

S/689/61/000/000/009/030
D205/D303

Conditions for manufacturing pressed ...

tent of alloying elements may vary in D16 as follows: Cu - 3.8 to 4.9 %, Mg - 1.2 - 1.8 %, Mn - 0.5 - 0.9 %. The influence of changing composition was investigated by testing samples of the lower (I), average (II) and higher (III) additions of the alloying elements (I - 3.9, 1.2, 0.56; II - 4.5, 1.5, 0.57; III - 4.7, 1.8, 0.8 of Cu, Mg, Mn respectively). Three types of profiles were industrially produced from the alloys: one with walls 2 mm thick, the second with walls 15, 8 and 4.5 mm thick and the third, a large profile of 30 - 40 mm walls. They were produced by homogenizing the ingots at 400°C and deforming to the extent of 1.5 - 2 %. All profiles were tested for tensile strength at room and elevated temperatures. Conclusions: The pressed articles of D16 have a high strength at room temperature provided the non-recrystallized structure is present. This difference in the strength caused by structural differences is decreased or entirely removed by heating to temperatures above 150°C. The highest strength in the 20 - 300°C range was obtained at 4.2 - 4.9 % Cu, 1.5 - 1.8 % Mg and 0.6 - 0.9 % Mn. This increase in strength was accompanied by a decrease in the plasticity. Profiles of the A16TTP (D16TTP) brand are recommended for use at elevated temperatures, these profiles con-

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Conditions for manufacturing pressed ... S/689/61/000/000/010/000
D205/D303

taining the alloying elements in the above specified limits. The mechanical properties of artificially aged articles of D16 are almost independent of the pressing condition. The microstructures of recrystallized and non-recrystallized, naturally aged, pressed profiles differ considerably in grain size. After artificial ageing the structure becomes uniform with a very fine grain. There are 5 figures, 3 tables and 2 Soviet-bloc references.

4

Card 3/3

ACCESSION NR: AT4037666

S/2981/64/000/003/0251/0262

AUTHOR: Kozlovskaya, V. P., Vasil'yeva, N. I.; Nopomnyashchaya, E. Z.

TITLE: Methods for eliminating the coarse-grained rim on pressed parts made of aluminum alloys

SOURCE: Alyuminiyevy*ye splavy*, no. 3, 1964. Deformiruyemy*ye splavy* (Malleable alloys), 251-262

TOPIC TAGS: aluminum, aluminum alloy, pressed aluminum, coarse grained rim, manganese admixture, aluminum recrystallization, magnesium admixture, copper admixture, zirconium admixture, titanium admixture, iron admixture, aluminum alloy strength, aluminum alloy resistivity

ABSTRACT: Recrystallization occurring during the heating of pressed aluminum alloys may result in a coarse-grained structure in the peripheral zone leading to a marked variation in the mechanical properties across the section. Previous experiments have shown that the formation of a coarse-grained rim can be combatted by the creation of uniform deformation during pressing and by slowing down the recrystallization. Furthermore, the depth of the coarse-grained rim depends significantly on the manganese content in the alloy. The present authors have carried out a systematic study on the effect of

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ACCESSION NR: AT4037666

alloying elements and admixtures tending to increase the recrystallization temperature of aluminum on the degree of formation of a coarse-grained rim in pressed aluminum alloys. Tests were performed on specimens of the Al-Cu-Mg-Mn type alloys D16, D19, D1 and VD17 and alloys AK8, AK6, and AD33. In addition to the formation of a coarse-grained rim the electrical resistivity and mechanical properties were investigated (see Figures 1 to 3 of the Enclosure). Finally, the effect of Zr, Fe, and Ti on the formation of a coarse-grained rim was studied in alloys D1, D16, and V95. On the basis of the results obtained, the authors conclude that the following factors slow down recrystallization and grain growth in the peripheral zone of pressed aluminum alloys: introduction of Mn, Zr or Cr as alloying elements; use of non-homogenized ingots for pressing; increasing the ingot and container temperatures during pressing; decreasing the quenching temperature and reducing the soaking time. Pressed products can be obtained from alloys D16, D1, AK8 and AK6 with a shallow-coarse-grained rim or no rim at all by pressing by the straight method without lubrication of the container; for this purpose, the minimal content of manganese is 0.6%, non-homogenized ingots should be used, the container temperature is 400-450C, and the ingot temperature is 420-450C. If the minimal content of manganese is set at 0.8%, however, then homogenized ingots can be used and pressing can be conducted at a lower ingot temperature (340-380C), resulting in shorter pressing cycles and, consequently, in higher productivity. With alloy AD 33, pressed parts without a coarse-grained rim

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ACCESSION NR: AT4037666

or with only a shallow rim can be obtained at an ingot temperature of 500C and a container temperature of 400-450C. In bars of pressed aluminum alloys with a shallow rim, the ultimate strength is higher, and the relative elongation is lower. This is caused by the fact that measured leading to a reduction of the coarse-grained rim (increasing the Mn content and the pressing temperature) lead to preservation of the pressing effect. "L. I. Leonova, I. I. Molostova and M. K. Rubleva took part in the experimental work." Orig. art. has: 6 figures and 1 table.

ASSOCIATION: None

SUBMITTED: 00

DATE ACC: 04Jun64

: ENCL: 03

SUB CODE: MM

NO REF SOV: 006

OTHER: 000

3/6

Card

YEGOROVA, N.P.; VASIL'YEVA, N.I.; USTYUZHANINA, N.S.

Bitumen content and distribution in Devonian terrigenous sediments
of western Bashkiria. Geol. nefiti i gaza 5 no.11:44-46 N '61.
(MIRA 14:11)

1. Ufimskiy neftyanoy nauchno-issledovatel'skiy institut.
(Bashkiria--Bitumen--Geology)

VASILEVA N. I.

1408 25094

USE OF METHYLISOBUTYLKETONE FOR DEWAXING OF LIME KALOTIANS

Oludina, Z.P., Veeneser, E.V. and Vasileva, N.I.

compositions and from it almost raffinate from sulphurous oxides. It can be used as a single solvent in place of mixture of acetone with benzene and

VASIL'YEVA, N.I.; VOZNESENSKAYA, Ye.V.; SLUGINA, Z.P.

Rapid method for determining the potential oil content of re-
fined oil fractions. Trudy VNI NP no.7:276-282 '58.
(MIRA 12:10)

(Petroleum products)

SLUGINA, Z.P.; VOZNESENSKAYA, Ye.V.; VASIL'YEVA, N.I.

Study of the low-temperature crystallization of solid hydrocarbons from solutions depending on the conditions of cooling.
Trudy VNII NP no.7:328-339 '58. (MIRA 12:10)
(Hydrocarbons) (Crystallization)

KOZLOVSKAYA, V.P.; VASIL'YEVA, N.I.; NEPOMNYASHCHAYA, E.Z.; Primimali
uchastiye: LEONOVA, L.I.; MOLOSTOVA, I.I.; RUBLEVA, M.K.

Methods of eliminating the macrocrystalline rim in extruded
products made of aluminum alloys. Alum. splavy no.3:251-262
'64. (MIRA 17:6)

L 40090-66 EWT(m)/EWP(w)/T/EWP(t)/ETI/EWP(k) IJP(c) JD/HW/J3/GD/JH
 ACC NR: AT6016431 (A) SOURCE CODE: UR/0000/65/000/000/0217/0225

AUTHORS: Drits, M. Ye.; Gur'yev, I. I.; Vasil'yeva, N. I.; Ansyushina, A. Ye. 36
42
81

ORG: none

TITLE: Use of the method of thermomechanical processing for strengthening of semifinished products of alloy MA11 K

SOURCE: AN SSSR. Institut metallurgii. Metallovedeniye legkikh splavov (Metallography of light alloys). Moscow, Izd-vo Nauka, 1965, 217-225

TOPIC TAGS: *fabricated structural metal, mechanical property, mechanical heat treatment,* metallography, ~~metal industry~~, metallurgical process, magnesium alloy / MA11 magnesium alloy

ABSTRACT: The effect of thermomechanical processing on the mechanical properties of alloy MA11 was studied in production conditions for both rolled and forged, semifinish products. The chemical content of the material investigated was: 2.48% Nd, 1.77% Zn, 0.13--0.17% Ni, 0.05% Mn, less than 0.03% Cu, 0.007% Fe, less than 0.07% Si, and the balance magnesium. Mechanical properties were studied at both room temperature and higher temperatures. The limit of prolonged strength and creep was determined for 200, 250, and 300C. It was shown that the thermomechanical processing results in the obtaining of higher values of strength properties both at room and at higher temperatures; especially significant was the increase in the flow limit. Some lowering of plasticity was noted; however, the plasticity remained at a sufficiently high level.

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L 40090-66

ACC NR: AT6016431

The optimal degree of deformation for achieving high strength and acceptable plasticity is 10-15% and varies with processing temperature. The increase in values of thermomechanical properties is associated with distortions in the material crystal lattice and with variation in the dissociation of supersaturated hard mixture. It was also found that the thermomechanical processing has a beneficial effect on the corrosion resistance of MA11. N. N. Kulakov, N. A. Markova, and A. A. Shesterikova participated in the work. Orig. art. has: 3 figures and 9 tables.

SUB CODE: 11, 13/ SUBM DATE: 16Sep65/ ORIG REF: 005

Card 2/2 *ML*

TIKHOMIROV, V.I.; VASIL'YEVA, N.I.

Iron oxidation rate during its heating of short duration in
carbon dioxide. Vest. LGU 20 no.16:113-118 '65. (MIRA 18:9)

L 46985-66 EWP(m)/EWP(t)/ETI IJP(c) JD/JT

ACC NR: AT6024913

(A, N)

SOURCE CODE: UR/2981/66/000/004/0049/0056

AUTHOR: Romanova, O. A.; Archakova, Z. N.; Vasil'yeva, N. I.32
B+1

ORG: none

TITLE: Study of pressed sections and panels of D20 alloy

SOURCE: Alyuminiyevyye splavy, no. 4, 1966. Zharoprochnyye i vysokoprochnyye splavy (Heat resistant and high-strength alloys), 49-56

TOPIC TAGS: metal pressing, aluminum alloy, copper alloy, manganese containing alloy / D20 aluminum alloy

ABSTRACT: The effect of technological factors (elongation during pressing, pressing temperature, homogenization of initial ingot, heat treatment conditions) on the structure and mechanical properties of pressed sections of D20 alloy (of the Al-Cu-Mn system) 2 and 5 mm thick was studied. In order to obtain the optimum mechanical properties, the heat treatment of the sections should consist of quenching after heating at $535^{\circ} \pm 5^{\circ} \text{C}$ and artificial aging at $160-170^{\circ}\text{C}$ for 16 hr. This schedule does not cause any tendency in the alloy to corrode under stress. Different elongations (from 14 to 43.4), pressing temperatures (320, 370, 420, and 480°C), and homogenization of the initial ingot do not appreciably affect the structure of the initial ingot or the mechanical properties of sections with wall thicknesses of 2 and 5 mm. Stretching of the sections after quenching raises the yield point substantially, but the tensile strength

Card 1/2

L 46985-66

ACC NR: AT6024913

and elongation per unit length do not change appreciably. The macro- and microstructure of sections pressed under various conditions is relatively fine-grained and homogeneous. The strength characteristics of panels are somewhat higher than those of thin-walled sections. Orig. art. has: 4 figures and 5 tables.

SUB CODE: 11/ SUBM DATE: none

ms
Card 2/2

L 46960-66 EMI(K)/EMI(M)/I/EMI(W)/EMI(T)/EPI IJR(C) JH/JD/HW

ACC NR: AT6024948 (A,N) SOURCE CODE: UR/2981/66/000/004/0322/0330

AUTHOR: Edel'man, N. M.; Vasil'yeva, N. I.; Starostina, Z. I. 38

ORG: none 37

TITLE: Preparation of pressed semifinished products from AD31 alloy 16 B+1

SOURCE: Alyuminiyevyye splayy, no. 4, 1966. Zharoprochnyye i vysokoprochnyye splayy (Heat resistant and high-strength alloys), 322-330

TOPIC TAGS: aluminum alloy property, metal pressing

ABSTRACT: The cause of the formation of macrocrystalline structure in sections of AD31 alloy (composition in %: Cu 0.024, Mg 0.75, Mn 0.05, Fe 0.29, Si 0.42, Zn 0.02, Ti 0.05, bal. aluminum) was studied. The effect of technological factors (pressing temperature, degree of deformation during straightening and heat treatment) on the structure of the sections was determined. It is shown that in order to obtain high-quality sections without roughness (including thin-walled hollow ones of complex configuration), they should be prepared as follows: the temperature of the ingot during pressing should be no less than 480-500°C, and that of the container, no less than 400-420°C. The temperature of heating for quenching should be 520±5°C; the holding time for quenching thin-walled sections should not exceed 15-20 min. The sections should be straightened on stretching machines with a degree of deformation of no more than 4%. The artificial aging of pressed semifinished products should be carried out

Card 1/2

L 46980-66

ACC NR: AT6024948

at 165±5°C for 10 hr. The proposed optimum process for preparing sections of AD31 alloy makes it possible to obtain products with high and stable mechanical properties, a finely granular structure, and an attractive decorative appearance. Orig. art. has 4 figures.

SUB CODE: 11/ SUEM DATE: none

ms
Card 2/2

USSR/Human and Animals Physiology - Blood.

T-4

Abs Jour : Ref Zhur - Biol., No 7, 1958, 31582

Author : Vasil'yeva, N.I.

Inst :

Title : Marrow Blood-Production in Patients with Brucellosis and
Its Change Under the Influence of Treatment.

Orig Pub : Tr. Chkalovskogo med. in-ta, 1956, vyp. 5, 153-157.

Abstract : No abstract.

Card 1/1

- 31 -

VASIL'YEVA, N.I.

Thrombocytopoiesis in brucellosis associated with a hemorrhagic
syndrome. Terap. arkh. 30 no.12:57-59 D '58. (MIRA 12:1)

1. Iz kafedry fakul'tetskoy terapii (Zav. - prof. V.A. Simagina)
Orenburgskogo meditsinskogo instituta.

(BRUCELLOSIS, compl.

hemorrh. diathesis, thrombocytopoiesis (Rus))

(HEMORRHAGIC DIATHESIS, compl.

brucellosis, thrombocytopoiesis (Rus))

VASIL'YEVA, N.I.

Hemopoiesis in patients with brucellosis treated with anti-
biotics and vaccines. Terap.arkh. 32 no.11:57-64 N '60.

(MIRA 14:1)

1. Iz kafedry fakul'tetskoy terapii (zav. - prof. V.A. Simagina)
Orenburskogo meditsinskogo instituta.

(HEMATOPOIETIC SYSTEM) (BRUCELLOSIS) (ANTIBIOTICS)

VASIL'YEVA, N. I., CAND. MED SCI, "BLOOD FORMATION IN
BRUCellosis PATIENTS UNDER CONDITIONS OF TREATMENT WITH
ANTIBIOTICS VACCINE." ORENBURG, 1961. (CHAIR OF THE FA-
CULTY OF THERAPY OF ORENBURG STATE MED INST). (KL, 3-61,
230).

L 39474-65 EWT(d) IJF(e)
ACCESSION NR: ADR 000000

U, U1, U2, U11, B120, B120

SOURCE: Ref. zh. Matematika

AUTHOR: 1911 yeva N K

TITLE: ...

CITED SOURCE: Uch. zap. Irkutskiy gos. ped. in-t, vyp. 20, 1964, 203-208

TOPIC TAGS: algebraic equation, method

TRANSLATED BY: ...

$$t^n + b_1 t^{n-1} + \dots + b_{n-2} t^2 + b_{n-1} t + b_n = 0$$

U.S. 24-55
ACQUISITION NO: APR 24 1955

with real coefficients. If $f(x, y)$ is a polynomial in x and y with real coefficients, then the set of points (x, y) such that $f(x, y) = 0$ is a closed set in the plane.

compatibility, one goes over to a system of two equations with two unknowns in the form

$$\begin{aligned} f_1(x, y) &= 0 \\ f_2(x, y) &= 0. \end{aligned}$$

The intersection of the two curves is the set of points where both equations are satisfied. This is the set of points where the two curves intersect.

APPROVA

L 2302-66 EWT(1)/ETC(m) IJF(c) NW

ACCESSION NR: AP5020739

UR/0057/65/035/008/1483/1492

AUTHOR: Gall', L. N.; Vasil'yeva, N.K.

TITLE: Application of a decelerating potential system in mass spectrometry

SOURCE: Zhurnal tekhnicheskoy fiziki, v. 35, no. 8, 1965, 1483-1492

TOPIC TAGS: mass spectrometry, electron optics, optic resolution, ion beam, ion energy, deceleration

ABSTRACT: The authors discuss (with appropriate references to previous discussions by others) the use of a system of decelerating electrodes in front of the collector of a mass spectrometer. The principal purpose of such a system is to improve the resolution by rejecting unwanted ions of lower than normal energy, produced by scattering in the residual gas, by dissociation of molecular ions into metastable ions, or otherwise. As a figure of merit for such a system, the authors use the maximum value of the ration $U/(U - v)$ that can be employed without rejecting a significant fraction of the desired ions. Here U is the energy of a beam ion and v is the height of the energy barrier of the decelerating system. Careful electron optical design is required to achieve a high figure of merit with a beam in which the trajectories are not all parallel. Electron-optical means for

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L 2302-66

ACCESSION NR: AP5020739

achieving high figure of merit are discussed. Five specific designs were analyzed with an "automatic trajectograph" employing an electrolytic tank and the best design was extensively tested in an actual mass spectrometer. A 1% figure of merit of 275 was achieved, i.e., when V was so chosen that $U/(U - V) \neq 270$, only 1% of the desired ions were rejected. This is more than adequate completely to reject metastable ions in hydrocarbon analysis and is adequate to reject a large fraction of the ions that have lost energy in small angle scattering. It is concluded that the use of decelerating systems can considerably improve the resolution, sensitivity, and accuracy of static magnetic mass spectrometers. "The authors express their deep gratitude to R.N.Gall for participation in discussions and for much valuable advice." Orig. art. has: 10 formulas, 9 figures, and 1 table.

ASSOCIATION: none

SUBMITTED: 03Nov64

ENCL: 00

SUB CODE: NP

NR REF SOV: 002

OTHER: 004

cc
Card 2/2

BLOKH, R.L., kand.med.nauk; VASIL'YEVA, N.K.; SAAKYAN, A.G.

Effect of radon waters of varying concentrations on some indices
of neurohumoral regulation in chronic gastritis. Uch.zap.Pyat.gos.
nauch.-issl.bal'n.inst. 3:48-58 '60. (MIRA 15:10)
(RADON--THERAPEUTIC USE) (STOMACH--INFLAMMATION) (NEUROCHEMISTRY)

VASIL'YEVA, N.K., mladshiy nauchnyy sotrudnik

Breitman's test as an index of vegetative changes in chronic
gastritis. Uch.zap.Pyat.gos.nauch.-issl.bal'n.inst. 3:59-66 '60.
(MIRA 15:10)

(STOMACH--INFLAMMATION) (MEDICAL TESTS)
(NERVOUS SYSTEM, AUTONOMIC)

... N. K. On searching for the common roots of
... from Tandy

VASIL'YEVA, N. L.

Name: VASIL'YEVA, N. L.

Dissertation: On the problem of determining small quantities of tantalum

Degree: Cand Chem Sci

defended at
~~Affiliation:~~ Min Higher Education USSR, Ural Polytechnic Inst imeni S. M. Kirov

Publication
~~Defense~~ Date, Place: 1956, Sverdlovsk

Source: Knizhnaya Letopis', No 45, 1956

Vasil'yeva, N.L.

USSR/ Analytical Chemistry. Analysis of Inorganic
Substances.

G-2

Abs Jour: Referat. Zhur.-Khimiya, No. 8, 1957, 27233 D.

Author : N.L. Vasil'yeva.

Inst : Ural Polytechnical Institute.

Title : To The Question of Determination of Small
Amounts of Tantalum.

Orig Pub: Avtoref. diss. kand. khim. n., Ural'skiy
politekhn. in-t, Sverdlovsk, 1956.

Abstract: no abstract.

Card 1/1

VASIL'YEVA, N.L.

Use of organic reagents in analytical chemistry; determining tantalum with rhodamine B in ethyl acetate solutions. Izv. Sib. otd. AN SSSR no.4:56-61 '58. (MIRA 11:9)

1.Ural'skiy filial AN SSSR.
(Tantalum) (Rhodamine B) (Colorimetry)

5(2),5(3)

AUTHORS:

Kazarinova, N. F., Vasil'yeva, N. L. SOV/75-13-6-12/21

TITLE:

Photometric Determination of Germanium With 9-[p-(N-Dimethyl Amino)] - Phenyl-2,3,7-Trihydroxy-6-Fluorone
(Fotometrisheskoye opredeleniye germaniya s 9-[p-(N-Dimetilamino)] -fenil-2,3,7-trioksi-6-fluoronom)

PERIODICAL:

Zhurnal analiticheskoy khimii, 1958, Vol 13, Nr 6, pp 677-681
(USSR)

ABSTRACT:

Among the known organic reagents on germanium, good experience has been made with 9-phenyl-2,3,7-trihydroxy-6-fluorone (Ref 1). By adding traces of germanium to the solution of this reagent in dilute hydrochloric acid, the color of the solution changes from yellow to orange and a raspberry-red precipitation takes place. The formation of this precipitate is an obstacle for the photometric determination of germanium and must be prevented by stabilizers (Refs 2, 3). It is therefore more advisable to alter the properties of the reagent by introducing other substituents, maintaining the sensitivity and specificity of phenyl fluorone and yielding soluble compounds with germanium. For this purpose, the authors synthesized

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Photometric Determination of Germanium With SOV/75-13-6-12/21
9- [p-(N-Dimethyl Amino)] - Phenyl-2,3,7-Trihydroxy-6-Fluorone

9- [p-(N-dimethyl amino)] - phenyl-2,3,7-trihydroxy-6-fluorone by condensation of p-N-dimethyl amino benzaldehyde with hydroquinone triacetate in the presence of concentrated sulfuric acid. This synthesis is accurately described in the work (in a yield of 52%). The resulting reagent is a red fine crystalline powder playing to green and having a melting point of $>300^{\circ}$. It is insoluble in water as well as in the majority of organic solvents. It easily dissolves in lyes, in mineral acids when heated or in the presence of alcohol. A method was worked out for the photometric determination of germanium with this new reagent (briefly called DAFF). DAFF forms salts with acids and is stable in dilute acids. In concentrated hydrochloric acid a yellow precipitation separates, caused by the formation of a weakly soluble oxonium salt. The stability of the acid solutions increases with temperature in consequence of the increasing solubility of the oxonium salt. In the presence of germanium the color of the hydrochloric solution of DAFF changes from yellow to orange, in which connection a maximum of color intensity occurs only by adding a great excess of reagent. The solutions of the germanium compounds with DAFF

Card 2/4

Photometric Determination of Germanium With SOV/75-13-6-12/21
9-[p-(N-Dimethyl Amino)] - Phenyl-2,3,7-Trihydroxy-6-Fluorone

are stable in dilute hydrochloric acid (1 n) up to a content of 1.2 μ GeO₂ per ml. They represent highly disperse colloids and follow the Lambert - Beer's law up to quantities of 1 μ GeO₂ per ml. An increase in acid concentration causes a decrease in optical density of the solutions. With decreasing temperature the optical density of the solutions increases considerably; these changes caused by temperature fluctuation are, however, wholly reversible. At constant temperature, coloring remains stable for a few hours, the maximum intensity being reached after 0.5 - 1.5 hours. The measurement of the optical densities was carried out by PER-M photocolormeter with green light filter. The sensitivity of determination amounts to 0.05 μ GeO₂ in 1 ml of the experimental solution. As and Bi cause no disturbance. Sb (III), Sn (IV), and Mo (VI) react with DAFF in much the same way as germanium; the sensitivity of the reagent to these elements is, however, considerably lower than to germanium. Detailed working instructions for the determination are mentioned in the paper.

Card 3/4

Photometric Determination of Germanium With SOV/75-13-6-12/21
9- [p-(N-Dimethyl Amino)] - Phenyl-2,3,7-Trihydroxy-6-Fluorone

The authors thank I. Ya. Postovskiy for his valuable suggestions and advice. There are 3 figures and 4 references, 1 of which is Soviet.

ASSOCIATION: Institut khimii Ural'skogo filiala AN SSSR, Sverdlovsk
(Institute of Chemistry of the Ural Branch of the Academy of Sciences, USSR, Sverdlovsk)

SUBMITTED: June 29, 1957

Card 4/4

VASIL'YEVA, N.L.; YERMAKOVA, M.I.; POSTOVSKIY, I.Ya.

Determination of gallium with N,N-di(2-hydroxy-5-sulphonyl)
C-cyanoformazan. Zhur. VKHO 5 no.1:110 '60. (MIRA 14:4)

1. Institut khimii Ural'skogo filiala Akademii nauk SSSR.
(Gallium--Analysis)

YERMAKOVA, M.I.; VASIL'YEVA, N.L.; POSTOVSKIY, I.Ya.

N,N'-bis(2-hydroxy-5-sulfophenyl)-C-cyanoformazan as a reagent
for the photometric determination of gallium. Zhur. anal. khim.
16 no. 1:8-13 Ja-F '61. (MIRA 14:2)

1. Institut of Chemistry, Academy of Sciences of the U.S.S.R.,
Ural Branch, Sverdlovsk.

(Gallium—Analysis) (Formazan)

VASIL'YEVA, N.L.; YERMAKOVA, M.I.; Prinama la uchastiye PODKINA, Z.M.

Use of formazans in analytical chemistry. Report 2: Determination of gallium with N,N'-di-(2-hydroxyphenyl)-C-cyanoformazan). Zhur. anal. khim. 18 no.1:43-51 Ja '63. (MIRA 16:4)

1. Institute of Chemistry, Ural Branch Academy of Sciences, U.S.S.R., Sverdlovsk.
(Gallium—Analysis) (Formazan)

AID Nr. 995-7 21 June

A FORMAZAN AS A NEW REAGENT FOR THE DETERMINATION OF Zr
(USSR)

Vasil'yeva, N. L., and M. I. Yermakova. Zhurnal analiticheskoy khimii,
v. 18, no. 4, Apr 1963, 545-547, S/075/63/018/004/014/015

A method is proposed which uses N, N'-bis (2-hydroxy-5-sulfophenyl)-C-cyanoformazan as the chelating agent in the photometric determination of zirconium. The highest sensitivity, 0.1 $\mu\text{g Zr/ml}$, is in 0.1 M HCl. The optical density (at 682 $\text{m}\mu$) can best be measured for solutions prepared at room temperature. The Zr content is determined from calibration curves plotted for mixtures with a known Zr content. The photoelectrocolorimeter used is the ФЭК-М. The presence of F⁻, PO₄³⁻, tartrates, oxalates, citrates, and other complexing anions, as well as of Hf, Nb, Sn, and Ti (> 75 $\mu\text{g}/25\text{ ml}$), interferes with the determination of Zr. The NO₃⁻ and Fe³⁺ ions should be removed to prevent oxidation of the formazan. The work was done at the Institute of Chemistry of the Ural Branch of the Academy of Sciences USSR at Sverdlovsk. [EDW]

Card 1/1

BORODINA, M.L.; SHAYKEVICH, S.B.; KAPUSTINA, M.D.; VASIL'YEVA, N.L.

Ilmenite concentrates for the production of titanium dioxide by the sulfuric acid method. Lakokras.mat. i ikh prim. no.2:22-25 '63.

(MIRA 16:4)

(Titanium oxides)

(Ilmenite)

S/075/63/018/001/003/010
E071/E452

AUTHORS: Vasil'yeva, N.L., Yermakova, M.I.

TITLE: ~~Use of formazans in analytical chemistry~~
Communication 2. The determination of gallium
with N,N'-di(2-hydroxyphenyl)-C-cyanformazan

PERIODICAL: Zhurnal analiticheskoy khimii, v.18, no.1, 1963, 43-51

TEXT: A compound N,N'-di(2-hydroxyphenyl)-C-cyanformazan was synthesized and its interaction with gallium studied. Depending on conditions, the formazan forms two blue compounds with absorption maxima at 634 and 630 m μ . The compounds have the nature of internal complexes - nonelectrolytes. The range of existence of one complex is pH 2 - 5 and that of the other is pH above 5. On the basis of optical properties of solutions, chemical composition, X-ray and dehydration properties of crystalline precipitates as well as equilibria studies in solutions, the probable structure of the compounds is proposed. Depending on the pH of the medium gallium coordinates either with the ionic (pH > 5) or undissociated form of formazan (pH < 5) on changes of pH the compounds undergo a reversible transformation.
Card 1/2

Use of formazans ...

S/075/63/018/001/003/010
E071/E452

The molar ratio of gallium to formazan is 1:1. N,N'-di(2-hydroxyphenyl)-C-cyanformazan is recommended for the photometric determination of gallium in the presence of aluminium, zinc, lead, cadmium, manganese and small quantities of indium, germanium, copper and nickel. The two last elements are separated from gallium by extraction with benzene. The sensitivity of the reaction is 0.04 µg/ml of gallium. Z.M.Podkina participated in the work. There are 6 figures and 1 table. ✓

ASSOCIATION: Institut khimii Ural'skogo filiala AN SSSR,
Sverdlovsk (Institute of Chemistry, Ural Branch
AS USSR, Sverdlovsk)

SUBMITTED: April 7, 1962

Card 2/2

1 22160-65

ACCESSION NR. AP1049094

SSDC

2/75/64/19/11/1305-1308

AUTHOR: Vasil'yeva, N.L., Yermakova, M.I.

TITLE: The use of formazans in analytical chemistry

SOURCE: Zhurnal analiticheskoy khimii, v. 19, no. 11, 1964, 1305-1308

TOPIC TAGS: formazan, cyanoformazan, lanthanide series, yttrium determination, lanthanum determination, optical density, spectrophotometry

ABSTRACT: A method for the photometric determination of yttrium in lanthanum oxide is presented which will detect 5-10% Y in La₂O₃ without prior separation. The formazan reagent will form colored compounds in a weakly alkaline solution with Ce (III), Y, Nd, Pr and other elements of the lanthanide series at various pH values between about 6.40 and 7.80. The change in optical density of these compounds with the pH of the solutions is illustrated. Similar tests were conducted with mixtures of the above-mentioned elements. The method may also be used to determine the sum of elements

Card 1/2

L 22164-65
ACCESSION NR: AP4049094

of the yttrium group in lanthanum oxide. "X. M. Podkina took part in the work." Orig.
art. has: 5 figures and 1 formula.

ASSOCIATION: Institut khimii Ural'skogo filiala AN SSSR, Sverdlovsk (Institute of Chem-
istry of the Ural Branch, AN SSSR)

SUBMITTED: 28Oct63

ENCL: 00

SUB CODE: IC

NO REF SOV: 006

OTHER: 000

Card 2/2

MYAGKIY, D.D., *inzh.* (Krivoy Rog); VASIL'NEVA, N.L., *inzh.* (Krivoy Rog)

Methods of controlling biological overgrowth in return water
supply systems. *Mod. i san. tekhn. no. 1: 3-94* Jan '66.

(HIRA 19:1)

TUROVTSEVA, Z.M.; LITVINOVA, N.F.; VASIL'YEVA, N.M.; SEMENYUK, K.G.

Vacuum-fusion method employing a platinum tand for the determination of gases in metals. Trudy kom.anal.khim. 10:109-116 '60.

(MIRA 13:8)

1. Institut geokhimi i analiticheskoy khimii im. V.I.Vernadskogo AN SSSR, Moskva.

(Gases in metals)

15640

S/126/63/015/001/028/029
E073/E151

18.8000

AUTHORS: Aleksandrov, B.N., and Vasil'yeva, N.M.
TITLE: Determination of the purity of aluminium from its residual resistance
PERIODICAL: Fizika metallov i metallovedeniye, v.15, no.1, 1963, 156-158

TEXT: It has been shown that the residual resistance δ_0 of a metal varies with the concentration of added elements according to the equations $c = A \delta_0$ (where c = amount of the addition and A = constant) for cubic or tetragonal metals, and $c = A \delta_0^2$ for hexagonal metals. (The residual resistance δ_0 is the ratio of the resistance of the metal at 0 °K to the resistance at 293 °K). To determine whether Al obeyed the linear equation, resistance measurements were made of polycrystalline aluminium of varying purity at 4.2 °K and 293 °K, it being already known that the resistance at 4.2 °K was identical with that at 0 °K. The resistance measurements at 4.2 °K, made on carefully annealed strip 2 mm thick, were accurate to $\pm 2\%$. (The heat-treatment and experimental techniques at 4.2 °K are not described, having been

Card 1/2

Determination of the purity of ...

S/126/63/015/001/028/029
E073/E151

described in an earlier paper). The Si content of the samples was determined chemically, Fe and Cu were determined both chemically and spectroscopically, and Ti, Mg, Mn and Ni were determined spectroscopically. A linear relationship between impurities and residual resistance was found, $c = 6.2 \delta_0$, the value 6.2 differing by 50% from earlier results. For pure Al, $\delta_0 = 3.4 \times 10^{-5}$. The ratios of the resistances at 14 and 20.4 °K to the resistance at 293 °K (i.e. δ_{14} and $\delta_{20.4}$) was also found to follow a linear law with impurity concentration. It was found possible to estimate the purity of Al from plotted curves of δ_0 , δ_{14} or $\delta_{20.4}$, provided that the relative proportions of the individual impurity elements did not change greatly; since some impurities had a much bigger effect than others, changes in the proportions could alter the value of A. In spite of this, impurities can be estimated to within one order of magnitude. Measurements of δ_0 on very pure Al should be made with thick well-annealed single crystals to avoid excessively high values being obtained. There are 1 figure and 1 table.

Card 2/2 SUBMITTED: March 15, 1962

S/075/63/018/002/008/009
E195/E436

AUTHORS: Vasil'yeva, N.M., Litvinova, N.F., Turovtseva, Z.M.
TITLE: Determination of oxygen in indium, gallium and their alloys
PERIODICAL: Zhurnal analiticheskoy khimii, v.18. no.2, 1963, 250-254

TEXT: A new method of determining oxygen in indium, gallium and their alloys has been developed because of unsatisfactory results obtained with the previous one. All the investigations were carried out in the same apparatus as in the vacuum melting method (Z.M.Turovtseva et al. Zh. analit. khimii, v.12, 1957, 208). A known quantity of oxides was reduced and the oxygen evolved in the presence of metallic indium and gallium determined. Standards prepared without using metallic bases gave satisfactory results. Samples placed in a quartz test tube were heated by high frequency current to 350°C in an oxygen atmosphere under 0.1 - 0.15 mm Hg. The quantity of O₂ absorbed by the sample was calculated by the formula

$$\% = \frac{(P_1 - P_2)M \cdot V \cdot 100}{mRT}$$

Card 1/2

Determination of oxygen ...

S/075/63/018/002/008/009
E195/E436

where P_1 - pressure of O_2 before absorption, P_2 - pressure at the end of the absorption, M - molecular weight of O_2 , V - volume occupied by oxygen, ρ , m - sample weight, g, R - gas constant and T - absolute temperature. The sensitivity of the method was found to be $1 \times 10^{-3}\%$ (weight). Incoherent results obtained in the repeated analyses of some batches of indium and gallium are explained as being caused by the irregular distribution of oxygen in the metals. There are 4 tables.

ASSOCIATION: Institut geokhimi i analiticheskoy khimii im.
V.I.Vernadskogo AN SSSR, Moskva (Institute of
Geochemistry and Analytical Chemistry imeni
V.I.Vernadskiy AS USSR, Moscow)

SUBMITTED: April 16, 1962

Card 2/2

LITVIN-MAKSYUTA, K.M.; GOSTISHCHEV, K.P.; KRYSENKO, N.S.; POLYAKOVA,
M.N.; ZUBENKO, K.L.; KOZACHENKO, V.K.; VASIL'YEVA, N.M.

Regeneration of xanthate from cobalt cake. *Tsvet. met.* 78
no.6:44-45 Je '65. (MIRA 18:10)

ROZENBERG, Genrikh Sholomovich; MITROKHIN, V.T., kand. tekhn. nauk, retsenzent; MITYUSHKIN, Yu.I., kand. tekhn. nauk, retsenzent; TCFUNOV, A.M., kand. tekhn. nauk, retsenzent; SERDYUKOV, S.A., nauchn. red.; VASIL'YEVA, N.N., red.

[Marine centripetal gas turbines] Sudovye tsentrostremi-
tel'nye gazovye turbiny. Leningrad, Sudostroenie, 1964.
256 p. (MIRA 18:2)

VASIL'YEVA, N.N.; UL'YANOV, N.K.:

Geobotanical studies as a method of prospecting for ore deposits
in central Kazakhstan. Inform.sbor.VSEGEI no.50:83-94 '61.
(MIRA 15:8)

(Kazakhstan--Prospecting) (Kazakhstan--Phytogeography)

VASIL'YEVA, N.N.; MORGENSHTERN, Z.I.

Luminescence of nonactivated KI crystals. Opt. i spektr. 9 no.5:
676-677 N '60. (MIRA 13:11)
(Potassium iodide--Spectra)

89242

S/048/61/025/001/008/031
B029/B067

9.6150 (also 1137, 1395)

AUTHORS: Yasil'yeva, N. N. and Morgenshtern, Z. L.

TITLE: Luminescence of non-activated alkali iodides

PERIODICAL: Izvestiya Akademii nauk SSSR. Seriya fizicheskaya, v. 25,
no. 1, 1961, 47-50

TEXT: The present work has the following aims: 1) production of crystals without Tl impurities, 2) study of the interaction of bands by using In instead of Tl as an activator. The authors obtained such crystals from an aqueous solution of alkali-iodide without heavy metals. They had also crystals that had been grown from a melt by using Stokbarger's method, viz., without activator and with various Tl or In concentrations. (The authors thank L. M. Shamovskiy for having supplied the crystals). The authors studied the emission spectra of all these crystals at room temperature and at the temperature of liquid nitrogen in the case of excitation by γ -rays from Co^{60} . Results: 1) In the KI crystals grown from the solution, one ultraviolet emission band with $\lambda_m \sim 370 \text{ m}\mu$ exists. 2) Crystals containing

Card 1/3

89242

S/048/61/025/001/008/031
B029/B067

Luminescence of non-activated ...

high Tl concentrations show one emission band with $\lambda_m = 406 \text{ m}\mu$, which is due to the activator. 3) In crystals with low Tl concentrations, one band with $\lambda_m \sim 382 \text{ m}\mu$ exists, which probably consists of a thallium and an ultraviolet band. 4) At low In concentrations, an ultraviolet band and also a band of longer wavelength due to the activator are observed. The intensity of the ultraviolet band decreases and that of the activator band increases with increasing In concentration. The ultraviolet band vanishes at higher In concentrations. Sometimes, intermediary emission bands appear in KI crystals. In general, three emission bands exist in KI and CsI crystals: an ultraviolet band related to the pure lattice, an intermediary band, and a long-wave band due to the activator. The long-wave bands occurring on the introduction of the activator are due to transitions inside the activator ion. According to the opinion of the authors, the long-wave emission band in CsI-Tl is characteristic of the Tl activator. The intermediary band in CsI may be attributed to structural defects of the vacancy type; the intermediary band in KI is probably of the same nature, but only few data are available on this subject.

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89242

S/048/61/025/001/008/031
B029/B067

Luminescence of non-activated ...

The short-wave emission band in CsI and KI crystals, like the ultraviolet band previously detected, is probably caused by the emission of the pure lattice. Its excitation spectrum could be measured if only this emission band was present. In the range of shorter wavelength ($\lambda = 185 \text{ m}\mu$) corresponding to the band-to-band transition, the excitation curve decreases. Similar phenomena are observed in the case of CsI crystals. The KI ultraviolet band is attenuated exponentially at liquid nitrogen temperature with $\tau = 0.9 \text{ }\mu\text{sec}$. Therefore, the ultraviolet band seems to be due to exciton emission. Finally, the authors determined the concentration of the activator which is sufficient for a complete quenching of its glow. In the case of KI-In crystals they found a concentration of $0.87 \cdot 10^{-5}$ mole In/mole KI. The authors thank M. D. Galanin for her interest and for the measurements, and N. V. Kostina for assistance. This is the reproduction of a lecture read at the Ninth Conference on Luminescence (Crystal Phosphors), Kiev, June 20-25, 1960. There are 2 figures and 12 references: 6 Soviet-bloc and 4 non-Soviet-bloc.

Card 3/3

S/051/60/009/005/016/019
E201/E191

AUTHORS: Vasil'yeva, N.N., and Morgenshtern, Z.L.

TITLE: γ Luminescence of Non-activated KI Crystals

PERIODICAL: Optika i spektroskopiya, 1960, Vol.9, No.5, pp 676-677

TEXT: The authors grew Tl-free KI crystals from solution. They studied luminescence of these crystals and of KI:Tl. Irradiation of KI with Co^{60} γ -rays at the temperature of liquid nitrogen produced a luminescence band (probably of exciton nature) at 370 m μ ; its half-width was 0.48 eV and it decayed exponentially with the time constant of 0.9 μ sec. This band (curve 1 in a figure on page 676) was observed in Tl-free KI and in KI:Tl crystals. Photoexcitation of pure KI had a maximum near 210 m μ at the temperature of liquid nitrogen (curve 2) overlapping an absorption band (curve 3). Acknowledgements are made to M.D. Galanin for his advice and measurements of the decay time constant, and to N.V. Kostina for her help in this work. There are 1 figure and 6 references: 2 Soviet, 2 English, 1 German and 1 mixed (Soviet and Swiss).

SUBMITTED: June 24, 1960

Card 1/1

BRESLER, S.Ye.; RUBINA, Kh.M.; GRAYEVSKAYA, R.A.; VASIL'YEVA, N.M.

Separation of ribonucleic acid and adenosine triphosphoric acid
using chromatography on molecular sieves. *Biochimia* 26
no.4:740-747 JI-Ag '61. (MIRA 15:6)

1. Institute of High Molecular Compounds, Academy of Sciences
of the USSR, Leningrad.

(NUCLEIC ACIDS) (ADENOSINE TRIPHOSPHATES)
(CHROMATOGRAPHIC ANALYSIS)

33641

S/051/62/012/001/009/020
E202/E492

24,3500 (1137,1138)

AUTHORS: Vasil'yeva, N.N., Morgenshtern, Z.L.

TITLE: Gamma and photo-luminescence of alkali iodides

PERIODICAL: Optika i spektroskiya, v.12, no. 1, 1962, 86-91

TEXT: The authors studied the emission spectra of KI crystals excited by the gamma radiation of Co^{60} . It was found that the spectra of the non-activated KI crystals had only one UV emission band ($\lambda_m \approx 370 \text{ m}\mu$); a band of longer wavelength ($\lambda_m \approx 406 \text{ m}\mu$) was observed only in the presence of a high concentration of Tl activator. The intermediate corresponding to the blue luminescence band of CsI, was not observed generally, but was present at liquid nitrogen temperature. The study of this band was found to be difficult due to heavy overlapping with the main band; however, the maximum was found to be in the region of 400 m μ . The emission bands of the non-activated alkali iodides excited by the gamma-radiation at the liquid nitrogen temperature were described summarily (Table 1). The authors have also measured the excitation spectrum of the CsI and KI crystals with only one UV emission band and found that the excitation bands of

Card 1/0 3

33641

S/051/62/012/001/009/020

E202/E492

Gamma and photo-luminescence ...

the UV light correspond to the exciton bands of absorption in the crystal. It was concluded that the UV band is due to an exciton radiation. The fact that this radiation had the highest intensity in crystals with the lowest number of faults led the authors to believe that they were dealing with a free exciton radiation. The problem of the decay of the exciton radiation with the increase in the concentration of the structural and additive defects was also discussed. Since the growth of the activator concentration reduces the output of the radiation in the exciton band to zero, while simultaneously increasing the luminescence of the activator, there could only be two alternatives, viz. (1) excitation of the activator and formation of the excitons are two independent (and rivaling) processes and (2) excitation of the activator is achieved with the help of the excitons. The authors' work with the CsI-Tl at low temperatures indicated that the first alternative was correct. Acknowledgments are expressed to M.D.Galanin for his interest and to N.V.Kostina for assistance in the work. There are 3 figures, 2 tables and 14 references: 5 Soviet-bloc, 1 Russian translation from non-Soviet-bloc work and 8 non-Soviet-bloc. The references to English language
Card 2/0 3

33641

Gamma and photo-luminescence . . .

S/051/62/012/001/009/020
E202/E492

references read as follows: Ref.4: W. Van-Sciner. Nucleonics,
v.14, 1956, 50; I.R.E.Trans. Nucl. Sci., NS-3, 1956, 39,
Ref.8: K.J. Teegarden. Phys. Rev., v.105, 1957, 1222;
Ref.10: W.Martienssen. J. Phys. Chem. Solids, v.2, 1957, 257,
Ref.14: K.Teegarden, R.Weeks. J. Phys. Chem. Solids, v.10, 1959,
211.

SUBMITTED: January 14, 1961

X

Card 3/03

ACCESSION NR: AT4016313

S/0000/62/000/000/0325/0329

AUTHOR: Vasil'yeva, N. N.

TITLE: Photo- and gamma-luminescence in RbI monocrystals

0

SOURCE: Vses. soveshch. po fiz. shchelochnogaloidn. kris. Ulov. 2d, Riga, 1961. Trudy*. Fiz. shchelochnogaloidn. kristallov (Physics of alkali halide crystals). Riga, 1962, 325-329

TOPIC TAGS: luminescence, phosphor, alkali halide, alkali halide crystal, photo-luminescence, radioluminescence, rubidium iodide

ABSTRACT: The three types of luminescence produced by alkali halide monocrystals and identified, in earlier studies, with smaller (ascribed to an undisturbed lattice), medium (linked to structural defects by some authors) and longer wavelengths (characteristic of each particular activator), have been studied in nonactivated and Tl- or In-activated RbI monocrystals. In the tests, in which the γ -luminescence spectra and the excitation spectra were measured by the photographic and photoelectric method, respectively, the RbI monocrystals were found to follow a pattern similar to that of other alkali halides. RbI, grown from a solution, produced one $\sim 400 \text{ m}\mu$ band while RbI grown from a melt produced one

Card 1/2

ACCESSION NR: AT4016313

~ 405 $m\mu$ band. The band moved to ~425 $m\mu$ as the amount of Tl.-activator in the RbI increased. The In-activated RbI produced apart from the activator, a ~ 600 $m\mu$ band, a violet band coincident with the one in the RbI grown from solution. All three luminescence types could be identified in the excitation spectra. "The author expresses thanks to Z. L. Morgenshtern for his constant attention during the supervision of the work, N. V. Kostina for help in the measurements, and A. A. Dunina for supplying a number of crystals." Orig. art. has: 2 figures and 1 table.

ASSOCIATION: Fizicheskiy institut im. P. N. Lebedeva AN SSSR (Institute of Physics, AN SSSR)

SUBMITTED: 00

DATE ACQ: 06Mar64

ENCL: 00

SUB CODE: OP

NO REF SOV: 004

OTHER: 006

Card 2/2

ZIMNEVA, Yelena Matveyevna [deceased]; SHIBALOVA, Lidiya Ivanovna;
SHEMANOVA, Valentina Pavlovna; DIMENT, Esfir' Markovna;
GAEERTSETTEL', Andrey Iv novich; KONDRAT'YEVA, Zinaida
Sergeyevna; KLIMOVA, V.A., inzh., retsenzent; POPILOV, L.Ya.,
nauchnyy red.; VASIL'YEVA, N.N., red.; TSAL, R.K., tekhn. red.

[Seawater corrosion of copper alloys]Morskaiia korroziia med-
nykh splavov. Leningrad, Sudpromgiz, 1963. 84 p.

(MIRA 16:2)

(Copper alloys--Corrosion)

ACCESSION NR: AR4043998

S/0058/64/000/006/D074/D074

SOURCE: Ref. zh. Fizika, Abs. 6D558

AUTHOR: Vasil'yeva, N. N.; Morgenshtern, Z. L.

TITLE: γ - Luminescence of alkali iodides

CITED SOURCE: Sb. Stsintillyatory* i stsintillyats. materialy*. Khar'kov, Khar'kovsk. un-t, 1963, 114-115

TOPIC TAGS: gamma luminescence, alkali iodide

TRANSLATION: Investigates the properties of exciton radiation in a single crystal of CsI-Tl at low temperatures. It is shown that with increasing concentration of activator the radiation yield in the exciton band drops to zero. This is connected with the fact that activator excitation is a competitive process with exciton formation. See also: Journal of Abstracts, Physics, 1962, 6V388.

SUB CODE: IC, OP

ENCL: 00

Card 1/1

POPKOV, Anatoliy Vasil'yevich; VERETE, A.G., inzh., retsenzent;
RUKAVISHNIKOV, I.V., inzh., retsenzent; SOFRONOV, Ye.P.,
nauchn. red.; VASIL'YEVA, N.N., red.; NIKITINA, R.D.,
red.; ERASTOVA, N.V.; tekhn. red.

[Fundamentals of hydrodynamics] Osnovy termodinamiki. Le-
ningrad, "Sudostroenie," 1964. 181 p. (MIRA 17:3)

ACCESSION NR: AP4035474

S/0051/64/016/005/0251/0253

AUTHOR: Vasil'yeva, N.N.

TITLE: Dependence of the scintillation duration of CsI(Tl) and KI(Tl) phosphors on the activator concentration

SOURCE: Optika i spektroskopiya, v.16, no.5, 1964, 851-853

TOPIC TAGS: scintillator, scintillation counter, cesium inorganic compound, potassium compound, thallium, Gamma ray detection

ABSTRACT: Investigation of the activator concentration dependences of the scintillation and spectral characteristics of phosphors is of value from the standpoint of elucidating the mechanism of excitation energy transfer from the host to the activator. The present work was devoted to investigation of the variation with activator concentration of the scintillation duration of CsI(Tl) and KI(Tl) phosphors. For the former the Tl concentration was varied in the range from 0.11×10^{-4} to 15.75×10^{-4} mole Tl/mole CsI; for the latter, from 0.70×10^{-4} to 5.45×10^{-4} mole Tl/mole KI (as indicated by polarographic measurements). The growth and decay of the scintillations (fluorescence) were observed by the single oscillographing procedure

Card^{1/4}

ACCESSION NR: AP4035474

developed by I.K.Plyavin' (Dissertation, FIAN, M.1953). Excitation was realized by gamma-rays from Co^{60} ; the fluorescence was detected by an FEU-29 photomultiplier connected to an OK-17m oscillograph. The results are presented in the figures (Enclosure 01), where t_0 is the growth time and τ is the decay time. d_{lat} is the average distance between activator ions in units of the lattice constant. The plots for $\text{CsI}(\text{Tl})$ exhibit a break at about 0.8×10^{-4} mole Tl/mole CsI. The plots for $\text{KI}(\text{Tl})$ are linear; the absence of a break may be due to the fact that the measurements were not extended to sufficiently low Tl concentrations. The difference in behavior of the two types of crystals is interpreted on the assumption that the scintillation decay time is determined by thermal release of the activator ions from close metastable levels; Tl^+ has at least two excited levels, one of which is non-radiating; the transition probability between these levels varies with the Tl concentration owing to interaction of the Tl ions with each other and with the host lattice. "In conclusion, the author expresses her gratitude to M.D.Galinin and Z.L.Morgenshtern for guidance in the work and discussion of the results." Orig.art. has: 1 formula and 2 figures.

Card 2/4

I. 10307-66 EWT(m)/T/EWP(t)/EWP(b)/EWA(c) IJP(c) 30/73
ACC NR: AP6000027 SOURCE CODE: UR/0368/65/003/005/0470/0472

AUTHOR: Vasil'yeva, N. N.

ORG: None

TITLE: Scintillation time of cesium iodide-thallium single crystals as a function of activator concentration
₂₇ ₂₇

SOURCE: Zhurnal prikladnoy spektroskopii, v. 3, no. 5, 1965, 470-472

TOPIC TAGS: scintillation, cesium ²⁷compound, iodide, single crystal, ¹⁰activated crystal

ABSTRACT: The author studies the time characteristics of the scintillation of CsI-Tl single crystals with activator concentrations from 0.14×10^{-4} to 15.75×10^{-4} mole Tl/mole CsI. The data are presented according to measurements obtained by the polygraphic method (L. M. Belyayev, M. D. Galanin, Z. L. Morgenshtern, Z. A. Chizhikova, DAN SSSR, 99, 691, 1954). The damping of the scintillations was investigated by the method of an oscillograph developed by I. K. Plyavin' (Dissertatsiya. FIAN, M., 1958.), and the warm-up time was studied on the DESO-1 oscillograph. The excitation was induced with a source of gamma-radiation of Co^{60} . The author finds an increase in the warm-up time of Tl

Card 1/2

UDC: 539.1.074.3

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10

L 10307-66

ACC NR: AP6000027

2

luminescence with a decrease in its concentration in CsI, and explains the phenomenon by noting that the absorption of the gamma-quantum energy in the grating is not transmitted to the activator instantaneously, but within a period of time which depends on the concentration T1. The greater the period of time, the greater the probability of transmission of energy by the centers of luminescence of the pure base or of its conversion into heat. In conclusion the author expresses his gratitude to Z. L. Morgenshtern for supervision of the work, and to M. D. Galanin for discussing the results. Orig. art. has: 3 figures.

SUB CODE: 20 / SUBM DATE: 05Jan65 / ORIG REF: 005 / OTH REF: 004

Card

m'
2/12

ANDREYEV, Pavel Alekseyevich; STRAKHOVICH, K.I., prof., retsenzent;
KOTOV, A.P., kand. tekhn. nauk, retsenzent; TYRYSHKIN, V.G.,
nauchnyy red.; VASIL'YEVA, N.N., red.; TSAL, R.K., tekhn. red.

[Rotary screw compressors] Vintovye kompressornye mashiny,
Leningrad, Gos. soiuznoe izd-vo sudostroit. promyshl., 1961.
250 p. (MIRA 15:3)

(Compressors--Design and construction)

GINBERG, Aleksandr Mironovich; BAKHVALOV, G.T., doktor tekhn. nauk,
retsensent; GRUYEV, I.D., nauchnyy red.; VASIL'YEVA, N.N.,
red.; TSAL, R.K., tekhn. red.

[Technology of electroplating and electroforming] Tekhnologiya
gal'vanotekhniki. Leningrad, Sudpromgiz, 1962. 279 p.
(MIRA 15:10)

(Electroplating) (Electroforming)

VASIL'YEVA, N.N.; YEL'YASHEVICH, A.I.

Second All-Union Coordination Conference on Polyolefins.
Plast.massy no.7:75 '62. (MIRA 15:7)
(Olefins--Congresses)

KHANDOV, Zosima Aleksandrovich; YERMAKOV, Vasily Fedorovich;
BOTKIN, P.P., kand. tekhn. nauk, retsenzent; AL'TMAN,
I.R., inzh., retsenzent; ZAKHARENKO, B.A., nauchn. red.;
VASIL'YEVA, N.N., red.; KRYAKOVA, D.M., tekhn. red.

[Marine diesel engine operations with a two-stage fuel feed]
Rabota sudovogo dizelia s dvukhfaznoi podachei topliva. Le-
ningrad, Sudpromgiz, 1963. 82 p. (MIRA 16:12)
(Marine diesel engines)

KLYUKIN, Igor' Ivanovich; MYASNIKOV, L.L., doktor tekhn. nauk, prof.,
retsensent; SUKHOTIN, V.E., kand. tekhn. nauk, retsenzent;
GORDON, L.A., nauchn. red.; VASIL'YEVA, N.N., red.;
SHISHKOVA, L.M., tekhn. red.

[Underwater sounds] Podvodnyi zvuk. Leningrad, Sudpromgiz,
1963. 141 p. (MIRA 16:8)
(Underwater acoustics)

GREYNER, Gans Rolandovich; IL'YASHENKO, Vladimir Pavlovich;
PERVUSHIN, Nikolay Nikolayevich; CHUMAYEVSKIY, Viktor
Alekseyevich; GEYNIKHS, G.K., kand.tekhn.nauk,
retsenzent; SEKUNOVA, O.N., nauchn.red.; SINITSIN,
A.I., nauchn.red.; VASIL'YEVA, N.N., red.; FRUMKIN, P.S.,
tekhn. red.

[Automatic control of air pump compressor plants] Avtomati-
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ISTOMIN, Pavel Aleksandrovich; MAYDENKO, O.K., kand. tekhn. nauk, dots.,
retsenzent; LUR'YE, I.A., kand. tekhn. nauk, starshiy nauchnyy
sotr., retsenzent; PETROV, P.P., nauchnyy red.; VASIL'YEVA,
N.N., red.; KOROVENKO, Yu.N., tekhn. red.

[Kinematics and dynamics of piston-type internal combustion
engines with combined cycles; generalized method for analyzing
crankgears of engines] Kinematika i dinamika porshnevykh DVS s
kombinirovannymi skhemami; obobshchennyi metod analiza krivo-
shipno-shatunnykh mekhanizmov dvigatelei. Leningrad, Gos.
soiuznoe izd-vo sudostroit. promyshl., 1961. 303 p.

(MIRA 15:2)

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BOGOMOL'NIY, Abram Yevseyevich; RU'AVISHNIKOV, I.V., inzh.,
retsensent; TESLENKO, N.A., nauchn. red.; VASIL'YEVA,
N.N., red.; FRUMKIN, P.S., tekhn. red.

[Auxiliary mechanisms on ships] Sudovye vspomogatel'nye
mekhanizmy. Izd.2., perer. i dop. Leningrad, Sudpromgiz,
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BAGREYEV, Vladimir Vladimirovich; VINOKUROV, Anatoliy Ivanovich;
KISELEV, Vyacheslav Aleksandrovich; PANICH, Boris
Bentsionovich; ITSKOVICH, Georgiy Mikhaylovich;
KONDRASHOV, D.A., inzh., retsenzent; RUBASHKIN, A.G.,
inzh., retsenzent; ARKUSHA, A.I., nauchn. red.; KOZINTSOV,
B.S., nauchn. red.; VASIL'YEVA, N.N., red.; YEROMITSKAYA,
Ye.Ye., red.; SHAURAK, Ye.N., red.; KRYAKOVA, D.M., tekhn.
red.

[Collection of problems in technical mechanics] Sbornik za-
dach po tekhnicheskoi mekhanike [By] V.V. Bagreev i dr. Le-
ningrad, Sudpromgiz, 1963. 551 p. (MIRA 16:8)
(Mechanical engineering--Problems, exercises, etc.)

BOREVICH, Zenon Ivanovich; VASHILEVA, N.N., red.

[Determinants and matrices; textbook for correspondence students] Opredeliteli i matritsy; znachenie pochie dlya zaochnikov. Leningrad, Izd-vo Leningr. univ., 1968. 116 p.
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VASIL'YNA, N. N.

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BRADDE, R. S., TSIVILEVA, L. S., WASHILEVA, V. V.

Urticaria

Tumorous type of urticaria pigmentosa. Vest. ven. i term. No. 3 1952.

9. Monthly List of Russian Accessions, Library of Congress, October 1952 ~~1953~~, Uncl.

VASIL'YEVA, N.N.

Chronic pemphigus benignus vegetans. Vest.ven.i derm. no.2:48-50
Mr-Ap '54. (MLRA 7:4)

1. Iz otdela dermatologii (zaveduyushchiy - professor B.N.Maskkolleyson)
TSentral'nogo kozhno-venerologicheskogo instituta (direktor - kandidat
meditsinskih nauk N.M.Turanov) Ministerstva zdavookhraneniya SSSR.
(Pemphigus)

EXCERPTA MEDICA Sec.13 Vol.10/5 Dermatology May56

1132. VASILYEVA N.N. Centr. Skin and venereol. Inst., Moscow. *The glycogen content of the skin in normal and pathological conditions (Russian text) ARKH. PATOL. (Moscow) 1955, 17/2 (50-55) Illus. 3

The skin of arm, chest and neck of 10 embryos and 16 children and adults was examined and compared with biopsies obtained from 34 eczema patients, 13 psoriasis patients, 14 patients with lichen ruber planus and 21 with chronic ulcer of the lower leg. During the first half of pregnancy, the foetal epidermis is very rich in glycogen; in the course of years the content decreases. The sweat glands do not contain it, whereas there are slight quantities in the apocrine glands; the hair follicles and the hair elevator muscles show a considerable quantity in foetuses as well as in adults. In the above-mentioned diseases, much glycogen is demonstrable in the epidermis and in the appendages of the skin. The glycogen level of the blood was not increased. This marked increase in pathological processes is interpreted as a reactivation of the embryonic type of carbohydrate metabolism.

Brandt - Berlin (V.13)

EXCERPTA MEDICA Sec 15 Vol. 10/8 Chest Diseases Aug 57

1888. VASILYEVA N.N. Med. Inst. Setchenoff, Moscow. *Pneumomycosis induced by moulds (penicillium species) ARKH. PATOL. 1956, 18/4 (50-53) illus. 4 (Russian text)

Description of 2 pneumomycoses induced by penicillium: (1) A 60-year-old man who had been operated upon for carcinoma of the stomach and who had died 1 yr. later from a recurrence. At autopsy a nodule was found in the left pulmonary upper lobe which microscopically was held to be a metastasis but was found microscopically to be a penicillium granuloma. (2) A 30-year-old woman: acute onset of illness with high temperature. Penicillin treatment. Since, apart from the cough, peritoneal signs developed laparotomy was performed revealing several perforations of the duodenum. The patient died 1 week later. Autopsy showed that she had suffered from typhoid ulcers; in addition, pneumonic foci were found in the right upper and median lobe containing penicillium-mycelium filaments. In the latter case the penicillin treatment may have started a mycotic process. Similar cases are reported in the literature.

Brandt - Berlin (XV, 6, 20)

VASIL'YEVA, N.H., (Moskva)

Pneumomycosis caused by a mold fungus of the genus *Penicillium*.
Arkhp.at. 18 no.4:50-53 '56 (MIRA 11:10)

1. Iz kafedry patologicheskoy anatomii (sav. chlen-korrespondent
AMN SSSR prof. A.I. Strukov) i Moskovskogo meditsinskogo instituta
imeni I.M. Sechenova.

(FUNGUS DISEASES,

lungs, after penicillin, ther. isolation of *Penicillium*
(Rus))

(LUNGS, dis.

fungus dis., after penicillin ther., isolation *Penicillium*
(Rus))

(PENICILLIN, ther. use inf. eff.

fungus dis. of lungs, isolation of *Penicillium* (Rus))

VASIL'YEVA, N.N., kandidat meditsinskikh nauk

Morphology of some forms of tracheal adenoma. Vest.oto-rin. 18 no.5:
61-63 S-0 '56. (MLRA 9:11)

1. Iz kafedry patologicheskoy anatomii (zav. - chlen-korrespondent
Akademii meditsinskikh nauk SSSR prof. A.I.Strukov) I Moskovskogo
ordena Lenina meditsinskogo instituta.

(TRACHEA, neoplasms
adenoma, pathol.)

KALABINA, A.V.; BYCHKOVA, T.I.; MONDODOYEV, G.M.; VASIL'YEVA, H.N.

Synthesizing acetals of diatomic phenols. Izv.Sib.otd.AN SSSR
no.9:39-43 '58. (MIRA 11:11)

1. Irkutskiy gosudarstvennyy universitet im A.A. Zhdanova.
(Phenol condensation products) (Acetal)

VASIL'YEVA, N.N., kand.med.nauk; LAPIN, S.K., kand.med.nauk; SEROV, V.V.,
kand.med.nauk; SHIKHODYROV, V.V., kand.med.nauk; PETROVA, A.S., kand.
med.nauk (Moskva).

Third All-Union Congress of Pathoanatomists. Arkh.pat. 21 no.10:
85-94 '59. (MIRA 14:8)
(ANATOMY, PATHOLOGICAL CONGRESSES)

RABEN, A.S.; VASIL'YEVA, N.N.

Clinical characteristics and pathohistology of eosinophilic
granuloma of the face. Vest.derm.i ven. 34 no.3:71-12 My-Je
160. (MIRA 13:10)

(EOSINOPHILIC GRANULOMA) (FACE--DISEASES)

VASIL'YEVA, N. N.; BOLKHOVITINOVA, L. M. (Moskva)

Morphogenesis and clinical aspects of embryonal adenosarcoma
of the kidneys in adults. Arkh. pat. no.6:51-56 '61.

(MIRA 14:12)

1. Iz kafedry patologicheskoy anatomii (zav. - chlen-korrespondent
AMN SSSR prof. A. I. Strukov) I Moskovskogo ordena Lenina meditsin-
skogo instituta imeni I. M. Sechenova.

(KIDNEYS--TUMORS)

GAVRILOV, V.I.; KUBORINA, L.N.; VASIL'YEVA, N.N.

Use of transplanted cells of mice embryos (line KEM-La) for the color
test. Vop. virus. 6 no.5:563-568 S-0 '61. (MIA 15:1)

1. Gosudarstvennyy kontrol'nyy institut meditsinskikh biologicheskikh
preparatov imeni L.A.Tarasevicha, Moskva.
(POLIOMYELITIS) (COXSACKIE VIRUSES)

VASIL'YEVA, N.N., kand. med.nauk; GOLUBEVA, K.I., kand. med. nauk;
GUL'KEVICH, Yu.V., prof.; DAL', M.K., doktor med.nauk,
prof.; IL'INA, A.V., kand.med. nauk; LEVKOYEVA, E.F., doktor
med.nauk, prof.; MASLOVA, I.P., kand. med.nauk; PRIGOZHINA,
A.L., kand. med.nauk; UGRYUMOV, B.P., prof.; SHATILOVA, T.A.,
kand. med.nauk; SHCHEGLOVA, A.A., kand. med.nauk; DVIZHKOV,
P.P., prof., red. toma; STRUKOV, A.I., prof., red. toma;
OSTROVERKHOV, G.Ye., prof., glav. red.; APATENKO, A.K.,
kand. med. nauk, nauchn. red. toma

[Multivolume handbook on pathological anatomy] Mnogotomnoe
rukovodstvo po patologicheskoi anatomii. Otv. red. A.I.
Strukov. Moskva, Medgiz. Vol.1. [History of pathological
anatomy; pathological anatomy of the endocrine glands, skin,
ear, and eye] Istoriia patologicheskoi anatomii; patologi-
cheskaia anatomia zabolevanii endokrinnykh zhelez, kozhi,
ukha i glaza. Red. toma: P.P.Dvizhkov i dr. 1963. 670 p.
(MIRA 16:11)

1. Chlen-korrespondent AMN SSSR (for Strukov).
(ANATOMY, PATHCLOGICAL)

GAVRILOV, V.I.: VASIL'YEVA, N.N.; DOKTOR N.N. ZAIYEVA, R.G.

Line of transplantable cells from a Syrian hamster tumor caused
by the SV₄₀ virus. Vop. virus 8 no.5:583-590 S-0'63
(MIRA 17:1)

1. Institut virusologii imeni D.I.Ivanovskogo AMN SSSR i
Kontrol'nyy institut meditsinskikh biologicheskikh
imeni L.A. Tarasevicha.

VASIL'YEVA, N.N., assistant; PER, M.I., prof.; MASHKILLEYSON, A.L.,
ordinator.

Nucleic acids and glycogen of the skin in pemphigus. Trudy
1-go MMI 22:329-339 '63 (MIRA 18:2)

STRUKOV, A.I., prof.; VASIL'YEVA, N.N., assistant; RABEN, A.S., starshiy
nauchnyy sotrudnik

Histochemical characteristics of a sarcoid granuloma. Trudy
1-go MMI 22:301-314 '63 (MIRA 18:2)

ALTSTEIN, A.D.; DODONOVA, N.N.; VASILYEVA, M.N.

The effect of incubation temperature on the cytopathic activity, plaque formation and multiplication of vacuolating virus SV 40. Acta virol. (Praha) [Eng.] 9 no.2:144-151 Mr'65.

1. The Tarasevich State Control Institute of Medical Biological Preparations, Moscow, U.S.S.R.

VASIL'YEVA, N.N.; KRAVCHENKO, A.T.; SAVRILOV, V.I.; DODONOVA, N.N.; LEVENBUK,
I.S.; KARNAYEVA, F.M.

Study of the infective and oncogenic activity of the SV₄₀ virus.
Preliminary report. Vop. virus. 9 no.2:222-227 Mr-Ap '64.

(MIRA 17:12)

1. Kontrol'nyy institut imeni Tarasevicha, Meskva.

VASIL'YEVA, N.N.; NIKOL'SKAYA, B.S.

Experimental study of the toxic and possibly carcinogenic effect of the alkaloid sarracine. *Farm. i toks.* 28 no.1:111-114 Ja-F '65. (MIPA 18:12)

1. Otdel po izucheniyu kantserogennykh agentov Instituta eksperimental'noy i klinicheskoy onkologii AMN SSSR i laboratoriya narodnoy meditsiny Vsesoyuznogo nauchno-issledovatel'skogo instituta lekarstvennykh i aromaticheskikh rasteniy, Moskva. Submitted November 26, 1963.