

USSR / Soil Science. Cultivation. Melioration.
Erosion.

J-5

Abs Jour: Ref Zhur-Biol., No 8, 1958, 34436.

Author : ~~Burygin, V. A.~~, Pauznor, L. Yo.

Inst : Not given.

Title : Utilization of Artesian Waters for
Irrigated Mountain Ranges in Bzyl-kum Sand Desert.

Orig Pub: Sots. s. kh. Uzbekistana, 1957, No 8, 53-55.

Abstract: No abstract.

Card 1/1

BURYGIN, V.A.

USSR/Meadow Cultivation.

L.

Abs Jour : Ref Zhur - Biol., No 21, 1958, 95888

Author : Burygin, V.A.

Inst : -

Title : Pastures of the Zeravshan River Basin and Means for
Their Improvement.

Orig Pub : Materialy po proizvodit. silam Uzbekistana, 1957, vyp. 9,
187-195.

Abstract : No abstract.

Card 1/1

BURYGIN, V.A.; ZAPROMETOVA, N.S.

End of the spring growing season in some ephemeral and ephemeroïd plants of southern Kyzyl-Kum. Uzb.biol.zhur. no.4:
10-13 '59. (MIRA 13:1)

1. Institut botaniki AN UzSSP.
(Kyzyl-Kum-Desert flora)

BURYQIN, V.A.; ZAPROMETOVA, N.S.

Water cycle of certain plants of the low Nura-Tau Mountains.
Trudy Inst. bot. AN Uz.SSR no.5:6-49 '59. (MIRA 14:5)
(Nura-Tau--Plants--Water requirements)

BURYGIN, V.A.

Some results of work in introducing wild forage plants in
deserts of Uzbekistan. Trudy Bot.inst.Ser.6 no.7:238-240
159. (MIRA 13:4)

1. Institut botaniki AN UzSSR, Tashkent.
(Uzbekistan--Forage plants)

ZAKIROV, K.Z.; BURYGIN, V.A.

A. Leont'ev's book "Sandy deserts in Central Asia and their improvement by afforestation." Uzb. biol. zhur. 7 no.5:83-84 '63.
(MIRA 18:11)

1. Ferganskiy pedagogicheskiy institut i Tashkentskiy sel'skokho-zyaystvennyy institut.

5(3)

SOV/79-29-5-17/75

AUTHORS: Petrov, K. A., Bliznyuk, N. K., Burygin, V. Ye.

TITLE: On the Reaction of Phosgene With Trialkyl-Phosphites (O reaktsii fosgena s trialkilfosfitami)

PERIODICAL: Zhurnal obshchey khimii, 1959, Vol 29, Nr 5, pp 1486 - 1491 (USSR)

ABSTRACT: It was demonstrated in the present paper that the reaction of chloro phosphoric acid esters with trialkyl phosphites is similar to the reaction of Arbuzov where the alkyl chloride is separated and the ester of the diphosphonic acid with a P-P-bond is formed. The diphosphonates with a P-P-bond are unstable substances. During distillation they are frequently cleaved and yield esters of the alkyl-phosphinic acid and metaphosphates. Such a cleavage even takes place in the low absolute pressure. The purely prepared ester of the alkyl phosphinic acid was hydrolyzed to the alkyl-phosphinic acid. The latter was transformed into its aniline salt. With water the diphosphinate decomposes. The reaction products reduce the mercuric chloride to mercurous chloride. Probably the P-P-bond breaks during the hydrolysis, with phosphite and phosphate thus being formed. The ester of the diposphinic acid with

Card 1/2

On the Reaction of Phosgene With Trialkyl-Phosphites

SOV/79-29-5-17/75

a P-P-bond is readily splitted by chlorine and sulfuryl chloride and dialkyl-chloro phosphate is formed. Dialkyl-chloro phosphates were prepared in a pure condition, analyzed and converted to the anilides of the dialkyl-phosphoric acid. The reaction of chloro-phosphoric acid esters with phosphites was investigated on dimethyl and diethyl-chloro phosphoric acid esters with trimethyl and triethyl-phosphites, respectively. There are 10 references, 6 of which are Soviet, and 1 Polish.

SUBMITTED: March 6, 1958

Card 2/2

BURYGINA, A.D., (Yevpatoriya, Krymskey obl., ul. Lenina, d.17, kv.10)

Pathogenesis of scoliosis following poliomyelitis. Ortop., travm.
i protez. 26 no.2:33-36 F '65. (MIRA 18:5)

1. Iz Yevpatoriyskogo detskogo klinicheskogo sanatoriya (nachal'nik -
kand. med. nauk L.I.Pomeranskiy) Ministerstva obrony SSSR.

BURYKH, A., kapitan

Man from a legend. Kryl.rod. 13 no.12:5 D '62. (MIRA 16:2)
(World War, 1939-1945--Aerial operations)

BURYKH, A., mayor

Test. Kryl. rod. 14 no.11:6 N '63.

(MIRA 16:11)

BURYKH, M.P.

Topography of nerves in the region of the renal sinus. Arkh. anat.,
gist. i embr. 49 no.7:105-109 J1 '65.

(MIRA 18:10)

1. Kafedra normal'noy anatomii (zav. - prof. R.D.Sinel'nikov)
Khar'kovskogo meditsinskogo instituta.

BURYKH, Ye.B.; KOLOBOV, V.M.; SKOTNIKOV, Yu.A.; TIKHONOVICH, S.S.;
SHAPOVALOV: T.I.; KONOVALOVA, K.A., redaktor; RAZINKOV, P.,
redaktor; LIL'YE, A., tekhnicheskii redaktor

[Memorable places in Moscow province; brief guide] Pamiatnye mesta
Moskovskoy oblasti. Kratkii putevoditel'. Moskva, Izd-vo "Moskovskii
rabochii", 1954. 352 p. (MLRA 7:10)

1. Direktor Moskovskogo oblastnogo krayevedcheskogo muzeya (for
Konovalova)
(Moscow Province--Description and travel)

BUI'YKH, Ye.B.; KOLOBOV, V.M.; SKOTNIKOV, Yu.A.; TIKHONOVICH, S.S.;
SHEPOVALOV, T.I.; KONOVALOVA, K.A., redaktor; RODIONOV, Yu.,
redaktor; LIL'YE, A., tekhnicheskij redaktor

[Memorable places in Moscow Province] Pamiatnye mesta Moskovskoi
oblasti; kratkii putevoditel'. Izd. 2-e, dop. i perer. Sost. E.B.
Burykh i dr. [Moskva] Moskovskii rabochii, 1956. 606 p. (MLBA 9:7)

1. Moscow. Oblastnoy krayevedcheskiy musey. 2. Zamestitel' pred-
sedatelya Moskovskogo oblastnogo obshchestva krayevedeniya (for
Konovalova)

(Moscow Province--Historic houses, etc.)

BURYKH, Yevgeniya Bonifat'yevna; ROMANOVSKIY, I.S., nauchnyy red.; MORALEVICH, O.D., red. izd-va; BODROVA, V.A., tekhn. red.

[Along the waterways of the Moscow area; a guidebook] Po vodnym putiam podmoskov'ia; putevoditel'. [Information and schedules concerning boat travel and waterways in the Moscow area in 1958] Spravochnyè svedeniâ i raspisaniâ po ekskursionnym i prigorodnym vodnym marshrutam podmoskov'ia na 1958 g. 38 p. [Moskva, Izd-vo "Rechnoi transport," 1957] 192 p. (MIRA 11:7)
(Moscow Province--Description and travel)

~~BURYKH, Ye. B.~~; D'YAKONOV, M.V.; KOLOBOVA, M.I. [deceased]; KOLOBOV, V.M.;
KONOVALOVA, K.A.; POPADYKIN, V.I.; SKOTNIKOV, Yu.A.; TIKHONOVICH,
S.S.; SHEPOVALOV, T.I. Primalni uchastiyе YUN'YEVA, N.P.;
POLYAK, Ye.V.: SULTANOVA, N., red.; YAKOVLEVA, Ye., tekhn.red.

[Memorable places in Moscow Province; a concise guidebook] Pa-
miatnye mesta Moskovskoi oblasti; kratkii putevoditel'. Izd.3.,
dop. i perer. Sost.E.B.Burykh i dr. Moskva, Mosk.rabochii, 1960.
734 p. (MIRA 14:2)

1. Moscow. Oblastnoy krayevedcheskiy muzey. 2. Zamestitel' predse-
datelya Moskovskogo oblastnogo obshchestva krayevedeniya (for
Konovalova).

(Moscow Province--Guidebooks)

~~BURYKHIN, I. V.~~

Vladimir Afanas'evich Obruchev; on the occasion of his 90th birthday. Trudy Inst.geol.KirFan SSSR no.5:3-7 '54. (MLRA 9:12)

(Obruchev, Vladimir Afanas'evich, 1863-1956)

BURYKHIN, I.V.

Geology and certain characteristics of ores in the Kadamdzhay
deposit. Trudy Inst. geol. AN Kir. SSR no.10:35-49. '58.
(MIRA 12:9)

(Kadamdzhay region (Fergana)--Ore deposits)

KOROLEV, V.G., otv. red.; ADYSHEV, M.M., akademik, glav. red.;
BAYBULATOV, E.B., red.; BURYKHYN, I.V., akademik, red.;
GRIGORENKO, P.G., red.; DAVLETOV, I.D., red.; KONYUK, A.A.,
red.; POPOV, V.M., akademik, red.; SURGAY, V.T., red.

[Materials on the geology of ore deposits in the Tien Shan]
Materialy po geologii rudnykh mestorozhdenii Tian-Shania.
Frunze, Izd-vo "Ilim," 1964. 140 p. (MIRA 17:8)

1. Akademiya nauk Kirgizskoy SSR, Frunze. Institut geologii.
2. Akademiya nauk Kirgizskoy SSR (for Adyshev, Popov).
3. Institut geologii AN Kirgizskoy SSR (for all).

ADYSHEV, M.M., akademik, glav. red.; KOROLEV, V.G., zam. glav.
red.; BAYEULATOV, E.B., red. BURYKHIN, I.V., red.;
GRIGORENKO, P.G., red.; DAVLETOV, I.D., red.; KONYUK,
A.A., red.; POPOV, V.M., akademik, red.; SURGAY, V.T.,
red.

[Tectonics of the western regions of the northern Tien
Shan] Tektonika zapadnykh raionov Severnogo Tian'-Shania.
Frunze, "Ilim," 1964. 143 p. (MIRA 17:8)

1. Akademiya nauk Kirgizskoy SSR Frunze. Institut geologii.
2. Akademiya nauk Kirgizskoy SSR (for Adyshev, Popov).

BURYKHINA, Ye. K.

BURYKHINA, E. K.

Burykhina, E. K. "Treatment of Cabbage Seed Against Phoma lingam and other Diseases,"
Sad i Ogorod, no. 3, 1947, pp. 32-33. 8D Sal3

So: SIRA SI - 90-53, 15 Dec. 1953

BURKHAN / 12
Review of *Applied Mycology*

BURKHAN (E. K.). Cabbage phomosis and its control. *Sad i Ogorod (Orchard and Garden)*, 1950, 1, pp. 52-56, 1950. [Russian. *Abstr. in Hort. Abstr.*, 20, 3, p. 230, 1950.]

Infection of cabbage seeds and pods by *Phoma lingam* [see next abstract] is generally severe in wet years in the U.S.S.R. [C.M.I. map No. 73], although first-year plants are infected most when there is insufficient moisture, since weak plants are most susceptible. In laboratory experiments inoculated plants contracted the disease only when infested with the cabbage bug (*Murgantia histrionica*). Garlic

extract [see preceding abstract] lessened infection with only a slight reduction of germination. Wind-borne spores from seed-bearing plants may infect first-year plants.

BURYKHINA, Ye.K.; BUYANOVA, N.D.

Carrot bacteriosis. Zashch. rast. ot vred. i bol.
7 no.7:57-58 JI '62. (MIRA 15:11)

1. Zapadno-Sibirskaya ovoshchnaya stantsiya i Moskovskoye
otdeleniye Vsesoyuznogo instituta sel'skokhozyaystvennoy
mikrobiologii.

(Altai Territory--Carrots--Diseases and pests)

(Altai Territory--Bacteria, Phytopathogenic)

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CIA-RDP86-00513R000307710012-0

APPROVED FOR RELEASE: 06/09/2000

CIA-RDP86-00513R000307710012-0"

BURYKHINA, Z.Ye.

Some comments on the origin of ores in the Dzhergalan lead deposit.
Trudy Inst. geol. AN Kir. SSR no.9:239-252 '57. (MIRA 11:4)
(Terskey Ala-Tau--Lead ores)

BURYKHINA, E. Ye.

Mineralogy, chemistry, texture, and structure of ores in the
Dzhergalan lead deposits. Trudy Inst. geol. AN Kir. SSR no.10:
51-81 '58. (MIRA 12:9)

(Terskey Ala-Tau--Lead ores)

ZAYTSEV, M.L.; KALINSKIY, D.N.; KUROCHKIN, I.F.; BURYKIN, A.A.

Design of equal-arm measuring bridges with resistance converters.
Sbor. trud TSNIICHM no.30:136-144 '63. (MIRA 16:10)

(Bridge circuits)

BOYARSHINOV, M.I.; BURYKIN, A.A.

Springiness during shape rolling. Izv. vys. ucheb. zav.; chern.
met. 6 no.9:126-132 '63. (MIRA 16:11)

1. Magnitogorskiy gornometallurgicheskiy institut.

BURYKIN, A.

Results of a conference of the directors of the section of
geological and geographical studies. Geog.v shkole 20
no.4:72-73 J1-Ag '57. (MIRA 10:7)
(Geography--Study and teaching) (Geology--Study and teaching)

BURYKIN, A.F.

25-5-30/35

SUBJECT: USSR/Geology and Geography

AUTHOR: Burykin, A.F.

TITLE: On Advancement of the Knowledge of Geology and Geography
(Shire propagandu geologo-geograficheskikh znaniy)

PERIODICAL: Nauka i Zhizn' - May 1957²⁴ No 5, p 59 (USSR)

ABSTRACT: In February 1957 the All Union Association for Dissemination of Political and Practical Science invited the supervisors of geological and geographical science sections throughout the USSR to participate in a seminar in Moscow. The purpose of this meeting was to propagate in a more efficient way the knowledge of geology and geography in the USSR. It was pointed out that too little effort had been made by section supervisors in that direction, and that increased activity was essential. Various suggestions were made, e. g., to increase the number of articles in periodicals, to transmit lectures more frequently over the radio and TV, to provide lecturers with better means of instruction and to hold informative conferences in small communities.

Card 1/2

25-5-30/35

TITLE: On Advancement of the Knowledge of Geology and Geography
(Shire propagandu geologo-geograficheskikh znaniy)

ASSOCIATION:

PRESENTED BY:

SUBMITTED:

AVAILABLE:

Card 2/2

BURYKIN, A.F.

Four voyages of captain Khromchenko. Priroda, 46 no.3:77-80
Mr '57. (MIRA 10:3)

1. Vsesoyuznoye obshchestvo po rasprostraneniyu politicheskikh i
nauchnykh znaniy (Moskva)
(Khromchenko, Vasilii Stepanovich)

Bu. YK I A P F

PURYKIN, A.F.

Conference of the leaders of sections of the geological and geographical sciences of the Society for the Dissemination of Political and Scientific Knowledge. Izv. Vses. geog. ob-va 89 no.6:566-567 N-D '57.

(MIRA 10:12)

(Geology) (Geography)

AUTHOR: Burykin, A. SOV-25-58-7-27/56

TITLE: ~~Studying Our Planet~~ Studying Our Planet (Izuchaya nashu planetu)

PERIODICAL: Nauka i zhizn', 1958, Nr 7, p 57 (USSR)

ABSTRACT: In Moscow, a meeting dedicated to the International Geophysical Year was held at the central lecturing bureau of the Polytechnical Museum. It was summoned jointly by the Vsesoyuznoye obshchestvo po rasprostraneniyu **politicheskikh i nauchnykh znaniy** (All-Union Society for the Dissemination of Political and Scientific Knowledge) and the Mezhdudomstvennyy komitet po provedeniyu IGG (Interdepartmental Committee for the **organization of** the International Geophysical Year). The Vice-President of the Interdepartmental Committee, **Corresponding Member** of the USSR AS, V.V. Belousov, reported on the activities of the International Geophysical Year. The **Corresponding Member** of the USSR AS, E.R. Mustel' dealt with Soviet investigations of solar radiation carried out by 15 observatories from Vladivostok to L'vov. The **Corresponding Member** of the USSR AS L.A. Zenkevich dealt with oceanographic research work carried out by 5 Soviet expeditionary ships: "Vityaz'", "Lomonosov", "Sedov", "Ob'" and "Sevastopol'". The Doctor of Geographical

Card 1/2

Studying Our Planet

SCV-25-58-7-27/56

Sciences, Professor A.Kh. Khrgian reported on meteorological investigations and mentioned that 30 Soviet observatories are studying the atmosphere using various methods, such as aerial and rocket research, projector and acoustic methods. The Doctor of Geographical Sciences G.A. Avsyuk presented interesting data on glaciological research. Of the 64 countries taking part in the Geophysical Year, the main work is being done by the USSR and the USA. The showing of 2 popular scientific films, "The Lights of Mirnyy" and "Sputnik Over the Earth", concluded the meeting.

1. Planets--Study and teaching

Card 2/2

BURYKIN, A.M.

BURYKIN, A. M.

"The Anti-Erosion Role of the Forest on the Mountainous Slopes of the Black Sea Coast in the Kranodarskiy Kray." Cand Biol Sci, Kazan State U imeni V. I. Ul'yanov-Lenin, Kazan', 1955. (KL, no 12, Mar 55)

SO: Sum No. 670, 29 Sep 55 - Survey of Scientific and Technical Dissertations Defended at USSR Higher Educational Institutions (15)

BURYKIN, A.M.

Determining the permeability of soils to water in mountain regions.
Izv. Otd. est. nauk AN Tadjh.SSR no. 17:17-21 '56. (MIRA 11:8)

1. Kafedra pochvovedeniya i agrokhimii Tadjhikskogo sel'khozinstituta.
(Soils--Permeability)

USSR / Soil Science. Cultivation. Mollification.
Erosion.

J-5

Abs Jour: Ref Zhur-Biol., No 8, 1958, 34455.

Author : Burykin, M. M.

Inst : Not given.

Title : Fight against Soil Erosion by Water on the Black
Sea Littoral of Caucasus.

Orig Pub: Lesn. kh-vo, 1957, No 9, 41-43.

Abstract: No abstract.

Card 1/1

COUNTRY : USSR
CATEGORY : Soil Science. Physical and Chemical Properties of Soils. J
ABST. JOUR. : RZhBiol., No. 23 1958, No. 104424
AUTHOR : Burykin, A. M.
LIST. :
TITLE : Subsurface Water Flow Under Mountain Conditions of the Moist Subtropics
ORIG. PUB. : Pochvovedeniye, 1957, No. 12. 90-97
ABSTRACT : Subsurface water flow was studied on the slopes of mountains within the Black Sea station in Krasnodarskiy Kray. On yellow -podzolic soils the following data for flow velocity in units of 1 hectare/liter per minute were obtained. On cultivated watershed with heavy-loam soil, 19.0; with rubbly average-loam soil, 31.4; on afforested watershed with heavy-loam soil, 33.3. In forest and rubbly soils the subsurface flow is increased. The quantity of fine soil particles and nutrients lost in these soils is less than in cultivated soils. The highest soil permeability -- 5.52 mm/minute -- was observed in forest
Card: 1/2

COUNTRY :

CATEGORY :

ABS. JOUR. : RZhBiol., No. 23 1958, No. 104424

AUTHOR :

INSTIT. :

TITLE :

OPIS. PUB. :

ABSTRACT : soils. Subsurface flow and wash-out of water-soluble materials increases with increase in slope and soil moisture. Subsurface water is rich in dissolved Ca, Mg, Na, SiO₂, CO₂ and both sulfuric and hydrochloric acid anions. The greatest loss of nitrates (up to 70% of all lost) was observed at the end of summer and the beginning of autumn. Principally, particles with diameters of from 0.01 to 0.005 mm are carried off by the subsurface waters.--S. A. Nikitin

Card: 2/2

BURYKIN, A.M.

Role of trees and shrubs in the conservation of soils at the
Black Sea coast of Krasnodar Territory. Pochvovedenie no.8:
104-112 Ag '59. (MIRA 12:11)

1. Tadzhikskiy sel'skokhozyaystvennyy institut.
(Krasnodar Territory--Soil conservation)
(Forest influences)

BURYKIN, Aleksandr Mikhaylovich, kand. biolog. nauk; SORENKOV, I.G., red.

[Water erosion of soils and its control in Tajikistan] Vodnaia ero-
ziia pochv i bor'ba s nei v Tadzhikistane. Stalinabad, M-vo sel'
khoz. Tadzhikskoi SSR. 1961. 43 p. (MIRA 14:11)
(Tajikistan--Erosion)

L 04717-67 ENT(m)/EWP(v)/EWP(t)/ETI/EWP(k) IJP(c) JD/HM

ACC NR: AP6027430

SOURCE CODE: UR/0125/66/000/007/0012/0015

AUTHOR: Fil'chakov, P. F.; Tarapon, A. G.; Burykin, A. Ya.; Rysbov, 87
V. R. 86

ORG: Fil'chakov; Tarapon; Burykin Mathematics Institute AN UkrSSR 3
(Institut matematiki AN UkrSSR); Rysbov Institute of Electric Welding
im. Ye. O. Paton AN UkrSSR (Institut elektrosverki AN UkrSSR)

TITLE: Investigation of the nonstationary heat field in the bimetal
aluminum-steel 18

SOURCE: ^v Avtomaticheskaya svarka, no. 7, 1966, 12-15

TOPIC TAGS: bimetal, aluminum, steel, welding technology, heat transfer,
heat conduction, simulation, graphic technique

ABSTRACT: A method is described for simulating unstationary heat fields
on electrically conducting paper. This method makes it possible to find
the general principles of heat diffusion in the welding of metals in
different combinations without resorting to complex experiments.
Transitional heat fields were determined for different bimetallic
combinations of AD1 or AMg6 aluminum and St.3 or 1Kh18N9T steel. The
relationship was established between the time required for transition

Card 1/2

UDC: 621.791:669.14:669.71:536.12

L 04717-67

ACC NR: AP6027430

lines to reach unsafe temperatures and the ratio of the thicknesses and the thermophysical properties (heat conductivity and specific heat) of the dissimilar metals to be joined. Nomograms were constructed for calculating the time required for the aluminum-steel bimetal transition lines to attain critical temperatures (over 520°C). Orig. art. has: 1 table and 7 equations.

SUB CODE: 11, 13, 20/ SUBM DATE: 09Mar65/ ORIG REF: 003

Card 2/2 afs

BURYKIN, D.A. (Noril'sk, Krasnoyarskogo kraya); KRAN, A.P., agronom
(Noril'sk, Krasnoyarskogo kraya); SAYTBURKHANOV, Sh.R., nauchnyy
sotrudnik (Noril'sk, Krasnoyarskogo kraya)

Chemical weed control in the Far East. Zashch. rast. ot vred. i
bol. 6 no.7:32-33 J1 '61. (MIRA 16:5)

1. Direktor Noril'skogo soveta narodnogo khozyaystva (for Burykin).
2. Institut sel'skogo khozyaystva Kraynego Severa (for Saytburkhanov).
(Soviet Far East--Weed control)

ACCESSION NR: AP4029202

S/0226/64/000/002/0019/0021

AUTHOR: Buryakina, A. L.; Yevtushok, T. M.

TITLE: Investigation of the contact reaction of metal-like carbides with graphite at high temperatures in a vacuum

SOURCE: Poroshkovaya metallurgiya, no. 2, 1964, 19-21

TOPIC TAGS: graphite, contact reaction, carbon carbide, titanium carbide, zirconium carbide, niobium carbide, tantalum carbide, hafnium carbide, power metallurgy

ABSTRACT: The investigation of the behavior of high-melting compounds in contact with graphite at high temperatures has great significance, since the character of the reaction may serve as a criterion for the selection of design compositions in nuclear power and rocket technology. The author studied the reaction of titanium, zirconium, hafnium, niobium, tantalum, molybdenum, and tungsten carbides with graphite in the temperature range of 1800-2200C for a contact time of up to 10 hours. The following observations were made: 1) the weight of carbide samples after annealing in a graphite covering was maintained to an accuracy of several hundredths of a percent; 2) no traces of the reaction were revealed in the metallographic investigation on the graphite-carbide contact boundary; 3) the

Card 1/2

ACCESSION NR: AP4029202

microhardness of the carbide samples in graphite after contact near the boundary was maintained within the limits of measurement error; and 4) the results of the chemical analysis confirm the absence of a graphite reaction with any of the carbides. This last observation agrees with bibliographic data, where the melting temperature of the eutectics of pseudobinary systems has been established. 3080 (± 50) C for TiC-C, 2920 (± 50) C for ZrC-C, 3150 (± 50) C for NbC-C, 3310 (± 50) C for TaC-C, and 3250 (± 50) C for HfC-C. Orig. art. has: 2 figures.

ASSOCIATION: Institut problem materialovedeniya AN SSSR (Institute of Material Behavior Problems, AN SSSR)

SUBMITTED: 08Jan63

DATE ACQ: 28Apr64

ENCL: 00

SUB CODE: ML

NO REF SOV: 002

OTHER: 000

Card 2/2

L 13056-65 EWP(e)/EWT(m)/EPP(c)/EPP(n)-2/EWP(v)/EPR/T-2/EWP(t)/EWP(k)/EWP(b)
PP-l/Pr-l/PS-l/Pu-l/Pad ASD(m)-3 AT/WH/WW/JD/PM/HW/JG/MLK

ACCESSION NR: AT4045968

S/0000/64/000/000/0124/0134

AUTHOR: Bury*kina, A. L.; Yevtushenko, O. V.

TITLE: Vacuum diffusion bonding of metal-like refractory compounds
with refractory metals

SOURCE: Novy*ye materialy* v mashinostroyenii (New materials in machinery manufacturing). Moscow, Izd-vo Mashinostroyeniye, 1964, 124-134

TOPIC TAGS: vacuum diffusion bonding, refractory compound diffusion bonding, refractory metal diffusion bonding, carbide refractory metal bonding

ABSTRACT: Conditions for joining titanium, zirconium, niobium, molybdenum, and tungsten carbides and carbides to molybdenum, niobium, tantalum, and tungsten by vacuum diffusion bonding were studied. Bonding was done in 10^{-2} to 10^{-1} mmHg vacuum under 0.5-3 kg/mm² pressure at temperatures of 1300-1700C. Bonds of satisfactory quality in titanium carbide were obtained at 1700C and in molybdenum carbide at 1700C. No

Card 1/3

L 13056-65

ACCESSION NR: AT4045968

satisfactory results were achieved with tungsten carbide, even at 2000C, apparently because of insufficient pressure. Bonding of titanium carbide to molybdenum required a temperature above 1600C; at 1900C a new phase was observed at the titanium carbide-molybdenum interface. Its microhardness was close to that of Mo_2C . In bonding of zirconium carbide to niobium, satisfactory quality bonds were obtained beginning at 1400C; a new phase with microhardness close to that of NbC is formed at 1600C. Bonding of zirconium carbide to sintered tantalum (porosity approximately 15%) was achieved at 2000C, and to molybdenum, at 1300-2000C; in the latter case the quality of the joint improves with increasing temperature. It was not possible to bond zirconium carbide to tungsten below 1800C, and the quality of bond obtained at higher temperature was not satisfactory. Niobium carbides were bonded to niobium at 1300-1800C and to tantalum at 1800C and under 0.5 kg/mm^2 pressure. Molybdenum carbide was bonded to molybdenum with satisfactory results at temperatures of 1300-1400C and to tungsten at 1400C, but in both cases a boundary line between carbide and metal was clearly seen at bonding temperatures up to 1700-1800C. Bonds of satisfactory quality were produced between tungsten carbide and molybdenum at 1800C. The joint contained a wide two-phase region. At the boundary line, the

Card 2/3

L 13056-65

ACCESSION NR: AT4045968

structure and hardness of the joint were similar to those of Mo₂C. In bonding tungsten carbide to tungsten, the bond quality was not satisfactory. Orig. art. has: 4 figures and 1 table.

ASSOCIATION: none

SUBMITTED: 16May64

NO REF SOV: 008

ENCL: 00

OTHER: 000

SUB CODE: HM, MT

ATD PRESS: 3128

Card 3/3

SAMSONOV, G.V. (Kiyev); BURYKINA, A.L. (Kiyev); STRASHINSKAYA, L.V.
(Kiyev); PUGACH, E.A. (Kiyev)

Interaction of magnesium oxide and zirconium dioxide with
high-melting compounds, at high temperature in vacuum.
Izv. AN SSSR. Met. 1 gor. delo no.4:106-115 J1-Ag '64.

(MIRA 17:9)

L 11302-65 EWG(j)/EWP(e)/EWT(m)/EPP(c)/EPP(n)-2/EPR/EPA(bb)-2/EWP(b) Pr-4/
Ps-4/Pu-4 JD/WW/JG/AT/WH

ACCESSION NR: AP4043919

S/0279/64/000/004/0106/0115

AUTHOR: Samsonov, G. V. (Kiev); Bury²¹skina, A. L. (Kiev);
Strashinskaya, L. V. (Kiev); Pugach, E. A. (Kiev)

TITLE: Interaction of magnesium¹⁷oxide and zirconium²¹dioxide with
refractory compounds at high temperatures in a vacuum

SOURCE: AN SSSR. Izv. Metallurgiya i gornoye delo, no. 4, 1964,
106-115

TOPIC TAGS: refractory oxide²¹carbide reaction, refractory oxide
nitride reaction, refractory oxide boride reaction, magnesium oxide
carbide reaction, magnesium oxide nitride reaction, magnesium oxide
boride reaction, zirconium dioxide carbide reaction, zirconium di-
oxide nitride reaction, zirconium dioxide boride reaction

ABSTRACT: Contact interaction of MgO and ZrO₂ with TiC, ZrC, HfC,
TaC, Mo₂C, and WC in the 1000—2200C temperature range, and with
TiN, ZrN, TiB₂, and ZrB₂ in the 1000—1800C range has been investi-
gated. Chemically pure MgO and ZrO₂, stabilized with CaO and powders
of the refractory compounds with a composition close to the stoichi-

Card 1/2

L 11302-65

ACCESSION NR: AP4043919

ometric and containing 0.3% max. free C, were used as the initial materials. In the experiments, which were conducted in a vacuum, ZrO₂ powder reacted with compacts of the refractory compounds, and MgO compacts reacted with powders of the refractory compounds. The investigation involved predominantly qualitative aspects of the new phases formed and their microstructure and microhardness. Generally, carbides were the most, and borides¹⁷ the least, stable in high-temperature contact interaction with MgO and ZrO₂. TaC and HfC in contact with MgO, and TaC and NbC in contact with ZrO₂ reacted only at temperatures higher than 2200C; for ZrC and WC in contact with MgO and for TiC, ZrC, TaC, and WC in contact with ZrO₂, the temperature of the initial reaction was 2000C. Orig. art. has: 6 figures and 2 tables.

ASSOCIATION: none

SUBMITTED: 29Nov63

ATD PRESS: 3108

ENCL: 00

SUB CODE: MM

NO REF SOV: 006

OTHER: 006

Card 2/2

L 36723-65 EPP(n)-2/EPR/EPA(s)-2/EMP(x)/EMA(c)/EMI(m)/EMG(m)/EMP(h)/T/S P(a)/
.../EMP(t) ...-L/Ps-L/Pu-L/Pad IJP/c AT/AT/CO .../HW/DO/AS

ACCESSION NR: AT4046832

S/0000/64/000/000/0140/0146

57
0+1

AUTHOR: Burykina, A. L.; Yevtushenko, O. V.

TITLE: Diffusion welding of titanium tungsten and molybdenum carbides

SOURCE: AN SSSR. Nauchny y sovet po probleme zharoprochny kh splavov. Issledovaniya staley i splavov (Studies on steels and alloys). Moscow, Izd-vo Nauka, 1964, 140-146

TOPIC TAGS: titanium carbide, tungsten carbide, molybdenum carbide, diffusion welding, carbide welding

ABSTRACT: The use of metallic materials made of refractory and rare metals requires the development of new methods for joining similar and different materials in various combinations. One of the best methods is diffusion welding under a vacuum of 10^{-3} to 10^{-6} mm Hg at temperatures ensuring mutual diffusion of atoms in the solid phase. This method has several advantages: gases and oxides are eliminated by continuous evacuation and there is no warping at the joint since welding is performed at temperatures 30-40% below the melting point. The present paper in-

Card 1/3

L 36723-65

ACCESSION NR: AT4046832

investigates the conditions for diffusion welding of the metallic carbides of titanium, molybdenum and tungsten, both with themselves and with molybdenum and tungsten, in a vacuum. A common laboratory vacuum pump was used for the vacuum passing through the samples. Rarefaction was maintained at a level of 0.1 mm Hg on the samples while heating was not over 1 kg/mm². Cylindrical samples with a diameter of 6-8 mm were tested at 1200-2000°C with a heating rate of 100 deg/min. and a cooling rate of 100 deg/min. from the testing temperature. The samples did not show any welding between titanium carbide and titanium carbide. Micrographic analysis was used to evaluate the test results. These results showed that it is possible to join the tested carbides by diffusion welding at relatively low temperatures and under a low vacuum of 0.1 mm Hg. At 1900°C titanium carbide was welded without any cracks. The results were the same as molybdenum carbide and tungsten carbide. Molybdenum carbide showed good weld seams with molybdenum at 1300-1400°C. Above 1500°C the weld seams were poor that no seams could be seen. Poor weld seams were obtained also in the diffusion welding of tungsten carbide with tungsten since the WC changed to W₂C at 1800°C. At a temperature of 1900°C the results were poor.

Card 2/3

L 36723-65

ACCESSION NR: A14046832

good seam with molybdenum, while tungsten carbide was properly welded to molybdenum at 1850C. Molybdenum carbide showed good welding with tungsten at 1700-1700C.
Orig. art. has: 3 figures.

ASSOCIATION: None

SUBMITTED: 16Jun64

ENCL: 00

SUB CODE: MM, IE

NO REF SOV: 006

OTHER: 000

Card 3/3

L 17832-65 EWG(j)/EWP(e)/EPA(s)-2/EWT(m)/EPF(c)/EPF(n)-2/EPR/EPA(w)-2/EWP(t)/EPA(bb)-2/EWP(b) Pr-1/Ps-1/Pt-10/Pu-1/Pab-10 IJP(c)/ASD(m)-3 AT/WH/WJ/JD/JG

ACCESSION NR: AP4047880

S/0279/64/000/005/0147/0149

AUTHOR: Bury*kina, A. L. (Kiev); Yevtushok, T. M. (Kiev)

TITLE: Titanium-carbide and zirconium-carbide coatings on graphite¹³

SOURCE: AN SSSR. Izvestiya. Metallurgiya i gornoye delo, no. 5, 1964, 147-149

TOPIC TAGS: graphite, titanium carbide coating, zirconium carbide coating

ABSTRACT: The TiC and ZrC coatings on graphite can be obtained by impregnating graphite with molten Ti or Zr and a subsequent carbidization of the metallic layer formed. Graphite specimens of various porosity were placed in a graphite container filled with titanium powder and held for 20--30 min in a vacuum of 10⁻⁴ mm Hg at a temperature 50--100C higher than the melting temperature of titanium. The molten metal penetrated into the graphite and formed a uniform metallic coating. Microscopic examination showed that the metal-graphite interlace is porous and that the coating is held

Card 1/2

L 17832-65

ACCESSION NR: AP4047880

mainly by mechanical adhesion. Diffusion annealing at 1500C for 1 hr brings about a formation of TiC at the interface, while the rest of the layer is transformed to a Ti-C solid solution. With 2-hr annealing the metallic layer is completely transformed to TiC with a lattice constant of 4.307 kx, which corresponds to TiC with about 11% C and a microhardness of 2813 kg/mm². Annealing at 1700C for 2 hr increased the lattice constant to 4.319 kx and the C content to 20.1%, which corresponds to TiC of stoichiometric composition with a microhardness of 3144 kg/mm². A similar technique was used to coat graphite with zirconium carbide. At 1950C, graphite was coated with metallic Zr. Subsequent diffusion annealing at 1800C for 2 hr produced a strong, tightly adhering, single-phase coating of ZrC of almost stoichiometric composition. The densest, most strongly adhering coatings were obtained on the least porous graphite. Orig. art. has: 2 figures and 4 tables.

ASSOCIATION: none

SUBMITTED: 98Jul63

ENCL: 00

SUB CODE: MM, IE

NO REF SOV: 004

OTHER: 001

Card 2/2

12 12 1965 44 200(4)/200(5) (INT(M)/EPP(E)-V/ENI(O)/EST(U)/EPR(T)/LWP(O)/LWP(K)

ACCESSION NR: AP504444

S 12 1965

AUTHOR: Burykina, A.L.; Yevtushenko, O.V.

TITLE: Vacuum diffusion welding of metal like carbides to refractory metals

SOURCE: Poroshkovaya metallurgiya, no. 1, 1965, 87-95

Keywords: vacuum welding, refractory metal welding, diffusion welding, structure

ABSTRACT: The paper reports on a study of the conditions of vacuum diffusion welding of metal like carbides and refractory carbide to the refractory metals. The results of the study are presented. It is shown that the conditions of vacuum diffusion welding of metal like carbides and refractory carbide to the refractory metals are determined by the composition of the metal like carbides and refractory carbide, the temperature of the welding, the time of the welding, and the pressure in the welding chamber. The results of the study show that the conditions of vacuum diffusion welding of metal like carbides and refractory carbide to the refractory metals are determined by the composition of the metal like carbides and refractory carbide, the temperature of the welding, the time of the welding, and the pressure in the welding chamber. In the case of vacuum diffusion welding of metal like carbides and refractory carbide to the refractory metals, the conditions of vacuum diffusion welding are determined by the composition of the metal like carbides and refractory carbide, the temperature of the welding, the time of the welding, and the pressure in the welding chamber. often, solid solutions of carbon in the metal (in the welding chamber).

Card 1/2

L 32679-65

ACCESSION NR: AP5004444

TaC-Nb₂C, or solid solutions of the carbides (in the welding of ZrC-Ta-NbC) appear at the contact boundary. Microhardness data indicate that the

L 56509-65 ~~ENG(j)/EMP(e)/ENT(m)/EPP(c)/EPP(i)/EPP(n)-2/ENG(v)/ENG(m)/EPR/EMP(j)/~~
~~T/EMP(l)/EPA(bb)-2/EMP(b)/EWA(h)/EWA(l)~~ Pc-4/Pe-5/Pr-4/Ps-4/Peb/Ps-4
ACCESSION NR: AP5016038 IJP(c) JD/WW/JQ/IT/ NR/0226/5510404/10000000
RM/WH

600-9
B

AUTHOR: Burykina, A. L.; Yevtushok, T. M.

TITLE: Contact reaction between metal-like borides and graphite at high temperatures in vacuum

SOURCE: Poroshkovaya metallurgiya, no. 6, 1965, 75-78

TOPIC TAGS: titanium boride, zirconium boride, hafnium boride, niobium boride, tantalum boride, molybdenum boride, tungsten boride, graphite, boride graphite reaction

ABSTRACT: The reaction in vacuum between compact and powdered tungsten, titanium, zirconium, hafnium, niobium, tantalum, molybdenum borides and compact powdered graphite has been investigated at temperatures up to 2200C. Hafnium, niobium, tantalum, and tungsten borides did not react with graphite at temperatures up to 2200C, nor did molybdenum boride up to the melting temperature. Titanium boride reacted slightly with graphite at 2000C for periods of up to 5 hr. After 5 hr at 2000C in powdered graphite, titanium boride contained 1.56% B and 2.00% C. In contact between compact graphite and compact

Card 1/2

L 56509-65

ACCESSION NR: AP5016038

carbon content of the latter increased by 0.5%, and the microhardness of Fe₂O₃ decreased while that of graphite near the contact boundary increased from 2.15 to 1.77 Gx/cm². Orig. art. has: 2 figures and 1 table.

ASSOCIATION: Institut problem materialovedeniya AN UkrNR (Institute of Problems of the Science of Materials AN UkrSSR)

SUBMITTED: 17Jul64

ENCL: 00

SUB CODE: MM, MT

GA
Gera 2/2

L 01044-66 EWG(j)/EWP(e)/EPA(s)-2/EWT(m)/EPT(c)/EWP(i)/EPT(n)-2/EWG(m)/EWA(d)/
EPA(w)-2/EWP(t)/EWP(b) IJP(c) JD/WW/JG/WE/AT/WH

ACCESSION NR: AP5018938

UR 0363 /65/001/006/0996/0998
621.785.53

AUTHOR: Burykina, A. L.; Yevtushok, T. M.
35,44 *55,44*

TITLE: Niobium carbide and boron carbonitride coatings on graphite *15*
27 *27* *27* *44,16*

SOURCE: AN SSSR. Izvestiya. Neorganicheskiye materialy, v. 1, no. 6, 1965, 996-998,
and insert facing the page 971

TOPIC TAGS: graphite, graphite coating, oxidation *16* inhibiting coating, niobium car-
bide coating, boron carbonitride coating, graphite oxidation, oxidation resistance,
oxidation inhibition *16*

ABSTRACT: Conditions of coating graphite with niobium carbide or boron carbonitride
have been investigated. In the first case, graphite plates 20 x 30 x 3—5 mm were
packed in niobium powder, heated in a vacuum furnace to 50—100C above the niobium
melting point, and held for 5—7 min. The molten metal spread uniformly over the
graphite surface. Under the effect of subsequent diffusion annealing at a lower
temperature, niobium carbide was formed. The obtained deposit prior to annealing
was found to have two phases: the Nb₂C with a microhardness of 2263 kg/mm² and the
solid solution of carbon in niobium with a microhardness of 282 kg/mm². Diffusion

Card 1/2

48
45
B

L 01044-66

ACCESSION NR: AP5018938

annealing at 1700—1900C converted the solid solution into carbide, but a boundary ³ between a primarily formed niobium carbide and carbide formed by diffusion annealing was distinguished. The densest coatings with adequate adhesion were obtained on graphite of minimum porosity. In the second case, graphite parts were painted with a paste containing the necessary components, packed in boric acid and carbon black, and held in nitrogen at 1600—2300C for 1—2 hr. A tightly adhering layer of boron carbonitride was formed on the graphite surface. Best results were obtained by sintering at 2100C for 2 hr. Between the coating and the graphite base, an intermediary layer consisting mostly of B_4C , whose hardness reached about 6000 kg/mm², was formed with inclusions of a softer phase (about 150 kg/mm²). Orig. art. has: 1 table.

[ND]

ASSOCIATION: Institut problem materialovedeniya AN UkrSSR (Institute of Material Study, AN UkrSSR)

44,55

SUBMITTED: 03Jun64

ENCL: 00

SUB CODE: M,MM

NO REF SOV: 003

OTHER: 000

ATD PRESS: 4068

Card 2/2 *RP*

BURYKINA, A.I.; YEVTUSHENKO, O.V.

Diffusion bonding in vacuum of metalloïd carbides with high-melting metals. Porosh. met. 5 no.1:87-95 Ja '65. (MIRA 18:10)

1. Institut problem materialovedeniya AN UkrSSR.

L 10871-66 EWP(e)/EWT(m)/ETC/EPF(n)-2/EWG(m)/EWA(d)/EWP(t)/EWP(z)/EWP(b) IJP(c)

ACC NR: AP5028372

SOURCE CODE: UR/0369/65/001/005/0557/0562
JD/JG/AT/WH

77
67
B

AUTHOR: Burykina, A. L.; Strashinskaya, L. V.

ORG: Institute of Problems of Materials Sciences, AN UkrSSR, Kiev (Institut problem materialovedeniya, AN UkrSSR)

TITLE: Investigation of new materials working in contact with hard metals, compounds, and certain melts

SOURCE: Fiziko-khimicheskaya mekhanika materialov, v. 1, no. 5, 1965, 557-562

TOPIC TAGS: refractory compound, refractory metal, refractory oxide, high temperature material

ABSTRACT: The article briefly reviews the results of studies on the solid-phase interaction of refractory compounds with refractory metals. Data are presented on the stability of refractory materials in melts of copper and nickel matte and dross and also certain salts. The temperatures of the start of the reactions for the compositions investigated are given

Card 1/3

L 10871-66

ACC NR: AP5028372

TABLE 1

TEMPERATURE OF THE START OF REACTIONS BETWEEN METALS AND REFRACTORY COMPOUNDS

COMPOUND	METAL			
	Ni	Ta	Mo	W
CARBIDES				
TiC	1700	1900	2000	2000
ZrC	~1400	2200	2000	2200
HfC	1400	1400	1500	2000
NbC	1700	1700	1700	~2200
TaC	1400	~2200	2000	1900
Mo ₂ C	1900	1800	1700	1700
WC	1900	1700	2000	2000
NITRIDES				
TiN	~1800	2000**	2000**	2000
ZrN	~2000	>2100	2100	>2100
BORIDES				
TiB ₂	1300**	1600**	1400	>1800
ZrB ₂	1200	1200	1200	1200
HfB ₂	~1400**	~1400**	~1400**	1500
MoB ₂	~1300	~1300	~1300	~1200
WB ₂	~1400	~1400	~1300	~1400
OXIDES				
BeO	1700*	1700*	-	1800*
MgO	1900	~1800	>2000	>2000
ZrO ₂	2100	~1800	>2000	2000
ThO ₂	>2100	>2100	>2100	>2100

* - TIME OF CONTACT 1 HR; ** - TIME OF CONTACT 2 HR; THE REMAINING PAIRS - TIME OF CONTACT 3 HR

Card 2/3

ACC NR: AP5028372

TABLE 2
TEMPERATURE OF THE START OF REACTIONS BETWEEN MAGNESIUM OXIDE
AND ZIRCONIUM DIOXIDE AND REFRACTORY COMPOUNDS

OXIDE	COMPOUND										
	TiC	ZrC	HfC	NbC	TaC	MO ₃ G	WG	TiN	ZrN	TiH ₂	ZrH ₂
MgO	1800	2000	2200**	1800	2000	1800	2000	1300	1400*	1200	1100
ZrO ₂	2200**	2200**	2200**	2200**	2200**	2000	2200**	1400	1300*	1100	1300

* - TIME OF CONTACT 5 HR; ** - TIME OF CONTACT 1 HR; THE REMAINING
PAIRS - TIME OF CONTACT 2 HR

in Tables 1 and 2. The authors studied the stability of some refractory compounds in melts of copper and nickel matte and dross, basalt, and also the salts 50% NaCl + 50% CaCl₂ in nascent chlorine and metallic sodium, as well as in a melt of 80% NaCl + 20% BaCl₂ in tests lasting from 2 to 50 hr. Orig. art. has: 2 figures and 3 tables.

SUB CODE:11/ SUBM DATE: 20Nov64/ ORIG REF: 008/ OTH REF: 005

BC

Card 3/3

(A) L 11907-66 EWT(d)/EWP(e)/EWT(m)/ETC(F)/EWG(m)/EWP(v)/T/EWP(+)/EWP(k)
 ACC NR: AP6001921 EWP(h)/EWP(b)/EWP(1)/ UR/0294/65/003/006/0940/0942 8/1
 ETC(m) IJP(c) JD/YW/JG/AT/WH 44 44 44 55 78
 AUTHOR: Burykina, A.L.; Dubovik, T.V.; Yevtushok, T.M.; Krasnov, A.N.

ORG: Institute for the Study of Materials AN UkrSSR (Institut problem materialovedeniya Akademii nauk UkrSSR)

TITLE: Aluminum nitride coatings on graphite¹⁵

SOURCE: Teplofizika vysokikh temperatur, v.3, no.6, 1965, 940-942

TOPIC TAGS: metal coating, aluminum nitride, graphite

ABSTRACT: The article studies the possibility of obtaining aluminum nitride coatings on graphite by the method of flame spraying of the aluminum with subsequent nitriding of the metallic layer. The spraying was carried out in a standard UPU-2M plasma unit using a wire as an open electrode. The plasma jet melts the metal which is deposited on the surface of an article placed in its zone; the thickness of the coating depends linearly on the time of the process. The plasma-forming gas was argon and the anode was an AV-200 aluminum wire with a diameter of 2 mm. Studies were made of the effect of current strength, the size of the arc gap, and the consumption and pressure of the plasma-forming gas on the density of the sprayed layer and the strength of its bond with the graphite. The following parameters were found to be optimum:

Card 1/2

UDG: 546.171:546.621

L 11907-66

ACC NR: AP6001921

voltage--65 volts; current strength--90 amp; arc gap--7 mm; argon rate--30 liters/min; argon pressure--1 atm; feeding speed of wire--6.5 meters/min; and, distance of the nozzle from the sprayed surface--200 mm. Nitriding of the aluminum layer was done in a tubular graphite resistance furnace in a nitrogen atmosphere. The samples were placed in the furnace at a temperature of 500°C, and the maximum nitriding temperature was 1000-2000°C. The heating rate was 9.10 degrees/min. Various temperature conditions were studied and the results are shown in a table with detailed descriptions of the coatings obtained. "The authors express their thanks to Corresponding Member of the AN UkrSSR G.V. Samsonov for his valuable advice on the carrying out of our work." Orig. art. has:
44 55
2 figures and 1 table.

SUB CODE: 20,11/ SUBM DATE: 15Jan65/ ORIG REF: 002/ OTH REF; 004

Card 2/2

(N) L 11624-66 EWP(e)/EWT(m)/ETC(F)/EPF(n)-2/EWG(m)/EWA(d)/T/EWP(t)/EWP(z)/
 ACC NR: AF6001472 EWP(b)/EWA(c) LJP(c) SOURCE CODE: UR/0226/65/000/012/0039/0044
 JD/WW/JG/AT/WH

AUTHOR: Burykina, A. L.; Krasnov, A. N.; Yevtushok, T. M. 73
 69
 B

ORG: Institute of the Problems of the Science of Materials AN UkrSSR (Institute
 materialovedeniya AN UkrSSR) 44

TITLE: Plasma-sprayed diffusion coatings on graphite 644

SOURCE: Pokoshkovaya metallurgiya, no. 12, 1965, 39-44

TOPIC TAGS: graphite, metal coating, plasma sprayed coating, diffusion coating,
 copper coating, aluminum coating, niobium coating, tungsten coating

ABSTRACT: Plasma coating of graphite with copper, aluminum, Nichrome, molybdenum,
 tungsten, and silicon by spraying or vacuum diffusion has been investigated, and
 the effect of various technological parameters on the structure of the obtained
 coatings has been determined. In plasma spraying, adhesion of the metal layer to
 graphite was found to result from imbedding of metal particles into the graphite
 surface. The coatings had a 10-14% porosity and were readily machinable. Multi-
 layer coatings (Ni-Al, Al-Cu-Ni, brass-Al, Cu-Ni, Al-Mo, Al-W) were also obtained
 by plasma arc spraying. Diffusion coatings were produced by pack cementation in a
 vacuum of 0.133-0.0133 n/m² at a temperature 50-100C higher than the melting
 temperature of the metal and holding time of 5-7 min. The densest, most strongly
 adhering coatings were obtained on the least porous graphite. After annealing at
 1500C for 1 hr, titanium coating had a two-layer structure: an inner layer of
 Card 1/2

L 11624-66

ACC NR: AP6001472

16 4

titanium carbide containing about 11% C, and an external layer consisting of a solid solution of carbon in titanium. With increasing annealing time to two hours, the external layer was transformed to titanium carbide of stoichiometric composition (20.01% C). A zirconium coating, up to 50 μ m thick, obtained by cementation at 1950C, was transformed into a single-phase zirconium-carbide coating by annealing at 1800C for 2 hr. The niobium coating had a two-phase structure: niobium carbide (Nb_2C) with a hardness of 2263 dan/mm^2 , and a solid solution of carbon in niobium with a hardness of 282 dan/mm^2 . Diffusion annealing at 1700—1900C gradually transformed the solid solution to carbide and increased the concentration of carbon in the remaining solid-solution layer. Dense, strongly adhering, silicon-carbide coatings 200—250 μ m thick were obtained by cementation for 1.5 hr in a hydrogen atmosphere at 1600C followed by annealing at 2200C or 2300C (to transform β -SiC to α -SiC) for 1.5 hr. Coatings on denser graphite had a microhardness of 3300 ± 120 dan/mm^2 , and 3190 ± 100 dan/mm^2 on a less dense graphite after annealing at 2200C. The corresponding figures for coatings annealed at 2300C were 4120 ± 207 and 3865 ± 202 dan/mm^2 . Orig. art. has: 3 figures and 3 tables. [MS]

SUB CODE: 11, 13/ SUBM DATE: 29Mar65/ ORIG REF: 003/ OTH REF: 002/ ATD PRESS:

4177

beh
Card 2/2

IBRYKINA, A.L.; STRASHINSKAYA, L.V.

Search for new materials working in contact with hard metals,
compounds, and certain melts. Fiz.-khim. mekh. mat. 1 no.5:
557-562 '65. (KUDA 19:1)

1. Institut problem materialovedeniya AN UkrSSR, Kiev. Submitted
Nov. 20, 1964.

BURYKINA, A.L.; KRASHOV, A.N.; YEVTUSHOK, T.M.

Plasma and diffusion coatings on graphite. Porosh.net. 5
no.12:38-44 D '65. (MIRA 19:1)

1. Institut problem materialovedeniya AN UkrSSR. Submitted
March 29, 1965.

L 31868-66 EWP(k)/EWT(m)/EWC(f)/T/ENP(e)/ENF(v)/ENP(t)/ETI IJP(c)

ACC NR: AT6013554 (A) SOURCE CODE: UR/0000/65/000/000/0076/0080
AT/WH/WW/JD/HM/JG/GD

AUTHOR: Burykina, A. L.; Yevtushenko, O. V.

ORG: Institute of Materials Science Problems, AN UkrSSR (Institut problem materialovedeniya AN UkrSSR)

TITLE: In vacuo diffusion welding of infusible compounds containing high temperature metals

SOURCE: AN UkrSSR. Institut problem materialovedeniya. Vysokotemperaturnyye neorganicheskiye soyedineniya (High temperature inorganic compounds). Kiev, Naukova dumka, 1965, 76-80

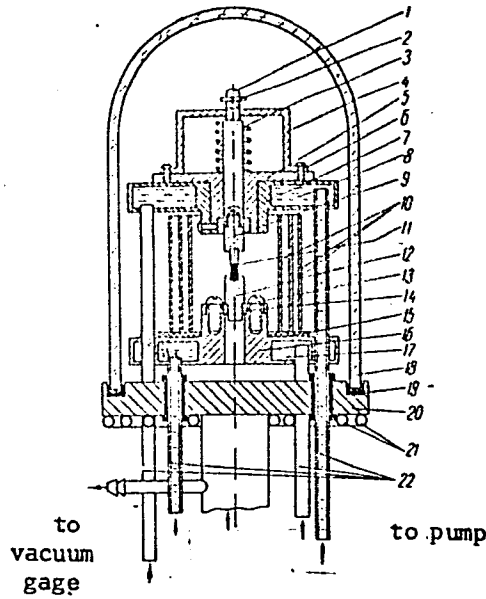
TOPIC TAGS: zirconium, niobium, tantalum, carbide, tungsten, molybdenum, nonferrous metal

ABSTRACT: The conditions for diffusion welding of zirconium, niobium, and tantalum carbides with niobium, tantalum, molybdenum, and tungsten, and of titanium, molybdenum, and tungsten between themselves and of molybdenum and tungsten alone were investigated. The experiments were conducted at 1200°-2000°C, 5-15 Newtons/mm² pressure, and 10-60 min duration using the apparatus shown in the figure. The summary of the result is shown in a table. The authors thank Professor N. F. Kozakov, Doctor of technical sciences, for making available the apparatus and for help in conducting the experiments. Orig. art. has: 1 figure, 2 tables.

Card 1/2

L 51868-66

ACC NR: AT6013554



1--molybdenum bar; 2--plug; 3--molybdenum spring; 4--copper clamp; 5--copper bushing; 6--copper bolt; 7--external copper gasket; 8--water-cooling jacket; 9--top molybdenum holder; 10--molybdenum housing; 11--sample; 12--bottom molybdenum holder; 13--copper bolt; 14--molybdenum gasket; 15--ceramic support; 16--lower copper gasket; 17--water-cooling jacket; 18--glass housing; 19--elastic support; 20--steel plate; 21--cooling coil; 22--electrodes.

SUB CODE: 11, 13/ SUBM DATE: 03Jul65/ ORIG REF: 006/ OTH REF: 002

Card 2/2 Welding of dissimilar metals 18

BURYKINA, G.N., assistant

Influence of ultraviolet rays on the skin in patients with psoriasis.
Trudy LSGMI 52:81-86 '60. (MIRA 14:8)

(ULTRAVIOLET RAYS—PHYSIOLOGICAL EFFECT)
(PSORIASIS) (SKIN)

BURYKINA, G.N., assistant

Function of the skin receptors in patients with microbial eczema
previously treated with X-rays. Trudy ISGMI 52:151-158 '60.

(MIRA 14:8)

(X RAYS—PHYSIOLOGICAL EFFECT) (ECZEMA)
(SKIN) (RECEPTORS (NEUROLOGY))

BURYKINA, G.N., assistant

Functional condition of the skin of roentgenologists. Trudy LSGMI
52:159-160 '60. (MIRA 14:8)
(SKIN) (X RAYS---PHYSIOLOGICAL EFFECT)

U.S.S.R. / Human and Animal Physiology. Action of Physical Agents. T

Abs Jour: Ref Zhur-Biol., No 5, 1958, 22790

Author : Burykina, L.N.

Inst : Not Given.

Title : Metabolism of Radioactive Ru in the Body of Experimental Animals.

Orig Pub: sb. Materialy po toksikol.radioaktion veschestv. Vyp. l.m., Medgiz. 1957, 41-53.

Abstract: Ru106 was determined either through humid calcination of the tissues in concentrated H Cl or by the method of direct calculation of Ru 106 in fresh tissues. The coefficient of absorption in Ru 106 injection was 5% of the injected dose. In subcutaneous injection, 50% were absorbed during the first day, follow-

Card 1/3

121

U.S.S.R. / Human and Animal Physiology. Action of
Physical Agents:

T

Abs Jour: Ref Zhur-Biol., No 5, 1958, 22790

Abstract: ing which, absorption sharply decreased and completely ceased on the 118th day of the experiment. By injections, the bodies of guinea pigs retained, on the 22nd day, approximately 1.44% of the injected dose (the maximum of activity in the skeleton). Twenty-four hours after subcutaneous injection, the highest level of activity was noted in the kidneys, then in the liver, spleen adrenals, lungs and the skeleton. Almost the same distribution was noted by injection of Ru 106 into the trachea. Depending upon the method of introduction Ru 106 is eliminated from the body, mainly, through the urine; also through the feces and continues

Card 2/3

U.S.S.R. / Human and Animal Physiology. Action of Physical Agents. T

Abs Jour: Ref Zhur-Biol., No 5, 1958, 22790

Abstract: from 5-7 days after the injection. Ru 106 administered by multiple subcutaneous injections in guinea pigs is eliminated from the body for 7 months after the experiment.

Card 3/3

122

BURYKINA, L.N.

USSR/Human and Animal Physiology - The Effect of Physical Factors. V-13

Abs Jour : Ref Zhur - Biol., No 2, 1958, 9183

Author : L.N. Burykina

Inst : ..

Title : A Study of the Distribution of Radioactive Ruthenium by Means of Autoradiography.

Orig Pub : V Sb.: Materialy po toksikol. radioaktivn. veshchestv., vyp. I.M. Medgiz, 1957, 54-58

Abstract : No abstract.

Card 1/1

Country : USSR
Category: Human and Animal Physiology Action of Physical
Factors. Ionizing Radiation.

T

Abs Jour: RZhBiol., No 19, 1958, 39397

The latent period of the alimentary motor reflex (CR, - time in seconds) were registered; the speed of the motor reaction (time required to reach the feeding rack), the differentiation, the force relations (the value of CR to a strong and weak stimulus: metronome and white light) were noted. Following the elaboration of stable CR, Ru^{106} , Sr^{90} , Cs^{134} were administered subcutaneously to 15 animals in doses of 8, 20, 40 curies/kg. Changes of CR occurred during the first days following the action and were manifested basically in a uniform manner following the ad-

Card : 2/3

T

Country : USSR
Category: Human and Animal Physiology. Action of Physical
Factors. Ionizing Radiation.

Abs Jour: RZhDiol., No 19, 1958, 89387

ministration of the various drugs. First noticed
was an increase of excitability of the cortex,
which within a few days passed into a period of
suppression of CR. Disturbances of the active
internal inhibition in a series of animals was
expressed in disruption of the differentiation
and in the development of secondary inhibition.
Positive CR were disturbed less, and inhibitive
more with poisoning with S^{90} , than with poisoning
with Ru^{106} and Cs^{134} . Disturbances of CR were
less marked in strong, even-tempered animals. --
G.A. Zubovskiy

Card : 3/3

T-152

USSR/Human and Animal Physiology. The Effect of Physical Factors T-14

Abs Jour : Ref Zhur - Biol., No 14, 1958, No 65839

Author : ~~Burykina L.N.~~

Inst : -

Title : The Effect of the Dioxide of Radioactive Ruthenium Upon White Rats When Introduced by the Intratracheal Route.

Orig Pub : V sb. Materialy po toksikol. radioaktivn. veshestv. Vyp. I. Moskva, Medgiz, 1957, 115-130

Abstract : Ru¹⁰³0₂ in doses of 5, 1, 4 and 0.7 microcuries was introduced into the tracheae of rats (groups I, II and III). The animals in group I died between the 4th and the 11th day after the injection, and those in groups II and III between the 18th and 44th day. The degree to which the toxic manifestations were evident clinically was directly related to the dose. The symptoms were marked shortness of breath, cyanosis of mucous membranes, loss of appetite, general exhaustion, epistaxis and general weakness. The development of a keratinizing squamous-cell carcinoma of the lungs was noted 7 to

Card : 1/2

USSR/Human and Animal Physiology. The Effect of Physical Factors T-14

Abs Jour : Ref Zhur - Biol., No 14, 1958, No 65839

9 months after administration in three rats of groups II and III. In two rats from these groups, between 37 and 44 days after the procedure, metaplasia of the epithelium of the bronchi was noted along with signs of atypicality. It is necessary to accomplish strict control of shielding procedures and to prevent an aerosol of Ru¹⁰³ from gaining access to the organism through the organs of respiration.--
G.A. Zubovskiy

Card : 2/2

150

KRAYEVSKIY, N. A., ZAKUTINSKIY, D. I., KURLYANDSKAYA, E. B., MOSKALEV, Y. I.,
STRELTSOVA, V. N., BURYKINA, L. N., LITVINOV, N. N. and SOLOV'YEV, Y. N.

BURYKINA, L. N.

"Long-Term Effects Produced by Small Doses of Radioactive Substances in
Chronical Experiment."

paper to be presented at 2nd UN Intl. Conf. on the peaceful uses of Atomic
Energy, Geneva, 1 - 13 Sep 58.

Burykina, L. N.

21(4); 17(0)

PHASE I BOOK EXPLOITATION

SOV/2808

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

Doklady sovetskikh uchenykh; radiobiologiya i radiatsionnaya meditsina
(Reports of Soviet Scientists; Radiobiology and Radiation Medicine)
Moscow, Izd-vo Glav. upr. po ispol'zovaniyu atomnoy energii pri
Sovete Ministrov SSSR, 1959. 429 p. 8,000 copies printed. (Series:
Vtoraya Mezhdunarodnaya konferentsiya po mirnomu ispol'zovaniyu atomnoy energii.
Trudy, tom 5)

General Ed.: A.V. Lebedinskiy, Corresponding Member, USSR Academy of Medical
Sciences; Ed.: Z.S. Shirokova; Tech. Ed.: Ye.I. Mazel'.

PURPOSE: This book is intended for physicians, scientists, and engineers
as well as for professors and students at vtuzes where radiobiology and
radiation medicine are taught.

COVERAGE: This is Volume 5 of a 6-volume set of reports delivered by Soviet
scientists at the Second International Conference on the Peaceful Uses of
Atomic Energy, held on September 1-13, 1958, in Geneva. Volume 5 contains

Card 1/7

Reports of Soviet Scientists (Cont.)

SOV/2808

32 reports edited by Candidates of Medical Sciences S.V. Levinskiy and V.V. Sedov. The reports cover problems of the biological effects of ionizing radiation, future consequences of radiation in small doses, genetic effects of radiation, treatment of radiation sickness, uses of radioactive isotopes in medical and biological research, uses of atomic energy for diagnostic and therapeutic purposes, soil absorption of uranium fission products, their intake by plants, and their storage in plants and foodstuffs. References accompany each report.

TABLE OF CONTENTS

Lebedinskiy, A.V., Yu.G. Grigor'yev, and G.G. Demirchoglyan. Biological Effect of Ionizing Radiation in Small Doses (Report No. 2068)	5
<u>Burykina, L.N.</u> , D.I. Zakutinskiy, N.A. Krayevskiy, E.B. Kurlyandskaya, N.N. Litvinov, Yu.I. Moskalev, A.P. Novikova, Yu.N. Solov'yev, and V.N. Strel'tsova. Remote Aftereffects of Injury by Small Doses of Radioactive Substances in Chronic Exposure (Report No. 2077)	17
Gorizontov, P.D. Problem of Pathogenesis of Acute Radiation Sickness in the Pathophysiological Phase (Report No. 2316) Card 2/7	43

Reports of Soviet Scientists (Cont.)

SOV/2808

- Livanov, M.N., and D.A. Biryukov. Changes Appearing in the Nervous System Following the Ionizing Radiation Effect (Report No.2315) 74
- Tonkikh, A.V. Role of Suprarenal Glands in the Pathogenesis of Radiation Sickness (Report No. 2132) 95
- Tarusov, B.N. Primary Reactions in Biolipides Under the Action of Ionizing Radiation (Report No. 2248) 105
- Kuzin, A.M., and A.L. Shabadash. The Importance of Change in the Native State of Nucleoproteins in Radiation Injury (Report No. 2319) 110
- Frank, G.M., N.A. Aladzhhalova, and A.D. Snezhko. Some Problems in the Biophysical Analysis of Radiobiological Effects (Report No. 2237) 123
- Grayevskiy, E.Ya. Some Tissue and Cell Reactions to the Ionizing Radiation Effect (Report No. 2080) 139
- Blyumenfel'd, L.A., and A.E. Kalmanson. Electron Paramagnetic Resonance Spectra of Irradiated Amino-Acids, Peptides, Proteins, and Lyophilized Tissues (Report No. 2079) 152
Card 3/7

Reports of Soviet Scientists (Cont.)	SOV/2808	
Seyts, I.F. The Acetylating Function of the Coenzyme A System in Radiation Sickness (Report No. 2239)		160
Meysel', M.N., R.D. Gal'tsova, G.A. Medvedeva, N.A. Pomoshchnikova, L.A. Seliverstova, and M.N. Shal'nova. Effect of Ionizing Radiation and of Radiomimetic Substances on the Microbe Cell (Report No. 2320)		167
Klemparskaya, N.N., and V.V. Shikhodyrov. Local Tests to Show the State of Homosensitization and Autosensitization of an Irradiated Organism (Report No. 2073)		180
Bagdasarov, A.A., F.R. Vinograd-Finkel', M.O. Raushenbakh, M.P. Bogoyavlenskaya, R.I. Rodina, B.F. Belyayeva, G.M. Abdullayev, and N.Ya. Lagutina. Experience in Treating Radiation Sickness With Leukocyte and Thrombocyte Substance (Report No. 2238)		188
Istomina, A.G., and I.B. Keirim-Markus. Experiments to Determine Maximum Permissible Thermal Neutron Flux (Report No. 2078)		196
Grodzenskiy, D.E., and T.I. Ivanenko. Isotopic Method in Studying the Hormone Effect on Metabolism in Osseous Tissue (Report No. 2072) Card 4/7		205

Reports of Soviet Scientists (Cont.)

SOV/2808

- Bogdanov, K.M., M.I. Shal'nov, and Yu.M. Shtukkenberg. Some Results of Labeling With Tritium in Biological Studies (Report No. 2070) 212
- Sisakyan, N.M. Special Features of Albumin Synthesis in the Plant and Animal Cell (Report No. 2244) 227
- Amiragova, M.G. Control Mechanism of the Thyroid Gland Functions by the Cerebral Cortex (Report No. 2202) 238
- Kolli, Ye.A. Effect of Various Factors on the Biosynthesis of Thyroxin Produced by the Thyroid Gland (Report No. 2075) 251
- Kometiani, P.A., L.K. Tkeshelashvili, and T.Ya. Ovsyanko. Using Phosphoric Esters of Choline, Ethanolamine, and Serine in Phospholipid Synthesis in the Brain (Report No. 2318) 263
- Ferdman, D.L. Using C^{14} and N^{15} to Study Metabolism in Muscles (Report No. 2134) 271
- Fedorov, N.A. Relative Characteristic Fate of the Three Phenathiazine Compounds:
Card 5/7

Reports of Soviet Scientists (Cont.)

SOV/2808

- S³⁵- Aminazine (Chlorpromazine), S³⁵- Promazine, and S³⁵- Chlormepazine
(Chlorpakatala) in the Organism (Report No. 2076) 281
- Kozlova, A.V. Using Radioactive Isotopes in the Clinic for Diagnostic and
Therapeutic Purposes (Report No. 2056) 296
- Shamov V.N., K.N. Badmayev, and N.P. Bekhtereva. Isotopic Encephalography and
Electroencephalography for the Localization of Brain Tumors (Report No. 2069) 307
- Gabelova, N.A., and G.M. Frank. Studying the Fast Translocation of Substances
in the Organism by Means of Gamma Emitting Isotopes (Report No.2081) 314
- Troitskiy, V.L., M.A. Tumanyan, Z.G. Pershina, V.M. Vadimov, V.G. Khrushchev,
D.R. Kaulen, I.M. Goncharenko, O.V. Chakhava, A.P. Duplishcheva, and T.S.
Sedova. Methods of Using Ionizing Radiation in the Production of Bacterial
Preparations (Report No. 2071) 329
- Klechkovskiy, V.M., L.N. Sokolova, and G.N. Tselishcheva. Sorption of
Microquantities of Strontium and Cesium in Soils (Report No. 2310) 346

Card 6/7

Reports of Soviet Scientists (Cont.)

SOV/2808

Gulyakin, I.V., and Ye.V. Yudin'tseva. The Plant Intake of Strontium, Cesium, and Other Fission Products and Their Storage in the Crops (Report No. 2311) 357

Dubin'in, N.P. Mechanism of the Radiation Effect on Heredity and the Problem of Radiosensitivity (Report No. 2074) 372

Tinyakov, G.G., and M.A. Arsen'yeva. Cytogenetic Effect of Ionizing Radiation in Nuclei of Monkey Germ Cells (Report No. 2476) 385

Alikhanyan, S.I., K.P. Garina, S.Yu. Gol'dam, L.I. Yerokhina, V.G. Zhdanov, N.I. Zhdanova, O.N. Kapitonova, F.S. Klepikova, S.Z. Mindlin, A.A. Prokof'yeva -Bel'govskaya, and A.F. Teteryatnik. Genetic Effect of Radiation and the Selection of Microorganisms Producing Antibiotics (Report No. 2493) 396

AVAILABLE: Library of Congress (QC770.I53)

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Card 7/7

BURYKINA, L.N.; ZAKUTINSKIY, D.I.; KRAYEVSKIY, N.A.; KURLYANDSKAYA, E.B.; LITVINOV, H.N.;
MOSKALEV, Yu. I.; NOVIKOVA, A.F.; SOLOV'YEV, Yu. N.; STREL'TSOVA, V.N.

Late sequelae of lesions induced by radioactive substances in small doses
applied in a chronic experiment. Med. rad. 4 no.3:3-6 Mr '59. (MIRA 12:7)
(ISOTOPES, effects,
remote seq. of inj. by small doses of radioactive substances
in animals (Rus))

BURYKINA, L.N.; TRUSOVA, N.Ye.

Changes in the spermatogenic function of dogs with chronic
injury induced by strontium-90. Radiobiologia 3 no.3:369-
376 '63. (MIRA 17:2)

L 34918-65

ACCESSION NR: AT5006111

S/0000/64/000/000/0106/0111

AUTHOR: Yartsev, Ye. I.; Burykina, L. N.

TITLE: Distribution of strontium-90 in the skeleton of dogs after chronic exposure to the isotope

SOURCE: Raspredeleniye, biologicheskoye deystviye, unkoronnyye radioaktivnyye izotopy (Distribution, biological effect, uncoronated radioactive isotopes), sbornik rabot. Moscow, Izdat. Medits. 1964, 11 p.

TOPIC TASS: strontium-90, radioisotope, bone, teeth, skull, radioactivity

ABSTRACT: After daily ingestion of Sr⁹⁰ with food for periods ranging from 1 to 17 months, higher levels of accumulation of the isotope were observed in cancellous bones than in compact bones. The redistribution of the isotope in the skeleton varied with the duration of exposure (the rate of deposition was higher in the skull than in the sternum). The longer the period of uptake of the isotope, the more uniformly was it distributed in different parts of the skeleton. The rate of Sr⁹⁰ accumulation in the skeleton kept rising as the time of chronic administration of the isotope was increased. A distinct relationship was observed between the accumulation of Sr⁹⁰ and the age of the animal. The highest levels were found in

Card 1/2

L 34918-65

ACCESSION NR: AT5006111

young growing animals. The mean value of the differential accumulation factor was 750 for the skeleton of young dogs, 266 for that of mature dogs, and 140 for that of old dogs. Compared with Sr⁹⁰ distribution in old dogs, young dogs had a much higher content of the isotope in the skull, teeth, and growing long bones, but a lower content in the sternum. Orig. art. has: 1 figure, 3 tables.

ASSOCIATION: none

SUBMITTED: 10Apr64

ENCL: 00

SUB CODE: LS

NO REF SOV: 000

OTHER: 000

Card 2/2