mu_S}+d\right]\Sigma}E_1\Big[(1+\alpha_j^{Fe})\sum_i \mu_i x_i\Big(1-\frac{\Sigma}{\mu_S}\Big)\Big] - E_1\Big[(1+\alpha_j^{Fe})\sum_i \mu_i x_i + \mu_S d\Big] + e^{-\left[\frac{(1+\alpha_j^{Fe})\sum_i \mu_i x_i}{\mu_S}+d\right]\Sigma}E_1\Big\langle\Big[(1+\alpha_j^{Fe})\sum_i \mu_i x_i + \mu_S d\Big]\Big(1-\frac{\Sigma}{\mu_S}\Big)\Big\rangle\Big\}. \quad (7)$$

Card 4/5

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001342220017-9"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001342220017-9

ACCESSION NR: AT4019057

The contribution of α radiation is given by:

$$Q_\alpha(r) = kE_\alpha \sum_{j=1}^{7} nv_j(r)\,\Sigma_j^\alpha, \tag{8}$$

The experimental determination of the heat release in a reactor was performed by the ionization method, which was found to be more sensitive than the calorimetric method in the case of a zero-power reactor. The energy loss in the solid medium (heat release) is related to the energy loss in the gaseous medium by

$$\frac{(-dE/dx)_{\text{TD}}}{(-dE/dx)_{\text{gas}}} = \frac{q}{jV\bar{W}}, \tag{9}$$

(L. H. Gray, Proc. Roy. Soc. A156, 578 (1936).) The theoretical and experimental results showed satisfactory agreement. Orig. art. has: 3 figures and 17 formulas.

ASSOCIATION: none

SUBMITTED: 14Aug63 DATE ACQ: 27Feb64 ENCL: 00

SUB CODE: NP NO REF SOV: 002 OTHER: 004

Card 5/5

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001342220017-9"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001342220017-9

S/170/61/004/012/011/011
B104/B138

26.2240

AUTHORS: Broder, D. L., Popkov, K. K.

TITLE: Physical-engineering calculation of a biological shield against the radiation of nuclear reactors

PERIODICAL: Inzhenerno-fizicheskiy zhurnal, v. 4, no. 12, 1961, 118 - 130

TEXT: The problem under consideration requires the calculation of neutron distribution outside the shield. The integral

$$\varphi_M = \int_{V_s} \frac{q_V^E(\mathbf{r}_s) f dV_s}{4\pi(\mathbf{r}_m - \mathbf{r}_s)^2}, \qquad (1)$$

has to be calculated in this connection. $q_V^E(\vec{r}_s)$ is the distribution function of the power density of the source, and $f = f(\delta_s, \delta_t, E)$ is the radiation flux attenuation of energy E in the source and in the shield. The calculation of $q_V^E(r_s)$ is one of the principal stages. Primary radiation (instantaneous neutron fission, instantaneous gamma radiation, gamma

Card 1/2

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"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001342220017-9

and neutron absorption) and secondary radiation (capture gamma rays; gamma radiation generated by neutron-activation of the material; neutrons generated by the (γ,n) reaction) should be allowed for when calculating the shield. In the present review, the voluminous international literature is taken as a basis for a thorough examination of the spatial and energy distributions of primary radiation, the power and distribution of sources of secondary radiation, the flux distribution of fast neutrons, the spatial energy distribution of neutrons, and the attenuation of gamma radiation in the shield. There are 1 figure, 4 tables, and 51 references: 25 Soviet and 26 non-Soviet. The four most recent references to English-language publications read as follows: Katcoff S. Nucleonics, 18, 11, 201, 1960; John F. Stehn. Nucleonics, 18, 11, 186, 1960; Troubetzkoy E. and Goldstein H. Nucleonics, 18, 11, 171, 1960; Clark M. D., Nuclear Engineering, 6, 56, jan, 1961.

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001342220017-9"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001342220017-9

POPKOV, K.K.; RUBANOV, S.M.

Dependence of the density of radiation disturbances of the reactor vessel on the make-up of the iron-water thermal shielding. Atom. energ. 18 no.1:70-71 Ja '65. (MIRA 18:2)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001342220017-9"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001342220017-9

L 45801-65 EWT(m)/EPF(c)/EPF(n)-2/EWG(m)/EPR/T/EPA(bb)-2 Pr-4/Ps-4/Pu-4

ACCESSION NR AM4042770 BOOK EXPLOITATION 35 B+1 8/

Broder, Dmitriy Leonidovich (Doctor of Physical and Mathematical Sciences); Popkov, Konstantin Konstantinovich; Rubanov, Stanislav Mikhaylovich

Biological shielding of marine nuclear reactors (Biologicheskaya zashchita sudovykh reaktorov), Leningrad, Izd-vo "Sudostroyeniye", 1964, 410 p. illus., biblio. 1,000 copies printed.

TOPIC TAGS: nuclear engineering, marine nuclear reactor, reactor shielding, radiation biological effect

PURPOSE AND COVERAGE: This book presents the physical principles and design principles of nuclear power installation shielding. The book is intended for engineers concerned with the calculation and design of shielding. It can be useful for students of higher educational institutions.

TABLE OF CONTENTS [abridged]:

Foreword -- 3
Ch. I. Some information from the physics of the interaction of radiation with a substance -- 5

Card 1/2

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001342220017-9"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001342220017-9

L 45801-65
ACCESSION NR AM4042770

Ch. II. Effect of radiation on the human organism and principles of dosimetry -- 39
Ch. III. Radiation effects on materials. Characteristics of materials used for protective purposes -- 51
Ch. IIII. Sources of penetration of nuclear power installation radiation -- 72
Ch. V. Effect of the geometric shape of the source on the spatial distribution of radiation currents -- 108
Ch. VI. Passage of fast neutrons -- 153
Ch. VII. Spatial-energy distribution of neutrons in the shielding -- 195
Ch. VIII. Calculations of the weakening of gamma radiation -- 243
Ch. IX.
Ch. X. Passage of radiation through slits in the shielding -- 277
Ch. XI. Special problems of activation -- 292
Ch. XII. Assuring radiation safety on nuclear vessels -- 306
Ch. XIII. Principles of design and execution of shielding of marine reactor installations -- 321
Appendix -- 330
Bibliography -- 396

SUBMITTED: 28Dec63
NO REF SOV: 142
Card 2/2

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"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001342220017-9

BRODER, D.L.; POPKOV, K.K.

Engineering and physical calculation of biological protection from radiation by nuclear reactors. Inz.-fiz. zhur. 4 no.12: 118-130 D '61. (MIRA 14:11)

(Radiation protection)
(Nuclear reactors)

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"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001342220017-9

YEFREMOVA, L.A.; POPKOV, K.K.

Spectral analysis of mixtures of chlorosilanes and the determination of phenyl radicals in polymethylphenylsiloxanes. Zav. lab. 29 no.6:708-709 '63. (MIRA 16:6)

(Silane—Spectra) (Phenyl group)
(Siloxanes—Spectra)

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"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001342220017-9

15.8170

25599
S/191/61/000/008/005/006
B110/B201

AUTHORS: Shashkova, Z. S., Grinevich, K. P., Popkov, K. K.

TITLE: Synthesis of methyl chlorobromosilanes

PERIODICAL: Plasticheskiye massy, no. 8, 1961, 20 - 21

TEXT: Mixed alkyl chlorobromosilanes have been heretofore little studied. The literature offers descriptions of methods of synthesizing ethyl dichloro bromo silane and ethyl chloro dibromo silane by the bromination of ethyl trichloro silane in ethyl bromide over five days at normal temperature, as well as of the regrouping of ethyl trichloro silane and ethyl tribromo silane in the bomb tube over anhydrous $AlCl_3$. Methyl dichloro bromo silane and methyl chloro dibromo silane were obtained by Makato Kunado (Ref 2: J. Inst. Polytech. Osaca City Unive. Ser. C, 2, 131 (1952); C. A., 48, 11303 (1954)) by regrouping methyl trichloro silane with methyl tribromo silane in the bomb tube over anhydrous $AlCl_3$ during 74 - 120 hr at 190 - 200°C. The authors synthesized methyl dichloro bromo silane, methyl chloro dibromo silane, and methyl tribromo silane by bromination of methyl

Card 1/7

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001342220017-9"

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dichloro silane on an Fe catalyst at 0° - 30°C. In case of equimolecular amounts of methyl dichloro silane and bromine, the latter did not participate in the reaction, not even during ⩾ 30 hr. The bromine excess in the reaction medium forms due to the removal of methyl dichloro silane in the escaping hydrogen bromide current. Methyl dichloro silane is collected in the collecting vessel cooled by dry-ice and acetone, while HBr is collected in a distilled water bottle. The bromination of methyl dichloro silane on an Fe catalyst with methyl dichloro silane excess is completed within 5 - 6 hr according to the following scheme

$$CH_3SiHCl_2 + Br_2 \rightarrow CH_3SiBrCl_2 + HBr$$
$$2CH_3SiBrCl_2 \rightarrow CH_3SiBr_2Cl + CH_3SiCl_3$$
$$2CH_3SiBr_2Cl \rightarrow CH_3SiBrCl_2 + CH_3SiBr_3$$

the bromine being fully used up. If the reaction products are separated on a rectifying column, methyl dichloro bromo silane, methyl chloro dibromo silane, and methyl tribromo silane will be separated in addition to methyl

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Synthesis of methyl chlorobromosilanes

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dichloro silane and methyl trichloro silane (Table 1). Raman spectra were taken by an ИСП-51 (ISP-51) spectroscope for the abovementioned compounds. Frequencies were found in the spectra, the intensity of which is visually estimated by the "deci-point" scale:

$CH_3SiBrCl_2$ — 145(8), 202(7), 218(8), 355(1), 389(10), 422(0), 474(0), 522(7), 569(4), 755(6), 799(2), 1261(2), 1405(4), 2212(0), 2914(9), 2986(7) $см^{-1}$. (B)

CH_3SiBr_2Cl — 119(5), 139(5), 192(7), 209(4), 355(10), 391(1), 465(1), 547(4), 753(5), 797(2), 1262(2), 1402(4), 2914(8), 2985(6) $см^{-1}$.

CH_3SiBr_3 — 112(4), 136(2), 164(5), 191(6), 298(1), 325(9), 356(6), 465(4), 536(0), 746(6), 796(1), 1261(2), 1399(3), 2914(8), 2985(6) $см^{-1}$.

The data obtained were compared with those of the methyl trichloro silane spectrum, in which the frequency of the $SiCl_3$ group amounts to

Card 3/7

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001342220017-9"

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450 cm^{-1}. The frequency of the $SiBr_n$, Cl_{3-n} (n = 1,2,3) group is believed to be within 300 and 400 cm^{-1}. In fact, an intense band is found in this region in all chloro bromo silane spectra: CH_3SiBr_3: 325 cm^{-1}; CH_3SiBr_2Cl: 355 cm^{-1}; $CH_3SiBrCl_2$: 389 cm^{-1}. In addition, more lines were found in the spectra of the compounds concerned than in the corresponding chlorosilanes, which is indicative of a diminution of the molecular symmetry and the possible presence of admixtures. The absence of an intense characteristic frequency in the region of 300 - 400 cm^{-1} is evidence of the absence of a C-Br bond. The compound containing this bond may be present in a small amount (presence of 536 and 569 cm^{-1} frequencies). A diminution of the intense band frequency from 389 cm^{-1} to 325 cm^{-1} with a rise of the number of bromine and silicon atoms is observed in the spectra, which fact is explained by a mass increase when substituting a bromine atom for the chlorine atom in chloro silane. The Raman spectrum of the fraction boiling at 64 - 70°C was taken to support the suggested reaction scheme. The most

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Synthesis of methyl chlorobromosilanes

intense line is the line with 450 cm^{-1} frequency, which is characteristic of methyl trichloro silane. 173 g (1.5 mol) of methyl dichloro silane and 2 g of Fe powder were filled into a flask equipped with return-flow cooler, dropping funnel, and ground-in thermometer. Flask and return-flow cooler were cooled by salt water. After the flask contents were cooled down to 15°C, bromine was slowly added by drops. 160 g of bromine (1 mol) were added at such a velocity as to keep the temperature of the mass at 15 - 20°C. The resulting hydrogen bromide passes through two collecting vessels joined in series and cooled by dry-ice in acetone, and an absorption vessel with distilled water. The time of reaction was 5 hr. The reaction products (220 g) were separated into the following fractions in the column (a = fraction; b = residue and losses).

I фракция	37—65°	17,5 г
II »	65—68°	5,7 г
III »	68—86°	9,5 г
IV »	86—88°	84,0 г
V »	88—105°	5,0 г
VI »	105—110°	70,3 г
VII »	110—129°	0,9 г
VIII »	129—131°	17,1 г
Кубовый остаток и потери		9,8 г

(a) (b) (c)

Card 5/7

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001342220017-9"

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S/191/61/000/008/005/006
B110/B201

Synthesis of methyl chlorobromosilanes

The collecting bottle contains methyl dichloro silane with small amounts of methyl trichloro silane as admixtures. [Abstracter's note: Essentially complete translation.] There are 2 tables and 4 non-Soviet-bloc references. The references to English-language publications read as follows: Ref 1: Makato Kunado, J. Chem. Soc. Japan, Ind. Chem. Sect., 55, 375 (1952). Ref 3: Makato Kunado, J. Chem. Soc. Japan, Ind. Chem. Sect., 55, 750 (1952). Ref 4: A. Lee Smith, J. Chem. Phys., 21, no. 11, 1997 (1953).

(1) Взято в реакцию, г			(2) Температура бромирования °C	I фракция (4)		II фракция (4)		III фракция (4)	
CH_3SiHCl_2	Br_2	(2) железный порошок		т. кип. °C (5)	количество г (6)	т. кип. °C (5)	количество г (6)	т. кип. °C (5)	количество г (6)
74	80	2	0	88	16	109	32	131,5	14
173	160	2	5±2	86—88	79	107	58,1	129—131	17
173	160	2	15—20	86—88	84	105—110	70,3	129—131	17,1

Card 6/7

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001342220017-9"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001342220017-9

25599

S/191/61/000/008/005/006
B110/B201

Synthesis of methyl chlorobromosilanes

Table 1: Conditions of bromination of methyl dichloro silane and results of fractionation of products obtained. 1) entered into reaction, g; 2) Fe powder; 3) bromination temperature, °C; 4) fraction; 5) boiling point; 6) amount, g.

X

Card 7/7

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"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001342220017-9

L 12634-63 EWP(j)/EPF(c)/EWT(m)/BDS ASD Pc-4/Pr-4 RM/WW/JFW

ACCESSION NR: AP3001527 S/0032/63/029/006/0708/0709

66
65

AUTHOR: Yefremova, L. A.; Popkov, K. K.

TITLE: Spectral analysis of chlorsilanes and the determination of phenyl radicals in polymethylphenylsiloxanes

SOURCE: Zavodskaya laboratoriya, v. 29, no. 6, 1963, 708-709

TOPIC TAGS: chlorsilane, siloxane, silicone, phenyl radical, polysiloxane, absorption coefficient, polymethylphenylsiloxane, spectrophotometry, spectral analysis, siloxanepolymers

ABSTRACT: In developing their method of spectrophotometric determination of phenyl radicals in polysiloxanes the authors considered the effect of their structure on the absorption coefficients of the phenyl radicals in the ultraviolet range. To this end, absorption curves of known individual silicones in chloroform solutions of various concentrations were taken in the 240-275 millimicron range. In cyclic polymers the absorption coefficients at 264 and 270 millimicrons were somewhat higher as compared with the linear ones. It was found that the ultraviolet absorption spectra of siloxane polymers containing phenyl groups were close to those of benzene, but are somewhat shifted towards a longer wave length.

Card 1/2

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"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001342220017-9

L 12634-63

ACCESSION NR: AP3001527

Benzene and compounds containing phenyl groups show absorption at about 250 millimicrons, while compounds with single bond aliphatic and other radicals are transparent in this region. Thus, in the opinion of the authors, the absorptive capacity of polymethylsiloxanes is due to the presence of phenyl groups, and one may estimate the number of phenyl groups from the absorption intensity in this region. The determinations were conducted using a potassium nitrite filter, and the duration of exposure of the film approximated from 30-60 minutes. Presented at the July 5-12, 1961, conference on spectroscopy in Gor'kiy. Orig. art. has: 1 table.

ASSOCIATION: none

SUBMITTED: 00 DATE ACQ: 17Jun63 ENCL: 00

SUB CODE: 00 NO REF SOV: 001 OTHER: 002

mcs/ss

Card 2/2

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001342220017-9"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001342220017-9

BRODER, D.L.; POPKOV, K.K.

Methods for calculating radiation heat release in the vessel and shields of a nuclear reactor. Atom. energ. 15 no.5:370-377 N '63. (MIRA 16:12)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001342220017-9"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001342220017-9

BOKACHEVA, L.P.; POPKOV, K.K.; TABOLINA, L.N.

Calculating the spatial distribution of dosed fluxes of captured gamma radiation. Inzh.-fiz. zhur. 6 no.11:85-89 N '63. (MIRA 16:11)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001342220017-9"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001342220017-9

POPKOV, K.K.; TABOLINA, L.N.; TSVETKOVA, S.A.

Dependence of heat release on the composition of iron - water thermal shielding. Atom. energ. 15 no.6:516-517 D '63. (MIRA 17:1)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001342220017-9"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001342220017-9

05

ACCESSION NR: AP4006633 S/0089/63/015/006/0516/0517

AUTHORS: Popkov, K. K.; Tabolina, L. N.; Tavetkova, S. A.

TITLE: Dependence of heat release on the iron-water composition of a thermal shielding

SOURCE: Atomnaya energiya, v. 15, no. 6, 1963, 516-517

TOPIC TAGS: thermal shielding, nuclear reactor, reactor, shielding, iron water shielding, reactor shielding, radiative capture

ABSTRACT: A design diagram consisting of a thermal shielding, the vessel of a water-moderated water cooled reactor and primary shielding water were examined with a view to determining the relationship between the heat-release in a reactor vessel and the iron-water composition of the thermal shielding. An electronic computer was used to calculate the space-energy distribution of the neutron fluxes, according to a seven-group scheme proposed by (D. L. Broder, etc., Atomnaya Energiya, 12, 129 (1962)), in order to determine the distribution function of the neutron capture density. The calculated

Card 1/2

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ACCESSION NR: AP4006633

distribution magnitudes of the specific heat release from an iron plate are represented in the enclosure, Fig. 2, and the various components of the heat release, as determined by the iron concentration as shown in the enclosure, Fig. 3. When the iron concentration in the thermal shielding is low, the heat release is occasioned primarily by the gamma-radia ion from the reactor core. The heat release components, determined by the absorption of capture gamma-radiation, decrease with the increasing iron content in the thermal shielding to 65-70%, and then increase again. This is due to the changing absorptive properties of the iron-water shielding in relation to neutrons. The minimum heat release corresponds to 70% volume concentration of iron in the thermal shielding.

"The authors are grateful to D. L. Broder for his interest in this project, and to I. A. Kulikova and Ye. A. Pavlova for programming the multigroup calculations."

Orig. art. has: 3 Figures and 1 Formula.

ASSOCIATION: None

SUBMITTED: 21Mar63 DATE ACQ: 07Jan64 ENCL: 03

SUB CODE: NS NR REF SOV: 002 OTHER: 001

Card 2/2

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"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001342220017-9

ACCESSION NR: AP4012188 S/0191/64/000/002/0028/0029

AUTHOR: Popkov, K. K.

TITLE: Intermolecular reaction of hydrogen chloride with siloxanes

SOURCE: Plasticheskiye massy*, no. 2, 1964, 28-29

TOPIC TAGS: hydrogen chloride, siloxane, catalytic polymerization, cyclic polyorgano siloxane, stannic chloride, vibrational spectrum, intermolecular reaction, stretching vibration

ABSTRACT: In studying catalytic polymerization of cyclic polyorgano siloxanes under the influence of catalysts such as stannic chloride, the formation of an intermediate complex between the molecules of the catalyst and polyorgano siloxanes is assumed. If this assumption is correct, there should be a change in the vibrational spectrum of the original compound under conditions when the intermolecular compound is developing but there is still no reaction. Hydrogen chloride also exhibits a catalytic effect on the polymerization reaction. However, attempts to derive stable complexes in reactions of disiloxanes with strong acids were unsuccessful. Therefore, it is inter-

Card 1/2

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"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001342220017-9

ACCESSION NR: AP4012188

esting to study the character of the intermolecular reaction of hydrogen chloride with the siloxane group with respect to the typical frequency change of the stretching vibration of hydrogen chloride in the area of 2000-3000 centimeters. It may be assumed that the intermolecular reaction of the siloxane group with hydrogen chloride occurs mainly between the silicon atom and the chlorine of hydrogen chloride. If the formation of intermolecular complexes create conditions favorable for various reactions, regrouping and polymerization reactions in particular, it is less likely that only the stable hydrogen bonds of siloxanes with hydrogen chloride would cause an active complex formation like a regrouping center. Apparently, a ternary complex is formed: siloxane-hydrogen chloride-water, in which water is the co-catalyst. Orig. art. has: 2 Figures, 2 Tables.

ASSOCIATION: None

SUBMITTED: 00 DATE ACQ: 26Feb64 ENCL: 00

SUB CODE: CH, MA NR REF SOV: 006 OTHER: 005

Card 2/2

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"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001342220017-9

BOKACHEVA, L.P.; KISELEV-FEDOROV, V.P.; POPKOV, K.K.; RUBANOV, S.M.

Calculation of the γ component of heat radiation. Inzh.-fiz. zhur. 6 no.9:47-51 S '63. (MIRA 16:8)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001342220017-9"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001342220017-9

POPELEVA, G.S.; ANDRIANOV, K.A.; GOLUBTSOV, S.A.; POPKOV, K.K.

Thermal addition of hydrochlorosilanes to alkenylchlorosilanes.
Izv. AN SSSR. Ser. khim. no.11:2041-2042 N '63. (MIRA 17:1)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001342220017-9"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001342220017-9

POPKOV, K.K., inzh.; RUBANOV, S.M., inzh.

Principles of the design of shielding of reactor cooling systems. Sudostroenie 26 no. 11:65-70 N '60. (MIRA 14:1)
(Nuclear reactors—Cooling)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001342220017-9"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001342220017-9

MIKHEYEV, Ye.P.; KLEBANSKIY, A.L.; MAL'NOVA, G.N.; POPKOV, K.K.

Catalytic dehydrocondensation of chlorosilanes with aromatic compounds. Plast.massy no.1:19-21 '61. (MIRA 14:2)
(Silane)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001342220017-9"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001342220017-9

POPKOV, K.K.; SHITFMAN, L.M.

Spectrochemical determination of metal traces in hydrogen peroxide solutions. Zhur. anal. khim. 16 no. 1:113-114 Ja-F '61. (MIRA 14:2)

(Hydrogen peroxide) (Metals—Analysis)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001342220017-9"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001342220017-9

POPKOV, K.K.; LEL'CHUK, S.L.; KUDRYAVTSEVA, A.S.

Spectroscopic determination of impurities in a silicon-copper alloy and in trichlorosilane. Plast.massy no.1:39-41 '60. (MIRA 13:6)

(Silicon-copper alloys--Spectra) (Silane--Spectra)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001342220017-9"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001342220017-9

S/191/61/000/001/005/015
B101/B205

AUTHORS: Mikheyev, Ye. P., Klebanskiy, A. L., Mal'nova, G. N., Popkov, K. K.

TITLE: Catalytic dehydrocondensation of silane chlorohydrides with aromatic compounds

PERIODICAL: Plasticheskiye massy, no. 1, 1961, 19 - 21

TEXT: A study has been made of the reaction $\rightarrow$ Si-H+H-Ar$\rightarrow$ H_2+ $\rightarrow$ Si-Ar, the temperature of which can be largely reduced by such catalysts as BCl_3, H_3BO_3, $AlCl_3$, etc. A paper by A. J. Barry et al. (Ref. 1) is dicussed, in which hydrogen is supposed to undergo electrophilic substitution at the aromatic ring, accompanied by the catalytic formation of the complex $[H:BCl_3]^-$. In addition, by-products with cyclohexadiene structure are formed. These statements have been checked here. Methyl dichlorosilane

Card 1/4

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was heated in an autoclave with C_6H_6, $C_6H_5.CH_3$, $C_6H_5.CH(CH_3)_2$, and C_6H_5Cl in the presence of 0.1% H_3BO_3, and with C_6H_5F in the presence of 0.3% H_3BO_3. The molar ratio of methyl dichlorosilane to the aromatic hydrocarbon was 1:3. Reaction temperature was 230-290°C. Heating was stopped as soon as the pressure in the autoclave had become constant. Under these conditions, which are described as being an optimum, the following dehydrocondensation products were obtained: 40% yield with C_6H_6; 41% with $C_6H_5.CH_3$; 24% with $C_6H_5.CH(CH_3)_2$; 18% with C_6H_5F; and 25% with C_6H_5Cl. The mixture of the reaction products was fractionated. The resulting mixture of isomers of the new compound methyl-cumyl dichlorosilane boils between 127.6 and 137.6°C at a pressure of 26-28 mm Hg; $d_4^{20} = 1.1020$; $n_D^{20} = 1.5134$. Analysis has shown that this fraction follows the formula $C_{10}H_{14}SiCl_2$. The ratio of o-, m-, and p-isomers in methyl-aryl dichlorosilanes was determined from Raman spectra:

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Catalytic dehydrocondensation of ....

Compound	Experimental ratio		
	o-isomer	m-isomer	p-isomer
$CH_3(CH_3C_6H_4)SiCl_2$	1	10	3
$CH_3(CH_3)_2CHC_6H_4\ SiCl_2$	1	12	3
$CH_3(FC_6H_4)SiCl_2$	1	4	2
$CH_3(ClC_6H_4)SiCl_2$	1	6	4

The amount of CH_4 formed by reaction with benzene and toluene was 3.6 and 3.4%, prespectively; with cumene, 10.5&; with fluorobenzene, 12.6%; with chlorobenzene, 6.5%. Equal amounts of dimethyl dichlorosilane were obtained by reaction with benzene and toluene. This is taken as an indication that CH_4 and $(CH_3)_2SiCl_2$, are formed, not by decomposition of the hypothetical adducts, but by disproportionation of CH_3SiHCl_2. The fact

Card 3/4

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"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001342220017-9

POPKOV, K.K.

K.K. Popkov, "The Spectral Determination Method of Alkylchlorsilanes."

Report presented at the Second All-Union Conference on the Chemistry and Practical Application of Silicon-Organic Compounds held in Leningrad from 25-27 September 1958.
Zhurnal prikladnoy khimii, 1959, Nr 1, pp 238-240 (USSR)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001342220017-9"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001342220017-9

KOMIN, A.V., inzh.; POPKOV, K.K., inzh.; SLEZIN, Yu.B., inzh.

Principles of designing reactor shields for personnel protection. Sudostroenie 25 no.2:65-70 F '59. (MIRA 12:4)
(Shielding (Radiation)
(Nuclear reactors)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001342220017-9"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001342220017-9

87489

S/191/60/000/001/008/015
B016/B054

5.5310 1273, 1282, 1153

AUTHORS: Popkov, K. K., Lel'chuk, S. L., Kudryavtseva, A. S.

TITLE: Spectroscopic Determination of Impurities in Silicon - Copper Alloy and in Trichlorosilane

PERIODICAL: Plasticheskiye massy, 1960, No. 1, pp. 39-41

TEXT: The authors report on their methods of quantitative spectroscopic determination of: I) impurities in silicon - copper alloys (Si-Cu), which sometimes themselves deactivate the Si-Cu catalyst in small amounts, and disturb the synthesis of organosilicon compounds; they are: Fe, Mg, Al, Bi, Sn, Ti, Ca, and Sb; II) impurities in trichlorosilane serving as an intermediate for the production of pure silicon for semiconductor purposes, namely: Fe, Al, Mg, Pb, and Cu. I) A powdery alloy with a Cu content of 10-20% was investigated. An analysis by the three-standard method (Ref. 1) was made. Powdery Cu- and Si oxides were impregnated with aqueous salt solutions, and dried at 80-85%. The background of the continuous spectrum served as internal standard. Insoluble Ti-, Sb-, and Ca salts were added

Card 1/4

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87489

Spectroscopic Determination of Impurities in Silicon - Copper Alloy and in Trichlorosilane

S/191/60/000/001/008/015
B016/B054

to the standards in a dry state diluted with Cu oxide. Cu oxide was used in an amount corresponding to 20% Cu in the standards. The second component of the standards was silicon of the semiconductor type with traces (about 0.005%) of Mg and Al. Table 1 shows the concentrations of impurities in the standards. The latter and the alloy samples were pulverized to a grain size of 0.05 mm. The samples were burnt in a preheated (to 800-900°C) graphite crucible (internal diameter 4 mm, depth 8mm) according to Giprotsvetmetobrabotka (State Design and Planning Scientific Research Institute for Working of Nonferrous Metals) in an electric arc (alternating current). Two spectra were taken during the combustion of one sample: 1) during 30 sec, and 2) during 40 sec. The lines of easily volatile impurities (Pb, Sb, Ca, Bi, St) were photometrically determined on a plate exposed in such a manner. Poorly volatile impurities (Fe, Ti, Mg, Al) were burnt in a smaller (3 × 4 mm) crucible under a layer of annealed coal for 40 sec. Table 2 shows the analytical lines and measurements of the background. On the basis of the measured values, the authors plotted a calibration diagram (Fig. 1). II) The determination of the mentioned impurities

Card 2/4

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87489

Spectroscopic Determination of Impurities in Silicon - Copper Alloy and in Trichlorosilane

S/191/60/000/001/008/015
B016/B054

in trichlorosilane is based on a combustion of its hydrolysis product (white crystalline powder) in the electric arc as under I). The authors used the method of calibration diagrams (Fig. 2) plotted on the basis of standard samples. Otherwise, the methods were similar to those of part I). Table 3 shows the concentration intervals, in which the impurities in the standards were determined. The weighed portion was fully burnt up. The amounts of impurities were determined on the basis of analytical lines given in Table 4. The relative error in the cases I) and II) did not exceed 10%. Legend to Fig. 2: I_{Ω} - I_{line}; I_{Ξ} - I_{backgr}. There are 2 figures, 4 tables, and 3 Soviet references.

Card 3/4

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"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001342220017-9

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B016/B054

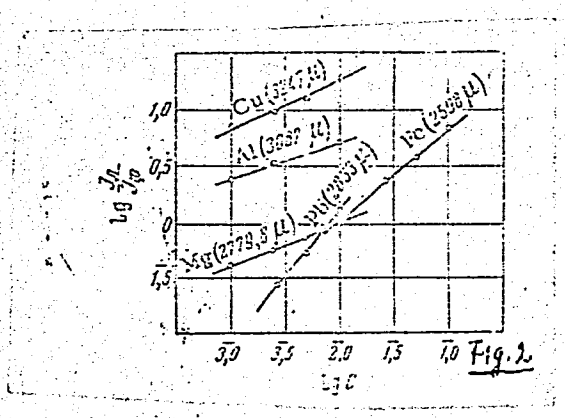

Fig. 2

Card 4/4

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"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001342220017-9

POPKOV, K.K.

Intermolecular reaction between hydrogen chloride and siloxanes. Plast. massy no.2:28-29 '64. (MIRA 17:8)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001342220017-9"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001342220017-9

L 16398-65 EWT(m)/EPF(c)/EPR/EWP(j) Pc-4/Pr-4/Ps-4 RPL WW/RM
ACCESSION NR: AP4046376 S/0020/64/158/003/0641/0644

AUTHOR: Zhinkin, D. Ya.; Morgunova, M. M.; Popkov, K. K.; Andrianov, K. A. (Corresponding member AN SSSR)

TITLE: Reaction of silazanes with organic isocyanates

B

SOURCE: AN SSSR. Doklady*, v. 158, no. 3, 1964, 641-644

TOPIC TAGS: silazane, isocyanate, urea derivative

ABSTRACT: A study has shown that in the reaction of phenyl isocyanate with an alkylsilazane, the ≻Si-N< bond breaks and the trialkylsilyl group migrates to the isocyanate nitrogen to form the urea derivative. For example, the reaction of phenyl isocyanate with hexamethyldisilazane proceeded as follows:

$$[(CH_3)_3Si]_2NH + OCNC_6H_5 \rightarrow (CH_3)_3SiN(H)CON(Si(CH_3)_3)C_6H_5$$

N-methyl(hexamethyldisilazane), diethyl(trimethylsilyl)amine, or

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L 16398-65

ACCESSION NR: AP4046376

N,N'-bis(trimethylsilyl)-N-methyl-N'-phenylurea behave similarly. It was also shown that phenyl isocyanate reacts with a trialkylsilyl-substituted urea which also contains a hydrogen substituent at one nitrogen atom, to form the trialkylsilyl isocyanate and silyl-substituted urea. This was exemplified by the reaction of 1 mol N, N' - bis(trimethylsilyl)-N-phenylurea with 2 mols phenyl isocyanate to form trimethylsilyl isocyanate and N, N'-diphenyl-N-(trimethylsilyl)urea. Trimethylsilyl isocyanate does not react with an alkylsilazane or a trimethylsilyl-substituted urea. The reaction products were identified by IR spectroscopy and hydrolysis. Orig. art. has: 3 figures and 5 formulas.

ASSOCIATION: none

SUBMITTED: 17Apr64 ENCL: 00 SUB CODE: GC, OC

NO REF SOV: 000 OTHER: 002

Card 2/2

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001342220017-9"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001342220017-9

BRODER, Dmitriy Leonidovich, doktor fiz.-mat. nauk; POPKOV, Konstantin Konstantinovich; RUBANOV, Stanislav Mikhaylovich; GLADKOV, G.A., kand. fiz.-mat. nauk, retsenzent; VESELKIN, A.P., kand. fiz.-mat. nauk, retsenzent; YEGOROV, Yu.A., kand. fiz.-mat.nauk, retsenzent; POLOGIKH, B.G., kand. fiz.-mat. nauk, re retsenzent; VLASOVA, Z.V., red.; CHISTYAKOVA, R.K., tekhn. red.

[Biological shielding for ship reactors] Biologicheskaia zashchita sudovykh reaktorov. Leningrad, Izd-vo "Sudostroenie," 1964. 410 p. (MIRA 17:4)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001342220017-9"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001342220017-9

L 26928-65 EWP(w)/EWT(m)/EPF(c)/EWG(m)/EPF(n)-2/EWP(t)/EPR/EWP(b)/EWA(h)
Pr-4/Ps-4/Peb/Pu-4 IJP(c) JD/WW/JG
ACCESSION NR: AP5004011 S/0089/65/018/001/0070/0071

4D
34
B

AUTHORS: Popkov, K. K.; Rubanov, S. M.

TITLE: Dependence of the density of radiation damage in a reactor shell on the composition of the iron-water thermal shield

79 37 79

SOURCE: Atomnaya energiya, v. 18, no. 1, 1965, 70-71

TOPIC TAGS: radiation damage, reactor shell, thermal shield, iron-water shield

124

ABSTRACT: The article deals with thermal shielding of reactors by iron-water mixtures of different compositions, from the point of view of the influence of the composition of the mixture on the neutron-induced radiation damage in the reactor shell. The shield consisted of 25 cm iron-water mixture, the composition of which was varied, 9 cm of iron to simulate the reactor shell, and 30 cm of water, corresponding to the primary shielding bath. The calculations were made

Card 1/3

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L 26928-65
ACCESSION NR: AP5004011

for iron-water mixtures with iron concentrations (by volumes) of 0, 10, 20, 40, 50, 60, 70, 80, 90 and 100%. The radiation source was considered to be the active zone of a water-water reactor. An electronic computer was used to determine the space-energy distributions of the neutron fluxes in a planar geometry, using the seven-group scheme proposed by L. D. Broder et al (Atomnaya energiya v. 12, 129, 1962). In addition, the values were calculated for the average group cross sections for the production of radiation damage (vacancies) in iron, using the energy dependence given for this cross section by A. Rossin (Nucl. Sci. and Engng. v. 9, 137, 1961). The results show that the optimum concentration of iron in the primary shield, from the point of view of minimum radiation damage, lies in the 55--60% range. "The authors thank D. L. Broder for interest in the work." Orig. art. has: 3 figures, 1 formula, and 1 table.

ASSOCIATION: None

Card 2/3

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001342220017-9"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001342220017-9

L 26928-65
ACCESSION NR: AP5004011

SUBMITTED: 15Jan64 ENCL: 00 SUB CODE: NP

NR REF SOV: 002 OTHER: 001

Card 3/3

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001342220017-9"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001342220017-9

GORYANINA, Ye.N.; POPKOV, K.K.; KUBANOV, [illegible]; [illegible], [illegible]

Decrease of trapping gamma-radiation and radiative heat release in a reactor vessel with the aid of some blocking and boration of the thermal shield. Atom. energ. 19 no.6:383 D '65. (MIRA 18:[illegible])

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001342220017-9"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001342220017-9

POPKOV, L.

Work mechanization in the mine stopes of "Tulaugol'" and "Donetskugol'" Combines. Biul. nauch. inform.: trud i zar. plata 4 no.12:16-22 '61. (MIRA 15:1)
(Tula Basin--Stoping (Mining)) (Donets Basin--Stoping (Mining))

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001342220017-9"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001342220017-9

POPKOV, L.

Over-all mechanization and labor organization in stopes. Sots. trud 6 no. 1:80-83 Ja '61. (MIRA 14:1)
(Stoping (Mining)--Equipment and supplies)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001342220017-9"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001342220017-9

ZYBIN, A.G.; POPKOV, L.P.

Protection of electric mine motors. Vop.bezop.v ugol'.shakh. 4:224-227 '64. (MIRA 18:1)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001342220017-9"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001342220017-9

PETROCHENKO, P.F., kand.ekon.nauk; VORONIN, Ye.P.; ROZHKOVA, V.V.; POPKOV, L.V.; PRIGORIN, A.A.; KAPLAN, I.I.; RYSS, V.M.; EKHIN, P.E.; KULAGIN, N.N.; VASIL'YEV, V.F.; LISOV, V.Ye., red.; PONOMAREVA, A.A., tekhn. red.

[Organization of work and establishing work norms in industrial enterprises] Organizatsiia i normirovanie truda na promyshlennykh predpriiatiiakh. Pod obshchei red. P.F.Petrochenko. Moskva, Izd-vo ekon.lit-ry, 1962. 285 p. (MIRA 15:4)

1. Moscow. Nauchno-issledovatel'skiy institut truda.
(Production standards)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001342220017-9"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001342220017-9

POPKOV, L.V.

Some problems in rapid development mining in the Moscow Basin. Nauch. trudy MGI no. 34:45-56 '60. (MIRA 14:4)
(Moscow Basin--Coal mines and mining)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001342220017-9"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001342220017-9

POPKOV, M., starshiy nauchnyy sotrudnik

Long is the road from a sample to the market. Mest.prom.i khud. promys. 3 no.2:34 F '62. (MIRA 15:2)

1. Nauchno-issledovatel'skiy institut igrushki, g. Zagorsk.
(Toy industry)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001342220017-9"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001342220017-9

MOSHKIN, I.; POPKOV, M., nauchnyy sotrudnik

Mechanization of the pressing of large-size toys. Prom. koop. 14 no.5:26 My '60. (MIRA 13:12)

1. Zaveduyushchiy laboratoriyey Nauchno-issledovatel'skogo insituta igrushki (for Moshkin). 2. Nauchno-issledovatel'skiy institut igrushki (for Popkov).
(Toy industry) (Hydraulic presses)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001342220017-9"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001342220017-9

POPKOV, M., polkovnik

Organizational work in straggling units. Kom. Vooruzh. Sil 4 no.3:25-30 F '64. (MIRA 17:3)

1. Nachal'nik politicheskogo otdela gvardeyskoy motostrelkovoy Tamanskoy Krasnoznamennoy, ordena Suvorova divizii imeni Kalinina.

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001342220017-9"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001342220017-9

DMITRIYEV, V.; POPKOV, M.

The products are the same but prices are different. Mest.prom.i khud.promys. 3 no.4:10-11 Ap '62. (MIRA 15:5)

1. Nauchno-issledovatel'skiy institut igrushki, g. Zagorsk.
(Toy industry--Prices)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001342220017-9"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001342220017-9

POPKOV, M.F., inzh.

Semiautomatic lathe for turning wooden parts. Der.prom. 9 no.4:24-25 Ap '60. (MIRA 13:9)

(Lathes)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001342220017-9"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001342220017-9

ABRAMOV, V.V., doktor tekhn. nauk; RESHNIN, N.Ya. inzh.; POPKOV, M.I., inzh.

Thermal residual stresses in plates. Trudy GPI 18 no.4:86-90 '63.
(MIRA 17:9)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001342220017-9"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001342220017-9

STARTSEV, V.I., inzh.; POPKOV, M.P., inzh.

Mine No.5-6 of the Kuzbassugol' Combine made 292 m of lateral drifting. Shakht. stroi. 9 no.10:22-24 O '65. (MIRA 18:9)

1. Kombinat Kuzbassugol'.

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001342220017-9"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001342220017-9

POPKOV, N., zaboyshchik

On the uprise. Sov.shakht. 10 no.10:19 O '61.
(MIRA 14:12)

1. Shakhta No.6-7 tresta Gorlovskugol', Donbass.
(Donets Basin--Coal mines and mining--Labor productivity)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001342220017-9"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001342220017-9

POPKOV, N.I.

Case of cystic lymphagloma of the epiploon. Khirurgiia, Moskva no. 1:78-79 Jan 1953. (CLML 24:2)

1. Of the Propedeutic Surgical Clinic, Kazan' Medical Institute.

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001342220017-9"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001342220017-9

POPKOV, N.I.

Role of vascular interceptors and other factors in the development of a hemoheterotransfusion shock. Nauch. trudy Kaz. gos. med. inst. 14:263-264 '64. (MIRA 18:9)

1. Kafedra obshchey khirurgii (zav. - prof. V.N.Shubin) i kafedra patologicheskoy fiziologii (zav. - prof. M.A.Yerzin) Kazanskogo meditsinskogo instituta.

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001342220017-9"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001342220017-9

POPKOV, N.I.

Professor Vladimir Nikolaevich Shubin; on his 60th birthday. (MIRA 12:10)
Kaz.med.zhur. 40 no.1:96-97 Ja-F '59.
(SHUBIN, VLADIMIR NIKOLAEVICH, 1898-)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001342220017-9"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001342220017-9

POPKOV, N.N. (Chita)

Physical therapy in cases of ureteral calculi. Vop. kur., fizioter. i lech. fiz. kul't. 27 no.5:438-441'S-O'62. (MIRA 16:9)

(CALCULI,-URINARY) (PHYSICAL THERAPY)

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POPKOV, N.N., podpolkovnik med. slushby

Result of work in medical supervision of physical training of officers with certain physical defects. Voen.med.zhur. no.3:67-70 Mr '57. (MIRA 11:3)

(ARMED FORCES PERSONNEL,
phys. train. of officers with phys. defects, med. supervision (Rus)
(PHYSICAL EDUCATION AND TRAINING,
train. of military officers with phys. defects, med. supervision (Rus)

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POPKOV, A.N.

Generations of gold in the hydrothermal deposits of the northern Tien Shan. Zap. Kir. otd. Vses. min. ob-va no.5:3-13 '65. (MIRA 18:7)

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POPKOV, N.N.

Hot water roller for heat massage. Vop.kur.fizioter. i lech.fiz. kul't. 23 no.1:80 '58. (MIRA 11:3)

1. Iz otdeleniya lechebnoy fizicheskoy kul'tury Chitinskogo okruzhnogo voyennogo gospitalya (nachal'nik M.S.Larin)
(THERMOTHERAPY--EQUIPMENT AND SUPPLIES)

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POPKOV, N.P., otv. za vypusk; VASIL'YEVA, N.N., tekhn. red.

[Instructions for the car inspector; superseding Instructions for the car inspector TSV/1773 of December 14, 1953] Instruktsiia osmotrshchiku vagonov; v otmenu Instruktsii osmotrshchiku vagonov. TsV/1773 ot 14 dekabria 1953 g. Moskva, Transzheldorizdat, 1963. 66 p. (MIRA 16:11)

1. Russia (1923- U.S.S.R.) Glavnoye upravleniye vagonnogo khozyaystva.
(Railroads--Cars--Maintenance and repair)

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POPKOV, N. Ye.

Magnetic and astronomical observations on the drift station "North Pole 3." Trudy NIZMIR no.16:82-99 '60. (MIRA 14:3)
(Artic regions—Magnetism, Terrestrial—Observations)
(Astronomy—Observations)

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