Thermal neutron spectrum...

$$T_o = \frac{\sum_k \left[T_k \frac{1}{m_k} \Sigma_{s_k}\right]}{\sum_k \left[\frac{1}{m_k} \Sigma_{s_k}\right]}; \qquad \frac{1}{m_o} = \frac{\sum_k \left[\frac{1}{m_k} \Sigma_{s_k}\right]}{\sum_k \left[\Sigma_{s_k}\right]}; \qquad \Sigma_{s_o} = \sum_k \left[\Sigma_{s_k}\right]$$

The expressions thereby obtained for temperature, mass and capture cross section are

$$T = \frac{\sum_k \left[T_k \frac{1}{m_k} \Sigma_{s_k}\right]}{\sum_k \left[\frac{1}{m_k} \Sigma_{s_k}\right]} \quad (4); \qquad m = \frac{\sum_k \left[\Sigma_{s_k}\right]}{\sum_k \left[\frac{1}{m_k} \Sigma_{s_k}\right]} \quad (5); \qquad \Sigma_s = \sum_k \left[\Sigma'_{s_k}\right] \quad (6).$$

In the case where the energies are large $(E \gg T_o)$, where $\Sigma_c \sim 1/E$ and where the source is at infinity, the solution of (3) is a Fermi spectrum. 2) The moderator is a two-temperature hydrogen mixture, $\Sigma_c = 0$. It is shown that (1) can be brought down to the differential form

Card 3/6

χ

Thermal neutron spectrum...

$$\varepsilon_1 T_1 e^{-\frac{E}{T_2}} \left\{ e^{\frac{E}{T_2} - \frac{E}{T_1}} K\left(\frac{E}{T_1}\right) \left[e^{\frac{E}{T_1}} \varphi \right]' \right\}' + \varepsilon_2 T_2 e^{-\frac{E}{T_1}} \left\{ e^{\frac{E}{T_1} - \frac{E}{T_2}} K\left(\frac{E}{T_2}\right) \left[e^{\frac{E}{T_2}} \varphi \right]' \right\}' = 0$$

$$(14),$$

where

$$K(x) = \sqrt{\frac{x}{\pi}}\, e^{-x} + \left(x + \frac{1}{2} \right) \text{erf} \left(\sqrt{x} \right) \qquad (11), \qquad \varphi(E) = \int_E^\infty N(E') \frac{dE'}{\sqrt{E'}}$$

ε_k is the volume fraction of hydrogen at temperature T_k. Assuming

$$K(x) = \begin{cases} \frac{2}{\sqrt{\pi}} \sqrt{x} & \text{when } x \leqslant 0.4 \\ x + \frac{1}{2} & \text{when } x \leqslant 0.4 \end{cases}$$

, two analogous differential equations are

obtained for $\varphi(E)$ for small or large E/T. If $E/T \ll 1$, then

$$\varphi(E) = \exp(-E/T) \left\{ 1 + \left[\frac{1}{3} \beta^2 - \frac{1}{6} \left(\frac{4}{9} \frac{T}{T_0} - 1 \right) \right] \frac{E^2}{T^2} \right\}$$ is a solution. Furthermore

Card 4/6

S/869/62/000/000/007/012
B102/B186

Thermal neutron spectrum...

$$T_o = \frac{\dfrac{\varepsilon_1}{T_1^{3/2}} + \dfrac{\varepsilon_2}{T_2^{3/2}}}{\dfrac{\varepsilon_1}{T_1^{1/2}} + \dfrac{\varepsilon_2}{T_2^{1/2}}} \; , \quad \beta^2 = -\left(\frac{T}{T_1} - 1\right)\left(\frac{T}{T_2} - 1\right), \quad T = \frac{\varepsilon_1\sqrt{T_1} + \varepsilon_2\sqrt{T_2}}{\dfrac{\varepsilon_1}{\sqrt{T_1}} + \dfrac{\varepsilon_2}{\sqrt{T_2}}}$$

If $T_1 \gg T_2$, $T_2 = 0$, and $T_1 = T \neq 0$, then (14) reads

$$\varepsilon_1 TK\left(\frac{E}{T}\right)\left[e^{\frac{E}{T}}\varphi(E)\right]' + \varepsilon_2\left[Ee^{\frac{E}{T}}\varphi(E)\right]' \qquad\qquad (20)$$

and has the solution

$$\varphi(E) = \text{const } \exp\left\{-\frac{E}{T} - \int_0^{\frac{E}{T}} \frac{\varepsilon_2\,dx}{\varepsilon_2 x + \varepsilon_1 K(x)}\right\}$$

The neutron spectrum is then given by

Card 5/6

Thermal neutron spectrum...

S/869/62/000/000/007/012
B102/B186

$$N(E) = \text{const} \sqrt{E} \left[1 + \frac{\epsilon_2}{\epsilon_2 \frac{E}{2T} + \epsilon_1 K(\frac{E}{T})} \right] \cdot \exp \left\{ -\frac{E}{T} - \int_0^{\frac{E}{T}} \frac{\epsilon_2 dx}{\epsilon_2 x + \epsilon_1 K(x)} \right\} \quad (21).$$

If $E/T \ll 1$, then $N(E) \approx \sqrt{E} + \frac{\sqrt{\pi}}{2} \frac{\epsilon_2}{\epsilon_1} \sqrt{T}$. 3) The moderator consists of a mixture of heavy nuclei and hydrogen. It is once more assumed that $\Sigma_c = 0$, and some simplifications of the kinetic equation that hold to a first approximation are given. Each individual moderator exhibits Maxwell distribution; the energy distribution of the neutrons is different to that of the moderator. There are 3 figures.

Card 6/6

MAYOROV, L.V.; YUDKEVICH, M.S.

Three-group method for calculating the thermalization in the cell
of a heterogeneous reactor. Atom.energ. 13 no.6:563-567 D '62.
(MIRA 15:12)

(Nuclear reactors)

AUTHORS: Solov'yeva, N. A., Yudkevich, N. I.

TITLE: Alloys for Bonding to Glass (Splavy dlya spayki so steklom)

PERIODICAL: Sb. tr.Tsentr. n.-i. in-t chernoy metallurgii, 1956, Nr 15, pp 345-359

ABSTRACT: A survey of work performed at the TsNIIChM (Central Scientific Research Institute of Ferrous Metallurgy) in a search for new alloys and for improvements of existing alloys. The authors adduce data on the properties of a number of alloys and tips on the heat treatment and fabrication of parts to be bonded with glass.

P. N.

Card 1/1

ANUCHIN, V.A.; YUDKEVICH, O.Yu., red.

[Criticism on the comprehensiveness of geography] O kritike edinstva geografii. Predisl. N.N.Baranskogo. Moskva, Mosk. gos. univ. im. M.V.Lomonosova, 1961. 32 p.   (MIRA 15:2)
(Geography--Study and teaching)

YUDKEVICH, P. V.

"Radioactive Survey and Radioactive Isotopes in the Petroleum Industry of the Lower Volga Region," Utilization of Radioactive Isotopes & Emanations in the Petroleum Industry (Symposium), Min. Petroleum Industry USSR, 1957.

Results of the Joint Session of the Technical Council of Min of the Petroleum Industry USSR and Soviet Sci and Technical Association, Moscow 14-19 Mar 1956.

YUDKEVICH, R.

MA

7

*The Lead Electrode. II.—The Capacity of the Double Layer and the Measurement of the True Surface. B. Kabanov and R. Yudkevich (Zhur. Fizich. Khimii (J. Phys. Chem.), 1939, 13, 813-817; Chem. Zentr., 1940, 111, (II), 18).—[In Russian.] A simple method is described for determining the true surface of lead electrodes by measuring the capacity of the double layer of the metal by means of d.c. A relationship is shown to exist between the capacity of the lead electrodes and their potential. The absolute value of the capacity of a smooth lead electrode, in the region of minimum capacity, was found to be 18 μ F./cm.^{2}, i.e. of the same order of magnitude as in the case of mercury. It may be assumed that every negatively-charged pure metallic surface has a capacity of the same order of magnitude, which is independent of the nature of the metal. The presence of surface-active organic substances effects a decrease in the capacity of the double layer of the lead electrode surface, similar to the decrease in the case of mercury. Thus, the capacity of a spongy lead electrode in a 0·005-mol. β-naphtoqrinoline solution is only 320 μ F./cm.^{2}, as against 750 μ F./cm.^{2} in pure H_2SO_4 solution.

1943

YUDKEVICH,R.V.

Valuation of oil-bearing potential of reservoirs having low specific
resistivity. Prikl.geofiz.no.11:63-71 '54.   (MIRA 8:10)
                    (Oil fields--Valuation)

YUDKEVICH, R.V.

PHASE I BOOK EXPLOITATION   SOV/5282

Florov, Vasiliy Arkad'yevich, and Rozaliya Veniaminovna Yudkevich

Metally budushchego (Metals of the Future) Moscow, Izd-vo "Sovetskaya Rossiya",
    1960. 182 p. 15,000 copies printed.

Ed.: Yu. E. Berenson; Tech. Ed.: P.P. Marakasova.

PURPOSE: This book is intended for the general reader.

COVERAGE: The book, written in a popular style, tells the story of the discovery
    of the elements. Particular attention is given to the newer elements, which are
    described from the standpoint of their characteristics and uses in technology,
    especially metallurgy. Academician A.Ye. Fersman is mentioned as having a great
    interest in problems concerning new materials. There are no references.

TABLE OF CONTENTS:

Introduction by Academician A.N. Frumkin

Card 1/3

5

DAKHNOV, V.N., doktor geol.-miner. nauk; KHOLIN, A.I., kand. geol.-
miner.nauk; PESTRIKOV, A.S.; GALUZO, Yu.V.; AFRIKYAN, AN.;
YUDKEVICH, R.V.; POPOV, V.K.; POZIN, L.Z.; LARIONOV, V.V.;
VENDEL'SHTEYN, B.Yu.; GORBUNOVA, V.I.; DZYURAK, M.D.; YEVDOKIMOVA,
V.A.; ZHOKHOVA, R.G.; LATYSHEVA, M.G.; MAREN'KO, N.N.; MANCHEVA,
N.V.; MOROZOVICH, Ya.R.; OREKHOVSKAYA, Ye.P.; POKLONOV, M.S.;
ROMANOVA, T.F.; SEVOST'YANOV, M.M.; TANASEVICH, N.I.; FARMANOVA,
N.V.; FEDOROVICH, G.P.; SHCHERBININ, V.A.; ELLANSKIY, M.M.;
YANUSH, Ye.F.; YUNGANS, S.M., ved. red.; YAKOVLEVA, Z.I., tekhn.
red.

[Using methods of field geophysics in studying gas-bearing re-
servoirs]Primenenie metodov promyslovoi geofiziki pri izuchenii ga-
zonosnykh kollektorov. Moskva, Gostoptekhizdat, 1962. 279 p.
(MIRA 16:2)
(Gas, Natural--Geology)
(Prospecting--Geophysical methods)

YUDKEVICH S. M.

PARYGINA, Natal'ya Diomidovna; YUDKEVICH, S.M., red.; PULIN, L.I., tekhn. red.

[Novo-Tulski metallurgical...; a history of the plant] Novotul'skii metallurgicheskii...; iz istorii zavoda. [Tula] Tul'skoe knizhnoe izd-vo, 1957. 53 p.
(MIRA 11:4)
(Novo-Tul'skiy--Metallurgical plants)

YUDKEVICH, S.M.

KOCHETOV, Vasiliy Ivanovich; YUDKEVICH, S.M., redaktor; PULIN, L.I., tekhnicheskiy redaktor

[Cutting 1252 meters a month] 1252 metra prokhodki shtreka v mesiats. [Tula] Tul'skoe knizhnoe izd-vo, 1957. 19 p.   (MLRA 10:9)

1. Brigadir kombaynovoy prokhodcheskoy brigady shakhty No.66 tresta "Kalininygol'" (for Kochetov)
      (Coal mines and mining)

BEZMOZGIN, E.S.; YUDKEVICH, Yu.D.

Production of gas from liquid fuels. Trudy VNIIT no.9:195-228 '60.
(MIRA 1:1.)

(Gas)   (Liquid fuels)

BEZMOZGIN, E.S.; NEMCHENKO, A.G.; SINEL'NIKOV, A.S.; YUDKEVICH, Yu.D.

Contact pyrolysis of shale tar as a method for increasing
the yield of low-boiling phenols. Trudy VNIIT no.12:97-101
'63.   (MIRA 18:11)

YUDKEVICH, Yu.D.; NEMCHENKO, A.G.; BARSHCHEVSKIY, M.M.; BE.: :

Investigating the thermal contact processing of wood wastes.
Trudy VNIIT no.13:162-170 '64.

(MIRA 18:2)

BEZMOZGIN, E.S.; NEMCHENKO, A.G.; YUDKEVICH, Yu.D.

Pilot plant testing of a newly designed reactor for the contact pyrolysis of petroleum products and tars. Trudy VNIIT no.10:49-58 '61.   (MIRA 15:3)
            (Petroleum products)(Pyrolysis)(Chemical reactors)

BEZMOZGIN, E.S.; UVAROV, L.P.; KIPRIANOV, A.I.; NEMCHENKO, A.G.; YUDKEVICH,
Yu.D.

Vapor phase thermal demethylation of wood-tar oils in a contact
pyrolysis reactor. Trudy VNIIT no.10:59-63 '61.   (MIRA 15:3)
(Wood tar)(Methyl group)(Pyrolysis)

UVAROV, I.P.; PARSHUTKIN, Yu.A.; BALASHOV, N.N.; BOGDANOV, G.A.; BEZMOZGIN, E.S.;
    NEMCHENKO, A.G.; YUDKEVICH, Yu.D.; KIPRIANOV, A.I.

Vapor-phase pyrolysis of wood-tar oils. Gidroliz. i lesokhim.
prom. 14 no.8:5-6 '61.   (MIRA 16:11)

1. TSentral'nyy nauchno-issledovatel'skiy lesokhimicheskiy institut
(for Uvarov, Parshutkin, Balashov, Bogdanov). 2. Vsesoyuznyy
nauchno-issledovatel'skiy institut po pererabotke i ispol'-
zovaniyu topliva (for Bezmozgin, Nemchenko, Yudkevich).
3. Leningradskaya lesotekhnicheskaya akademiya im. S.M. Kirova
(for Kiprianov).

BEZMOZGIN, E. S.; NEMCHENKO, A. G.; SHAPIRO, R. N.; YUDKEVICH, Yu. D.

Increasing the yield and heating capacity of Shale producer gas.
Trudy VNIIT no. 11:97-101 '62.   (MIRA 17:5)

SUKHANOVSKIY, S.I.; AKHMINA, Ye.J.; PODGORNAYA, T.A.; BEZMOZGIN, L.S.; NEMCHENKO, A.G.; YUDKEVICH, Yu.D.

Contact pyrolysis of the settled tar from the thermolysis of hydrolyzed lignin. Gidroliz. i lesokhim. prom. 17 no.5:17-18 '64.

(MIRA 17:10)

1. Gosudarstvennyy nauchno-issledovatel'skiy institut gidroliznoy i sul'fitno-spirtovoy promyshlennosti (for Sukhanovskiy, Akhmina, Podgornay).
2. Vsesoyuznyy nauchno-issledovatel'skiy institut topliva (for Bezmozgin, Nemchenko, Yudkevich).

TITLE: A method for thermal dissociation of fuel. Class

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no.

TOPIC TAGS: fuel thermal decomposition, infrared radiation

ABSTRACT: This Author's Certificate introduces a method for the
of fuel. In order to intensify the process, the dissociation
red radiation.

ASSOCIATION: none

SUBMITTED: 04Dec65   ENCL: 00

NO REF SOV: 000   OTHER: 000

Card 1/1

ASTAKHOV, V.; VOZNESENSKII, L.; VOLKOV, F.; YUDKIN, A.

Commodity production and the operation of the law of value under
socialism. Vop. ekon. no.4:109-122 Ap '58.   (MIRA 11:5)
(Economics)

ATLAS, Z.; YUDKIN, A.

Necessity of money in the expanding development of
communism. Den.i kred. 18 no.8:14-24 Ag '60.
                                                (MIRA 13:7)
            (Money)

AUTHORS: Bogdanovskiy, S.S., Yudkin, A.K.   SOV-128-58-9-2/16

TITLE: Concerning the Article of N.A. Barinov (Po povodu stat -
                N.A. Barinova)

PERIODICAL: Liteynoye proizvodstvo, 1958, Nr 9, pp 4-6 (USSR)

ABSTRACT: In "Liteynoye proizvodstvo", 1958, Nr 4, an article on the
                use of low-silicon iron in casting was published by the Can-
                didate of Technical Sciences, N.A. Barinov. The author of
                the present article are commenting on the results attained
                by Barinov. The value of the graphite enclosures in blast
                furnace iron is not the only condition for the production
                of quality iron. The opinion of Barinov that the graphite
                separates the principal mass of the iron, contradicts the
                results obtained in the graphitization of cast iron. The
                important role of manganese is not recognized by Barinov
                The influence of manganese on the mechanical properties is
                slight at a content of 0.75%, but at higher values this in-
                fluence increases considerably. The transition to low-
Card 1/2   silicon iron by using ferrosilicon can not be recommended.

Concerning the Article of N.A. Barinov   SOV-128-58-9-2/16

There are 2 graphs, 1 table, 1 photo, and 12 references,
11 of which are Soviet and 1 English.

1. Iron--Casting   2. Cast iron--Properties   3. Cast iron--Material
4. Silicon--Metallurgical effects

Card 2/2

YUDKIN, B.I.; KULEV, L.P. [deceased]; SHCHEKOCHIKHIN, Yu.M.

Production of some esters of diphenic acid, their properties
and spectral characteristics. Izv. Sib. otd. AN SSSR no.12:
134-137 '62.   (MIRA 17:8)

1. Novosibirskiy filial nauchno-issledovatel'skogo instituta
polimerizatsionnykh plastmass.

1. YUDKIN, P. M.

2. USSR (600)

4. Onions

7. Ways of storing seed onions in the northern zone. Sad i og. no. 11, 1952

9. Monthly List of Russian Accessions. Library of Congress. March 1953. Unclassified.

YUDKIN, F. L.

Sadovodstvo v Molotovskoi oblasti /Horticulture in Molotov Province7. Molotov,
Obl. izd-vo, 1953.   240 p.

SO: Monthly List of Russian Accessions, Vol. 6, No. 5, August 1953.

YUDKIN, F. M., D.c Agric Sci—(...ss) "Vegetable raising in the Western Ural Region."
K.A
Moscow, 1957, 21 pp (Moscow Agric Acad im. Timiryazeva), ...0 copies.

(KL, No 39, 1957, 96)

YUDKIN, Fedor Mikhaylovich

[Fruit culture in Perm Province] Sadovodstvo v Permskoi oblasti.
Izd. 2., ispr. i dop. Perm', Permskoe knizhnoe izd-vo, 1958. 302 p.
(Pomology)   (MIRA 12:1)

YUDKIN, Fedor Mikhaylovich, prof., doktor sel'khoz. nauk; DIKUSAR, V.V.,
    red.; FILIPPOVA, K.G., tekhn. red.

[Practices of Perm Province vegetable growers] Opyt ovoshchevodov
Permskoi oblasti; sbornik statei. Perm', Permskoe knizhnoe izd-vo,
1960. 89 p.   (MIRA 14:10)

1. Permskiy sel'skokhozyaystvennyy institut imeni D.N.Pryanishnikova
(for Yudkin).
                    (Perm Province--Vegetable gardening)

YUDKIN, I. I.

XXXXXXXXXXX

"Penetration of the Herring into the Kara Sea and into Other Arctic Regions Because of Climatic Fluctuations," Dok. A N, 58, No. 9, 1947

YUDKIN, Iosif Isaakovich, kandidat biologicheskikh nauk; KHLATINA, Ye.S.,
    redaktor; GOTLIB, E.M., tekhnicheskiy redaktor.

[Ichthyology] Ikhtiologiia. Moskva, Pishchepromizdat, 1955. 322 p.
    (Fishes)   (MLRA 8:12)

YUDKIN, Iosif Isaakovich; MOROZOVA, I.I., red.; ZARSHCHIKOVA, L.N.,
tekhn. red.

[Ichthyology]Ikhtiologiia. Izd.4., perer. i dop. Moskva,
Pishchepromizdat, 1962. 351 p.   (MIRA 15:10)
                    (Ichthyology)

YUDKIN, M.M.

Purification of water in aquariums.   Priroda 44 no.8:128   Ag '55.
                        (Aquariums)   (MIRA 8:10)

KHODORKOVSKIY, I.Ya., inzh.; YUDKIN, V.P., inzh.; KONEV, L.L., inzh.;
ZERHIN, P.I., otv. za vypusk; SEMCHENKO, G.V., red.izd-va;
SUKHANOVA, K.G., tekhn.red.

[Recommendations for the improvement of harvesting machinery]
Rekomendatsii po usovershenstvovaniiu tekhniki, ispol'zuemoi
na uborke urozhaia. Perm', Permskoe knizhnoe izd-vo, 1960.
82 p.   (MIRA 14:1)

1. Perm (Province). Upravleniye sel'skogo khozyaystva.
       (Harvesting machinery)

YUDKINA, B.F., otvetstvennyy redaktor; GUSEV, N.F., tekhnicheskiy redaktor

[Abridged telephone directory] Kratkii telefonnyi spravochnik.
[Moskva] 1957. 232 p.   (MIRA 10:10)

1. Moscow. Gorodskaya telefonnaya set'.
      (Moscow--Telephone directories)

YUDINA,   L. N.

"Certain Aspects of Pavlovian Physiology in the Understanding of Eczema.

Vestnik venerologii i dermatologii (Bulletin of Venerology Dermatology),
No 1, January-February 1954, (bimonr), Moscow.

FOKINA, L. ?.

"New Materials on the Problem of the Mechanism of Action of Air, Containing Added Radon, on the Sick and Healthy Skin of Experimental Animals."

Vestnik vererologii i dermatologii (Bulletin of Venerology Dermatology), No 1, January-February 1954, (Biomper), Moscow.

YUDKINA, L.N., kandidat meditsinskikh nauk.

Experiment with the use of Hyppophae rhamnoides oil in certain skin diseases. Vest.ven.i derm. no.2:20-24 Mr-Ap '54.   (MLRA 7:4)

1. Iz kafedry kozhnykh i venericheskikh bolezney (zaveduyushchiy M.I. Khasin) Novosibirskogo meditsinskogo instituta.
       (Skin--Diseases) (Botany, Medical)

YUDKINA, D. N., kandidat meditsinskikh nauk

Simple method of determining vitamin A deficiency in skin diseases.
Vest.ven. i derm. no.2:53 Mr-Ap '55.   (MIRA 8:5)

1. Iz kliniki Novosibirskogo meditsinskogo instituta.
     (SKIN -- DISEASES)
     (DEFICIENCY DISEASES)

YUDKINA, L.N., kandidat meditsinskikh nauk

Treating dermatosis at the Belokurikha health resort in the Altai
Territory. Vest.derm. i ven. 31 no.1:51 Ja-F '57.   (MIRA 10:7)

1. Iz kliniki kozhnykh i venericheskikh bolezney Novosibirskogo
meditsinskogo instituta
        (SKIN--DISEASES)
        (BELOKURIKHA (ALTAI TERRITORY)--RADON--THERAPEUTIC USE)

YAKUBSON, A. K.; YUDKINA, L. N.

Local treatment of alopecia areata and totalis with corticosteroid preparations. Vest. derm. i ven. no.4:39-43 '62.

(MIRA 15:4)

1. Iz kliniki kozhnykh i venericheskikh bolezney (zav. - prof. A. K. Yakubson) Novosibirskogo meditsinskogo instituta (dir. - zasluzhenyy deyatel' nauki prof. G. D. Zalesskiy)

(BALDNESS)   (ADRENOCORTICAL HORMONES)

YUDKINA, L.N., kand.med.nauk

Hypertrophie neurodermatitis of the genitalia. Vest. derm.
i ven. 27 no.1:37-39 Ja'63.   (MIRA 16:10)

1. Iz kafedry kozhnykh i venericheskikh bolezney (zav. -
prof. A.K.Yakubson) Novosibirskogo meditsinskogo instituta.
                    (LICHEN PLANUS)
        (GENERATIVE ORGANS, FEMALE—DISEASES)

YUDKINA, T.P.

USSR/Chemistry - Catalytic conversion

Card 1/2   Pub. 40 - 17/27

Authors   :   Minachev, Kh. M.; Shuykin, N. I.; Feofanov, ...
Title   :   Yudkina, T. P.
                  Conversions of n-heptane in presence of met...
                  temperatures and hydrogen pressures

Periodical   :   Izv. AN SSSR. Otd. khim. nauk 6, 10...-10.., ...

Abstract   :   The conversions of n-heptane over Rh, Rn, Pt a ...
                  silica gel was investigated at hydrogen pr...
                  eratures of 460°. It was found that the n-...
                  described conditions, experiences several ...
                  it undergoing complete dehydrocyclization.

Institution : Acad. of Sc.; USSR, The N. D. Zelinsky Ins... ...

Submitted   : February 17, 1954

SHUYKIN,N.I.; MINACHEV,Kh.M.; FEOFANOVA,L.M.; TRESHCHOVA,Ye.G.; YUDKINA,
T.P.; AGRONOMOV,A.Ye.

Conversions of methylcyclohexane in contact with metals of the
palladium group in flow and at increased temperature and in-
creased hydrogen pressure. Izv.AN SSSR. Otd.khim.nauk no.3:
501-511 My-Je '55.   (MIRA 8:9)

1. Institut organicheskoy khimii im. N.D.Zelinskogo Akademii
nauk SSSR.
             (Cyclohexane) (Catalysts, Platinum metals)

5(3)

AUTHORS: Sosnina, I.Ye., Slovokhotova, T.A.,   SOV/55-58-5-23/34
            Yudkina, T.P.

TITLE: Synthesis of Dicyclopentylmethane (Sintéz ditsiklopentilmetana)

ABSTRACT: Starting from chlorcyclopenthane and ethylformate the authors
            synthetically produced a 99.60 % pure dicyclopentylmethane
            (according to a method deviating from A.F. Plate and V.I.
            Stanko /Ref 2/). The degree of cleanliness was determined
            according to the method of A.G. Anikin, Ya.I. Gerasimov. G.M.
            Dugacheva and N.N. Kozhevnikov /Ref 7/ . The spectrum was re-
            corded. Furthermore it was stated : The dehydration of di
            cyclopentylcarbinol by pyrolysis of its acetate or by means
            of magnesium sulphate can be recommended as a method for de-
            hydration of bicyclic alcohols.

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Synthesis of Dicyclopentylmethane   SOV/55-59-5-23/34

      There are 14 references, 8 of which are Soviet, 2 American,
      2 German, and 2 Roumanian.

ASSOCIATION: Kafedra organicheskogo kataliza (Chair of Organic Catalysis)
SUBMITTED: October 20, 1957

Card 2/2

AUTHORS: Turova-Polyak, M. B., Sosnina, I. Ye.,   SOV/79-29-1-22/74
             Voznesenskaya, I. I.,   Yudkina, T. P.

TITLE: Isomerization of the Polymethylene Hydrocarbons Under the
             Influence of Aluminum Chloride (Izomerizatsiya polimetilenovykh
             uglevodorodov pod vliyaniyem khloristogo alyuminiya)
             XXII. Isomerization of the Dicyclopentyl Methane (XXII. Izo-
             merizatsiya ditsiklopentilmetana)

PERIODICAL: Zhurnal obshchey khimii, 1959, Vol 29, Nr 1, pp 97-101 (USSR)

ABSTRACT: In this paper the behavior of dicyclopentyl methane (a hydro-
             carbon which may belong to the constituents of the petroleum
             fraction of mineral oil, as far as its constants are concerned
             was investigated on its reaction with $AlCl_3$ and the influence

             was clarified that is exerted by the methylene group which
             separates the two five-membered rings, upon the direction of
             isomerization. On the basis of the experimental results of the
             present paper it may be regarded as being proved that dicyclo-
             pentyl methane, like dicyclopentyl, is subjected to skeleton
             isomerization under the influence of aluminum chloride and is
Card 1/2   transformed into the trans-β-methyl decahydro naphthalene.

Isomerization of the Polymethylene Hydrocarbons Under SOV/79-29-1-22/74
the Influence of Aluminum Chloride.
XXII. Isomerization of the Dicyclopentyl Methane

At 23-27° isomerization takes place in a 96-98 % yield, at
0° in a smaller yield and at -5° there is no isomerization any
longer. The presence of β -methyl decahydronaphthalene was found
by catalytic dehydrogenation and confirmed spectroscopically. On
the dehydrogenation the β -methyl naphthalene was separated
and identified as picrate. According to the results obtained it
is proved that the methylene group which is situated between
the two rings in dicyclopentyl methane does not appreciably
influence the direction of isomerization. An attempt was made
to establish the isomerization mechanism of dicyclopentyl
methane into the trans-β-methyl decahydronaphthalene (see
both schemes). There are 1 table and 14 references, 9 of which
are Soviet.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet (Moscow State University)

SUBMITTED: November 21, 1957

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5(3)
AUTHORS:

SOV/79-29-4-7/77

Turova-Polyak, M. B., Sosnina, I. Ye., Golutvina, I. G.,
Yudkina, T. P.

TITLE:

Isomerization of Polymethylene Hydrocarbons Under the Influence
of Aluminum Chloride (Izomerizatsiya polimetilenovykh
uglevodorodov pod vliyaniyem khloristogo alyuminiya). XXIII. Iso-
merization of 2-Methyl-bicyclo-(1,2,2)-heptane (XXIII. Izo-
merizatsiya 2-metil-bitsiklo-(1,2,2)-geptana)

ABSTRACT:

Apart from the paper by P. R. Schleyer (Ref 1), the contact
transformations of bicyclic bridge hydrocarbons in the presence
of $AlCl_3$ have so far not been dealt with. As the basis of many
natural products the skeleton of bicyclo-(1,2,2)-heptane is of
great interest. 2-methyl-bicyclo-(1,2,2)-heptane is obtained by
condensation of cyclopentadiene with acrolein and by hydrogena-
tion of 2-methyl-bicyclo-(1,2,2)-heptene-5 in the presence of
the skeleton-nickel catalyst. Theoretically two endo- and exo-
isomers are possible for this heptane which, however, could hi-
therto not be separated (Scheme 1). Such configurations of the
spatial arrangement of hydrocarbons were observed by Schleyer

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SOV/79-29-4-7/77

Isomerization of Polymethylene Hydrocarbons Under the Influence of Aluminum Chloride. XXIII. Isomerization of 2-Methyl-bicyclo-(1,2,2)-heptane

(Ref 1). The authors found that 2-methyl-bicyclo-(1,2,2)-heptane practically completely isomerizes to bicyclo-(1,2,3)-octane by reaction with $AlCl_3$ at 75°, i.e. to a system consisting of five- and six-membered rings on the basis of a seven-membered ring. At 100° this reaction is accompanied by the formation of condensation products. At 21-28° a transition from one steric configuration of 2-methyl-bicyclo-(1,2,2)-heptane into the other takes place which was proved by spectrum analysis and the physical constants. On the strength of the results obtained it may be concluded that the part of the molecule of the above heptane which corresponds to methyl cyclopentane reacts in the presence of $AlCl_3$ in the same way as in isolated state, i.e. it expands to a six-membered ring. On the hydrogenolysis of bi-cyclo-(1,2,3)-octane the m-xylene is formed. There are 1 figure, 3 tables, and 15 references, 6 of which are Soviet.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet (Moscow State University)

SUBMITTED: February 11, 1958
Card 2/2

TUROVA-POLYAK, M.B.; BALENKOVA, Ye.S.; SOSNINA, I.Ye.; KHROMOV, S.I.;
    YUDKINA, T.P.

Isomerization of polymethylene hydrocarbons under the effect of
aluminum chloride. Part 24: Isomerization of cyclononane and
cyclodecane. Zhur.ob.khim. 31 no.6:1970-1981 Je '61.
                                                      (MIRA ___)

1. Moskovskiy gosudarstvennyy universitet imeni M.V.Lomonosova.
        (Cyclodecane) (Cyclononane) (Isomerization)

TUROVA-POLYAK, M.B.; SOSNINA, I.Ye.; YUDKINA, T.F.

Isomerization of polymethylene hydrocarbons under the effect of
aluminum chloride. Part 25: Isomerization of cyclopentylcyclopentane.
Zhur.ob.khim. 31 no.10:3187-3190 O '61. (MIRA 14:10

1. Moskovskiy gosudarstvennyy universitet.
(Cycloheptane)

YUDKINA, V.P.

Determining the luminosity of AF Cygny-type variable stars.
Per.zvezdy 6 no.5:278-281 Mr '48.   (MIRA 12:7)

1.Gosudarstvennyy astronomicheskiy institut im. Shternberga, Moskva.
(Stars, Variable)

YUDKINA, V. P.

"Determining the Absolute Magnitude of a Star According to the Parallactic Component

of its Natural Motion", Astcn. Zhur. 26, No. 5, 1949,

Mbr., Rostov-on-Don State Univ. im. V. M. Molotov, -c1949-.

1. YUDINA, V. P.

2. USSR (600)

4. Ursa Major

7. RV Ursae Majoris. Per. zvezdy, 8, No. 4, 1951.

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

YUDKINA, V. P.

Stars, Variable

SW Andromedae.   Per. zvezdy 8, No. 4, 1951.

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

YUDKINA, V. P.

Five Short-Period Cepheids. Peremennyye Zvezdy, No 5, 1953, 314-323.

Reference stars, maps of surroundings, and luminosity curves are presented for the following stars: RS, TV, TW Tauri, RV Ursae Majoris. (RZhAstr, No 9, 1954)

SO: W-31128, 11 Jan 55

YUDKINA, V.P.

Five short-period Cepheids. Per.zvezdy 9 no.5:314-323 Ja '54.
(MIRA 7:8)

1. Astronimicheskaya observatoriya Rostovskogo gosudarstvennogo
universiteta imeni V.M.Molotova.
(Stars, Variable)

YUDKOVICH, G.M.

Distribution of the constituents of wood-chemical creosote in a
system of immiscible organic solvents. Gidroliz i lisokhim.prom.
13 no.2:13 '60.   (MIRA 13:6)

1. Ukrainskiy nauchno-issledovatel'skiy institut mekhanicheskoy
obrabotki drevsiny.,
              (Wood--Chemistry)   (Creosote)

YUDKOVICH, Ya.S. (Pinsk).

Some results of competitive examinations in mathematics at the
White Russian Electrotechnical Institute of Telecommunications
in 1953. Mat.v shkole no.2:40-44 Mr-Ap '54.   (MLRA 7:3)
    (White Russia--Mathematics--Competitions)
    (Competitions--Mathematics--White Russia)
                    (Mathematics--Problems, exercises, etc.)

YUDKOVSKAYA, I. L., Cand Bio Sci — (diss) "Mucous membrane of the

stomach during an ulcer and during cancer resulting from an ulcer,"

Leningrad, 1960, 16 pp (Institute of Experimental Medicine, AMS USSR)

(KL, 35-60, 124)

SMIRNOV, N.M.; YUDKOVSKAYA, I.L.

State of the gastric mucosa in cancer of the fundal region.
Vop. onk. 11 no.2:26-30 '65.   (MIRA 18:7)

1. Iz patologomorfologicheskoy laboratorii (zav. - doktor med.
nauk S.F. Serov; nauchnyy rukovoditel' - deystvitel'nyy chlen
AMN SSSR prof. M.F. Glazunov) Instituta onkologii AMN SSSR
(direktor - deystvitel'nyy chlen AMN SSSR prof. A.I. Serebrov).

YUDKOVSKAYA, I.L.

Phagocytic properties of the mesothelium in tissue cultures.
Arkh.anat., gist. i embr. 49 no.10:53-61 O '65.

(MIRA 18:12)

1. Laboratoriya eksperimental'noy morfologii (zav. - doktor
med. nauk M.P.Ptokhov) Instituta onkologii AMN SSSR. Submitted
Febr. 20, 1964.

YUDKOVSKAYA, T.I.
     ISAYENKO, Lyudmila Alekseyevna; YUDKOVSKAYA, Tamara Izrailevna; NOVIKOV,
     Ya.A., redaktor; SAKHAREVA, N.V., tekhnicheskiy redaktor

     [Natural history; textbook for class-5 in schools for the deaf-
     mute] Estestvoznanie; uchebnik dlia 5-go klassa shkol glukhonemykh.
     Izd. 2-oe. Moskva, Gos. uchebno-pedagog. izd-vo Ministerstva pro-
     sveshchenia RSFSR, 1955. 173 p.   (MIRA 8:5)
             (Natural history—Study and teaching)
             (Deaf—Asylums and education)

YUDKOVSKIY, A.G.

LEVITSKIY, Yuriy Il'ich; YUDKOVSKIY, A.G., red.; DOVGOBROD, O.O., tekhn. red.

[Donets Basin during the 40 years of the Soviet regime] Donetskii bassein za 40 let sovetskoi vlasti. Stalino, Stalinskii ekon. administrativnyi raion, 1957. 23 p.   (MIRA 11:6)
        (Donets Basin--Coal mines and mining)

YUDKOVSKIY, A.G., inzh.

Industrial tests of various types of slope linings. Energ. stroi. no.20:65-67 '61. (MIRA 15:1)

1. Gidroenergoproyekt.
(Taburishche--Precast concrete--Testing)

SOV/122-59-4-12/28

AUTHORS: Nartsov, L.N., and Yudkovskiy, L.A.,   Engineers

TITLE: On the Strength of Cast Angles (O prochnosti litykh ugolkov)

PERIODICAL: Vestnik Mashinostroyeniya, 1959, Nr 4, pp 47-48 (USSR)

ABSTRACT: Referring to a paper by Komissarov, P.A., Engineer "On
             the Design of Cast Components" (Vestnik Mashinostroyeniya,
             1958, Nr 1), it is found that recommendations for the
             design of corners in cast components differ.   A sharp
             edge on the outside with a small fillet on the inside are
             contrasted with a large radius on the outside and a
             relatively large fillet cutting into the cross-section
             and reducing the corner cross-section compared with that
             of the adjoining wall.   Tests are reported wherein cast
             angles with corner designs of different type made of
             grey iron of 15, 18 and 24 kg/mm^2 ultimate tensile
             strength were loaded by a) pressing along the bisecting
             line against the external edge of the corner while
             supporting the two end edges;   b) pressing along one
             leg while supporting the other leg on a foundation; and
             c) pulling one leg in cantilever bending whilst the end
             of the other leg is clamped.   All three types of tests

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On the Strength of Cast Angles   SOV/122-59-4-12/28

and the examination of the fracture surface combine to
show that the first variant (a sharp outside corner and
an inside fillet radius equal to one-third of the mean
thickness of the adjoining walls) yields a better strength
and a better cast grain structure than the second variant
(with a diminished corner cross-section).   In the pure
bending test, the strength of the first variant may reach
7 times that of the second.
There are 2 figures and 2 Soviet references.

Card 2/2

YUDKOVSKIY, M. (L'vov): KOVTUN, N. (L'vov)

Seminar-workshop for physics teachers. Fiz. v shkole 20 no.4:
100-102 Jl-Ag '60.   (MIRA 13:8)
                (Physics--Study and teaching)

YUDKOVSKIY, P.A.; BULANOV, V.Ya.; ZHURAVKOV, Yu.N.; SHEVEL', A.P.

Effect of heat treatment on the strength of drills. Stan. i instr.
34 no.12:27-28 D '63.

(MIRA 17:11)

Yudkovskiy, S.I.

82635

S/126/60/010/02/005/020
E111/E352

18.1230   18.8100

AUTHORS: Funke, V.F., Shurshakov, A.N., Yudkovskiy, S.I.,
           Kuznetsova, K.F., Shulepov, V.I. and Turkevich, Yu.

TITLE: Electrical Resistance and Structure of WC-Co Alloys

PERIODICAL: Fizika metallov i metallovedeniye, 1960 Vol 10
              No. 2, pp 207 - 215

TEXT: Two-phase WC-Co alloys consist of hard, brittle
tungsten-carbide grains and a cobalt-base plastic phase   Some
workers consider that a continuous carbide "skeleton" exists
(Ref. 1) and others (Ref. 2) that there is a continuous film of
cobalt in alloys with over 2% weight Co. In the present work
measurements of electrical conductivity were made to settle
this point. Two-phase alloys with 0-100% were prepared by powder
metallurgy methods. Specimens were heated at 1 200 $^\circ$C for
1.5 hours in hydrogen. Some were then cooled at 60 $^\circ$C/hour to
room temperature; others were quenched in oil at 20 $^\circ$C.
Fig. 1 shows specific conductivity as a function of cobalt
concentration for quenched (Curve 1) and annealed (Curve 2)
specimens. Plots of resistivity against temperature are shown
in Fig. 2. X-ray examination was carried out (with type RKD and

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Electrical Resistance and Structure of WC-Co Alloys

URS-50 cameras) with cobalt radiation to find the alloy
structure and the cobalt lattice dimension (the latter is shown
as a function of WC weight % in Fig. 3). Another series of
alloys with the same cobalt content (6% by weight) but different
tungsten-carbide grain size (about 0.8 - 2.2 μ) was prepared and
tested. Fig. 4 shows resistivity for annealed alloys as
functions of coercive force (Curve 1) and of grain size (Curve 2)
the relations obtained confirmed the conclusions from the other
work, that there is a continuous layer of cobalt in alloys of
this composition. The work showed that 0.5% Co is sufficient
to break continuity of contact between carbide grains. No
solubility of cobalt in carbide up to the eutectic melting point
eutectic transformation occurred at 1250 °C. solubility of
carbide in cobalt was 12-13 weight % at 1200 °C. The reported
(Ref. 11) loss in plasticity of the cobalt layer the authors
attribute to lattice distortion at the cobalt/tungsten-carbide
boundary surface.
There are 4 figures, 2 tables and 11 references: 6 Soviet,
4 English and 1 German.
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Electrical Resistance and Structure of WC-Co Alloys

ASSOCIATION: Vsesoyuznyy nauchno-issledovatel'skiy institut
                 tverdykh splavov
                 (All-Union Cermets Scientific-Research Institute)

SUBMITTED: January 6, 1960

Card 3/3

YELYUTIN, V.P.; NATANSON, A.N.; SHULEPOV, V.I.; YUDKOVSKIY, S.I.

Instrument for measuring the electric resistance of alloys at high
temperatures. Zav.lab. 26 no.3:344-346 '60.   (MIRA 13:6)

1. Moskovskiy institut stali im, I.V.Stalina.
        (Alloys—Electric properties)

5.2100

80102

S/080/60/033/04/13/045

AUTHORS: Funke, V.F., Yudkovskiy, S.I., Samsonov, G.V.

TITLE: Some Peculiarities of the Vacuum-Thermal Manufacture of Titanium Boride

PERIODICAL: Zhurnal prikladnoy khimii, 1960, Vol 33, Nr 4, pp 831 - 835

TEXT: The effect of a charge increase on the condition of obtaining titanium
diboride and also the content of impurities in the initial materials on the purity and
the composition of boride is investigated here. Titanium diboride is formed by the re-
action $2TiO_2 + B_4C + 3C \rightleftarrows 2TiB_2 + 4CO$. The initial materials were commercial titanium
dioxide which contained (%) 59.65 Ti, 0.11 Fe_2O_3, 0.16 Al_2O_3, calcium, magnesium and
boron carbide powder with 220 mesh. The reaction was carried out in a TVV-2 furnace
with a graphite heater. It has been shown that the temperature and the holding time
must be increased in order to obtain titanium boride of stoichiometric composition and
a low content of carbon, if the charge is increased from 10 - 20 g to ... . At
1,400 - 1,500°C and a holding time of 2 - 3 hours titanium boride contains up to 1%
carbon. At a temperature of 1,700°C and a holding time of 3 hours the titanium boride
has a stoichiometric composition and the carbon content is only 0.26%. The higher is
the content of carbon in the form of carbide, the less carbon must be introduced in the

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80102

S/080/60/033/04/13/045

Some Peculiarities of the Vacuum-Thermal Manufacture of Titanium Boride

form of carbon black, which furthers the reaction of titanium boride formation to
proceed more completely. Under the conditions of high temperatures and vacuum, eva-
poration of the impurities and intensive purification of boride takes place. Iron,
silicon, aluminum, manganese and calcium are eliminated almost completely, the re-
maining impurities partially.
There are: 3 tables and 11 references, 6 of which are Soviet and 5 English.

ASSOCIATION: Vsesoyuznyy nauchno-issledovatel'skiy institut tverdykh splavov (All-Union
Scientific Research Institute of Hard Alloys)

SUBMITTED: October 15, 1959

Card 2/2

YUDKOVSKIY, S. L.

AUTHORS: Telyalin, T. P., Katansch, A. L.,   3/033/$2/035/03/035/064
             Shalygov, I. L., Ivabarskiy, L. L.   3010/3117

TITLE: A Device Used to Measure the Electric Resistance of Alloys at High
             Temperatures

PERIODICAL: Zavodskaya laboratoriya, 1960, Vol 36, Nr 3, pp 344-346 (USSR)

TEXT: A special device has been designed (Fig 1) for measuring the electric
resistance of samples 1 × 6 × 20 up to 10 × 15 × 40 mm in size and used in powder
metallurgy, at 2000 to 2500°, with a standard furnace of the type TVV-4 used to
heat the samples. The sample is attached to molybdenum- or tantalum electrodes
by spot welding. The electric resistance is measured by the compensation method
(Fig 2, circuit diagram), and calibrated resistors   are used which were

calculated by the following equation: $R_x = R_3 \cdot \frac{V_x}{V_3}$ (R_x and R_3 = electric

resistances of the sample and the calibration sample, V_x = voltage drop in the
sample, V_3 = voltage drop in the calibration sample). Phase transformations
occurring in Ni-Al-Be alloys were investigated, and it was found that the
electric resistance ranging between 0.1 and 0.5 ohm has to be measured at

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ASSOCIATION: Moskovskiy institut stali im. I. V. Stalina (Moscow Institute of
              Steel imeni I. V. Stalin)

30453
S/126/61/012/003/008/021
E073/E535

15 2240

AUTHORS: Funke, V.F., Panov, V.S. and Yudkovskiy, S.I.

TITLE: Structure and the physical and mechanical properties of
             TiC-WC-Co carbides

PERIODICAL: Fizika metallov i metallovedeniye, 1961, Vol.12, No.3,
             pp.382-388

TEXT: The results are given of investigations of the structure
of TiC-WC-Co carbides and of their properties as a function of the
composition and heat treatment.   Two series of carbides with
cobalt contents between 0 and 30 wt.% and a constant content of
the carbide phase in each of the series were investigated.
(Yu. A. Skudin and K. F. Kuznetsova participated in the experiments).
In the first series the content of titanium carbide was about 16%,
in the second about 64% of the carbide phase.   In the first case
the carbide phase consisted of structurally free tungsten carbide
and a saturated solution of WC and TiC; in the second, the carbide
phase consisted of a solid solution of WC and TiC.   The carbides
were prepared by current methods; carbides with up to 1% Co were
produced by hot pressing.   The sintered specimens did not have any

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pores and did not contain structurally free carbon. The carbides were homogenization annealed for two hours at 1200°C in a hydrogen atmosphere and cooled jointly with the furnace at a rate of 40 to 50°C/hour down to room temperature. Following that, the specimens were heated to 1200°C, held at that temperature for two hours, and quenched in oil at 20°C. The grain size of the WC phase and of the solid solution of WC in TiC remained practically unchanged on changing the cobalt content and during heat treatment. The average grain size of the WC phase was 2.28 μ, that of the TiC phase was 2.5 μ in the first series and 3.0 μ in the second series. The sintered, annealed and quenched specimens were subjected to metallographic and X-ray analyses and, in addition, the electric resistance, the microhardness and the bending strength were determined. Particular attention was paid to obtaining data on the relation between the specific electric resistance of two and three-phase TiC-WC-Co carbides on the one hand, and the Co content and the heat treatment conditions on the other hand. These data indicate that cobalt is soluble in the titanium carbide phase, which, in the case of the ratio TiC/WC = 0.19, is about 2% at 1200°C. If structurally free tungsten carbide is present, the

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Structure and the physical ...

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titanium phase will be subjected to tensile stresses. Fig.1 shows a plot of the specific electric resistance, ρ, µohm·cm, of Ti-WC-Co carbides as a function of the cobalt content (wt.%). Two sets of materials were used with the following heat treatments: TiC/WC = 1.765: 1 - sintered; 2 - annealed; 3 - quenched. TiC/WC = 0.19: 4 - sintered; 5 - quenched, 6 - annealed. A sharp drop in the electric resistance caused by an increase of the Co content from 0 to 4% is attributed to the relief of the thermal stresses of the carbide phase as a result of increasing the content of the ductile component, which leads to a stress relaxation and to a reduction of the concentration of tungsten carbide in the solid solution TiC-WC on increasing the cobalt content from 0 to 1%. An increase in the electric resistance for carbides containing over 4% Co is attributed to the fact that the specific electric resistance of the carbide phase is lower than that of the bonding phase and, consequently, an increase in the quantity of the latter is accompanied by an increase of the electric resistance of the carbide as a whole. Data on the dependence of the bending strength, σ, kg/mm^2, on the composition,

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Structure and the physical ...   S/126/61/012/003/008/021
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Co, vol.%, are plotted in Fig.3 (1 - tungsten-cobalt carbides,
2 - titanium-tungsten-cobalt carbides (TiC/WC = 0.19), 3 - titanium-
tungsten-cobalt carbides (TiC/WC = 1.765)). Fig.4 is a plot of
the dependence of the hardness, HV, kg/mm^2 on the cobalt content,
wt.% (1 - TiC/WC = 1.765; 2 - TiC/WC = 0.19; $\triangle$ - sintered,
X - annealed, O - quenched). It can be seen that for both
two-phase and three-phase WC-TiC-Co carbides the hardness
increases almost linearly with increasing cobalt content and is
almost independent of the heat treatment and the composition of
the bonding phase. There are 4 figures and 12 references:
6 Soviet and 6 non-Soviet. The English-language references read
as follows: Ref.2: Gurland, I., Norton, I., J.Metals, 1952, 4,
No.10, 1054; Ref.11: Gangler, I.,J. Am.Cer.Soc., 1950, 33, 367.

ASSOCIATION: Vsesoyuznyy nauchno-issledovatel'skiy institut
               tverdykh splavov (All Union Scientific-Research
               Institute for Carbides)

SUBMITTED: November 28, 1960 (initially)
               May 25, 1961   (after revision)

Card 4/5

S/122/62/000/008/003/004
D262/D308

AUTHORS: Yudkovskiy, S.I., Bykhmans, E.F., Guseva,
A.N., Engineers, Funke, V.F., Romanov, N.
F., and Smirnov, F.F., Candidates of Tech-
nical Sciences

TITLE: Alloys on the TiB_2 basis for cutting tools

PERIODICAL: Vestnik mashinostroyeniya, no. 8, 1962,
44 - 47

TEXT: The authors describe a series of experiments
conducted in order to establish the physical, mechanical and cut-
ting properties of TiB_2 alloys. Specimens of 15 alloys contain-
ing various percentages of TiB_2 and bounding metals (Fe, Co, Ni)
were tested for bending, hardness, and coefficient of friction.
Their cutting properties under various working conditions were
also investigated and the results of the experiments recorded in
form of tables and graphs, and analyzed. TiB_2 alloys (obtained
by powder pressing and baking process) possess many advantages

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Alloys on the TiB_2 basis ...   S/122/62/000/008/003/004
                                        D262/D308

over the existing cutting materials (greater hardness, better
scale-resistance, absence of adhesion to worked materials, lower
coefficient of friction) but their strength is comparatively low.
There are 5 figures and 5 tables.

Card 2/2

FUNKE, V.F.; SHULEPOV, V.I.; YUDKOVSKIY, S.I.

Dependence of the electric resistance of WC-Co alloys on their structure. Fiz. met. i metalloved. 13 no.5:794-795 My '62.

1. Vsesoyuznyy nauchno-issledovatel'skiy institut tverdykh splavov.
(MIRA 15:6)

(Tungsten-cobalt alloys--Electric properties)

FUNKE, V.F. (Moskva); YUDKOVSKIY, S.I. (Moskva); Prinimala uchastiye VODYANAYA, T.A.

Structure and properties of alloys of zirconium diboride with iron, cobalt, and nickel. Izv.AN SSSR. Otd.tekh.nauk. Met.i topl. no.4:126-132 Jl-Ag '62.
(MIRA 15:8)
(Zirconium alloys—Metallography) (Powder metallurgy)

45258

S/226/62/000/006/009/016
E193/E383

AUTHORS: Funke, V.F., Yudkovskiy, S.I. and Panov, V.S.

TITLE: A study of the structure and physical properties of
              alloys of the TiC-WC-Co system

PERIODICAL: Poroshkovaya metallurgiya, no. 6, 1962, 61 - 66

TEXT: The effect of the Co content and heat-treatment on the
structure and properties of three series of WC-base alloys was
studied. The W content of each series varied between 0 and 30%;
alloys of the first series contained WC only, those of the second
and third series containing 16 and 64% TiC, respectively. Con-
ventional methods were used for the preparation of experimental
specimens, hot pressing being used in the preparation of Co-free
compacts. The specimens were free from pores and did not contain
structurally-free carbon. X-ray diffraction analysis and measure-
ments of hardness and electrical resistance were conducted on
specimens a) as sintered, b) annealed for 2 h at 1 200 C and
furnace-cooled to room temperature and c) oil-quenched from 1 30
after 2-h holding at the temperature. X-ray diffraction anal
has shown that the carbide phase in the WC-Co alloys is under
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E193/E383

A study of ....

compressive stresses, whereas TiC in the ternary alloys containing structurally-free WC is under tensile stresses. Other results are reproduced graphically in Fig. 1; the electrical resistivity (ρ, Ω cm) is plotted against the Co content (vol. %) in WC-Co alloys (bottom graph) and ternary alloys with 16 and 64% TiC (T15 and T60, respectively, top graph); the curves marked 'закалка', 'спекание' and 'отжиг' relate, respectively, to quenched, sintered and annealed specimens. In Fig. 2, the bending strength ($\sigma_{изг}$, kg/mm^2 - continuous curves) and Vickers hardness (H_V, kg/mm^2 - broken curves) are plotted against the Co content (vol. %) in sintered alloys, containing no titanium carbide (BK) or with a titanium carbide of 16 and 64% (curves T15 and T60, respectively). There are 2 figures and 1 table.

ASSOCIATION: Vsesoyuznyy nauchno-issledovatel'skiy institut tverdykh splavov (All-Union Scientific Research Institute of Hard Alloys)
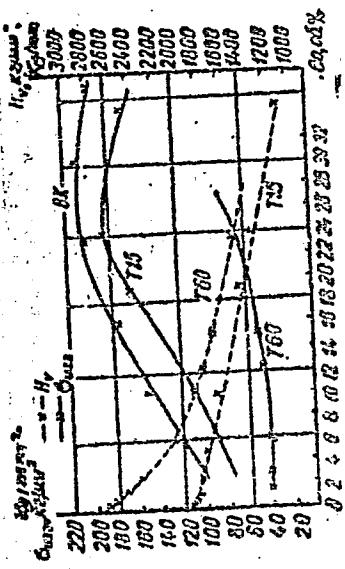
SUBMITTED: April 14, 1962

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Fig. 1:

Fig. 2:

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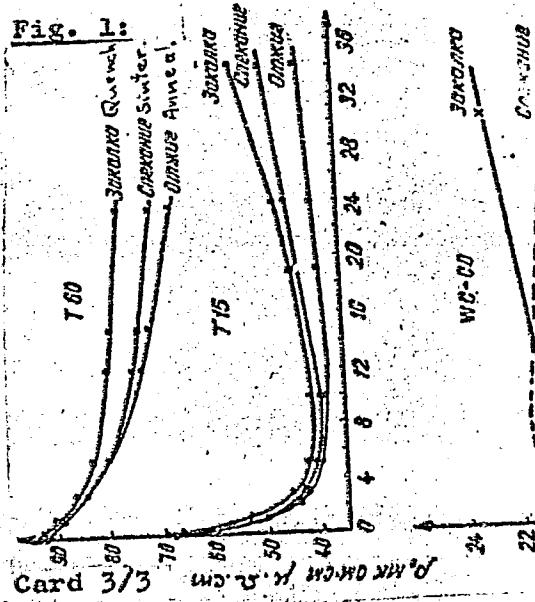
FUNKE, V.F.; YUDKOVSKIY, S.I.

Preparing zirconium boride. Porosh. met. 3 no.4:49-53 Jl-Ag '63.
(MIRA 16:10)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut tverdykh
splavov.   (Zirconium boride)

FUNKE, V.F.; YUDKOVSKIY, S.I.

Conditions of preparation and phase composition of molyb-
denum boride. Zhur. prikl. khim. 36 no.11:2379-2385 N '63.
(MIRA 17:1)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut tverdykh
splavov.

L 12675-63   EWP(q)/EWT(m)/BDS   AFFTC/ASD

ACCESSION NR: AP3004064

AUTHOR: ____, V. P.; Yudkovsk___

TITLE: High-temperature oxidation of titanium _____
metals

SOURCE: Zhurnal fizicheskoy khimii, v. 37, ___

TOPIC TAGS: refractory compound, transition-____
titanium boride-iron, titanium boride-nicke__, _____
boride-iron oxidation, titanium boride-nickel _____
oxidation, titanium oxide, Ni___, _____

ABSTRACT: The kinetics of the atmospheric oxidat___
alloys has been studied with__ the _____ ____
weig__ over a period of 100 ___. The allow___ ____
__inter___. Oxidation was ca_____ out in ____ ___
_eratu__ maintained for the pre____ per__ ___

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L 3676-63

ACCESSION NR: AP3004064

patterns of the scale were obtained in an RKU, Debye-... ...
source. The experimental kinetic data are plotted in ...
the calculated oxidation rate-constants (K) are ...
... versus the percentage of Fe, Ni, or Co. It was ...
rate at 500 and 750C is approximately of the same ...
alloys studied. A difference in this rate ... ...
increased from 750 to 1000C: in this range the oxidat...
... than in TiB$_2$-Ni or TiB$_2$-Co alloys. The dif...
... with the increased temperature is associated with ...
of the oxide film. The film on TiB$_2$-Fe ... ...
... unequally thick layers, while a single-la... ...
... 500 or 750C and on TiB$_2$-Ni or TiB$_2$... al...
... an increase in Fe, Ni, or Ni content ...
oxidation rate, which remains about the sam...
... the oxidation rate of the TiB$_2$-Fe alloy ...
content is increased from 10 to 30% and is much hi...
... or for TiB$_2$-Ni or TiB$_2$-Co alloys. At ...
... decreased with an increase in Ni or ...
stationary, but lower than that of the pure ...

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L 13676-63

ACCESSION NR: AP3004064

further increased to 25%. The assumption that oxidation
is dependent on the composition of the oxide films was
analysis. The scale for all the alloys contained TiO_2 an
presumably the complex oxide $Me_xB_yO_z$ or a salt of a vari
the scale on certain TiB_2-Fe, -Ni, or -Co alloys contain
$NiTiO_3$, or $CoTiO_3$. The proportions of the differen
composition and temperature. Orig. art. has

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(All-Union Scientific Research Institute of Hard Alloys

SUBMITTED: DATE ACQ:

SUB CODE: MA, ML   NO REF SOV:

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ACCESSION NR: AP4039622   S/0076/64/038/005/1280/1283

AUTHOR: Funke, V. F.; Yudkovskiy, S. I.

TITLE: High-temperature oxidation of boride-base alloys with iron-group metals

SOURCE: Zhurnal fizicheskoy khimii, v. 38, no. 5, 1964, 1280-1283

TOPIC TAGS: zirconium boride, zirconium boride alloy, iron containing alloy, cobalt containing alloy, alloy oxidation, high temperature oxidation

ABSTRACT: The oxidation of zirconium boride-base alloys with iron-group metals in the 500—1000C range was investigated. The oxidation behavior of unalloyed zirconium boride at 500—750C differs from that of zirconium boride alloys; in the former a weight loss is observed and in the latter, a weight gain. The phenomenon is explained by the difference in the nature of oxide films formed at high temperatures. The film formed on zirconium boride is porous and does not prevent the escape of volatile components; on alloys, a glass-like dense film, adhering tightly to the base is formed. With an

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ACCESSION NR: AP4039622

increase in oxidation temperature to above 750C, the oxidation follows a parabolic rate and is accompanied by a weight increase in both cases (see Fig. 1 of the Enclosure). X-ray diffraction patterns of oxide films on zirconium boride formed at 1000C contain primarily lines of monoclinic zirconium dioxide. Components of film on the alloys could not be positively identified. With increasing oxidation temperature, the content of metals in the film increases. The oxidation resistance of zirconium boride base alloys is 2—3 times higher than that of titanium boride-base alloys.

ASSOCIATION: Vsesoyuzny*y nauchno-issledovatel'skiy institut tverdy*kh splavov (All-Union Scientific Research Institute of Hard Alloys)

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                              NO REF SOV: 004   OTHER: 001
SUB CODE: MM

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