

PETRISZCZENA, Palina A.

Scientific studies on natural foci of human diseases in USSR.
Wiadomosci parazyt., Warsz. 1:165-177 1955.

1. Czlonek-korespondent Akademii Nauk Medycznych ZSRR.
(COMMUNICABLE DISEASES, epidemiology,
in Russia, natural foci)

NIKOLAYEVA-FEDOROVICH, N.B.; DAMASKIN, B. B.; PETRIY, O. A.

Effect of surface-active organic substances on the electrolytic
reduction of anions. Coll Cs Chem 25 no.12:2982-2992 D '60.
(KEAI 10:9)

1. Institut fizicheskoy khimii, Akademiya nauk SSSR, Moskva, SSSR.

(Reduction) (Surface-active substances) (Anions)

NIKOLAYEVA-FEDOROVICH, N.V.; PETRIY, O.A.

Mechanism of the electroreduction of halide complexes of platinum at the dropping mercury electrode. Zhur.fiz.khim. 35 no.6:1270-1278
Je '61. (MIRA 14:7)

1. Moskovskiy gosudarstvennyy universitet imeni M.V.Lomonosova.
(Platinum compounds) (Reduction, Electrolytic)
(Electrodes, Dropping mercury)

DAMASKIN, B.B.; PETRIY, O.A.

Possible use of the oscillographic polarograph for determining
zero charge potentials. Zhur.fiz.khim. 35 no.8:1862-1864
Ag '61. (MIRA 14:8)

1. Moskovskiy gosudarstvennyy universitet imeni M.V. Lomonosova.
(Polarograph) (Electromotive force)

DAMASKIN, B.B.; PETRIY, O.A.; NIKOLAYEVA-FEDOROVICH, N.V.

Effect of dissolved oxygen on oscillographic polarograms.
Zhur.fiz.khim. 35 no.11:2643-2645 N '61. (MIRA 14:12)

1. Moskovskiy gosudarstvennyy universitet imeni Lomonosova.
(Oxygen)
(Polarography)

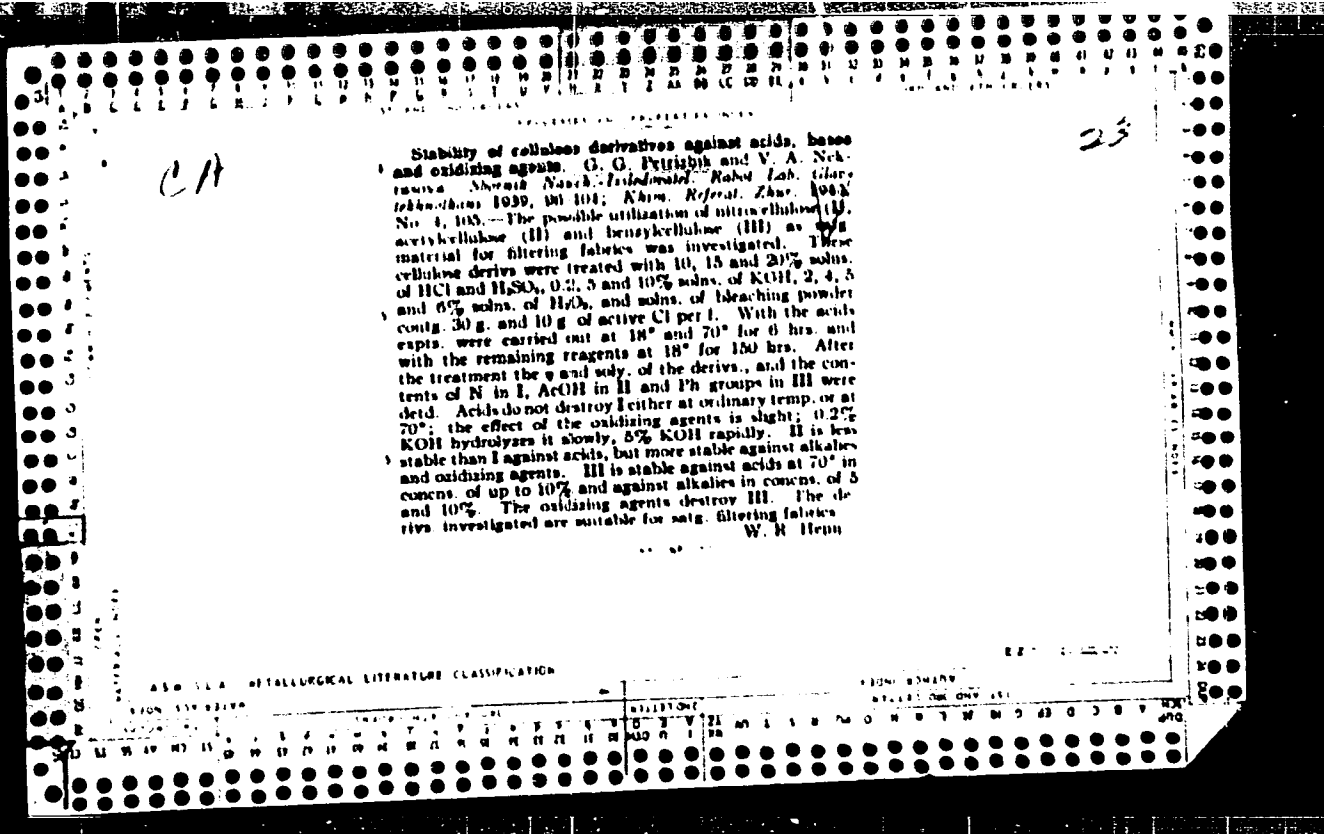
FRUMKIN, A.N., akademik; PETRIY, O.A.; NIKOLAYEVA-FEDOROVICH, N.V.

Adsorption of hydrogen ions on a negatively charged mercury -
electrolyte interface. Dokl. AN SSSR 137 no.4:896-899 Ap '61.
(MIRA 14:3)

1. Moskovskiy gosudarstvennyy universitet im. M.V. Lomonosova.
(Hydrogen) (Alkali metals) (Electrodes, Dropping mercury)
(Electric double layer)

~~PETRIYCHUK~~, Dmitriy Ignat'yevich; SLASHCHEVA, Lidiya Alekseyevna;
USTYUGOV, P., red.; CHOTIYEV, S., tekhn. red.

[Manganese and its importance in agriculture] Marganets i ego
znachenie v sel'skom khoziaistve. Frunze, Kirgizskoe gos. izd-
vo, 1960. 45 p. (MIRA 15:3)
(Manganese compounds) (Trace elements)
(Agriculture)



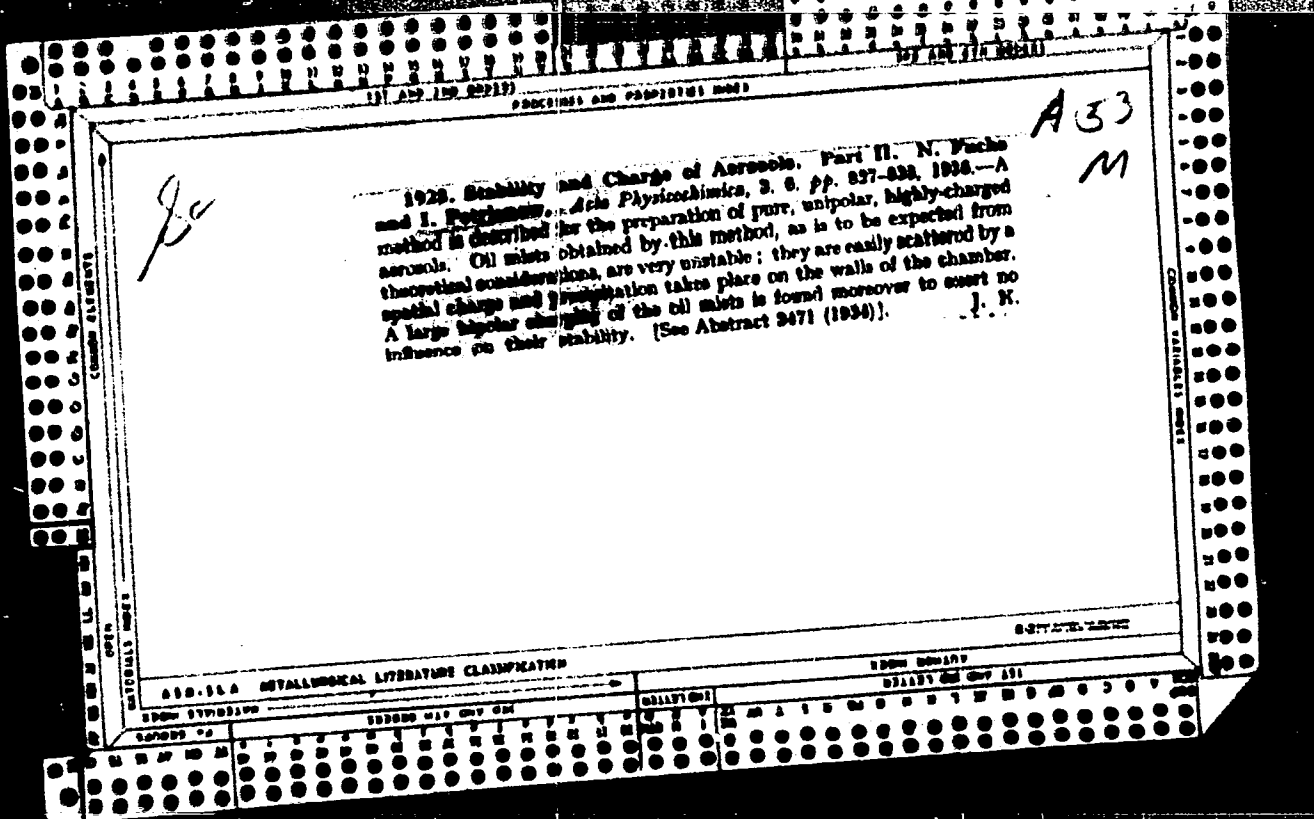
PETRIZILKA, V.

SCIENCE

Periodicals: CESKOSLOVENSKY CASOPIS PRO FYSIKU. Vol. 8, no. 5,

PETRIZILKA, V. Sixtieth birthday of Frantisek Behounek. p. 631.

Monthly List of East European Accessions (EEAI) LC, Vol. 8, No. 5,
May 1959, Unclass.



PETREL, M.; SVORCIK, V.

A new method of measuring the instantaneous dye concentration
in the heart chambers. Cor vasa 7 no.4.287-293 '65.

1. Institute of Experimental Therapy and the Department of Internal
Medicine, Institute of Postgraduate Medicine, Prague, Czechoslovakia.

1/1

KOSMAK, Ivan; ENDRYS, Jiri; PETRLE, Miroslav; FRANK, Miroslav;
BELOBRADEK, Zdenek; STEINHART, Leo; SLEZAK, Premysl

The intracardial phonocardiogram in aortic stenosis. Sborn. ved.
prac. lek. fak. Karlov. Univ. 7 no.5:661-664 '64.

1. II. interni klinika (prednosta: prof. MUDr. V. Jurkovic, DrSc.)
Kardiochirurgicke stredisko (prednosta: prof. MUDr. J. Prochazka,
DrSc.); Vyzkumny ustav exper. terapie, Praha-Krc (prednosta: MUDr.
O. Smahel, DrSc.) a Radiologicka klinika (prednosta: prof. MUDr.
J. Bastecky, DrSc.).

BELOBRADEN, Zdenek; ENDRYS, Jiri; KOSMAK, Ivan; PETRLE, Miroslav;
STEINHART, Leo

Changes of indexes calculated from the left atrial pressure
curve during amyl nitrite inhalation. Sborn. ved. prac. lek.
fak. Karlov. Univ. 7 no.5:653-660 '64.

1. II. interni klinika (prednosta: prof. MUDr. V. Jurkovic, DrSc.);
Kardiochirurgicko stredisko (prednosta: prof. MUDr. J. Prochazka,
DrSc.); Vyzkumny ustav experimentalnej terapie, Praha-Kro (pred-
nosta: MUDr. O. Smahel, DrSc.) a Radiologicka klinika (prednosta:
prof. MUDr. J. Bastecky, DrSc.).

STEINHART, L.; ENDRYS, J.; SLEZAK, P.; PROCHAZKA, J.; DITE, B.; PETRLE, M.;
BELOBRADEK, Z.; KOSMAK, I.; FRANK, M.

Transseptal levography in congenital and acquired diseases of
the heart and of the large vessels. *Cesk. radiol.* 19 no. 4/5:
253-259 Ag '65.

I. Radiologicka, chirurgicka, I. interni, II. interni a detska
klinika lekarstve fakulty Karlovy University v Hradci Kralove,
CSSR.

STEINHART, L.; ENDRYS, J.; DITE, B.; SLEZAK, P.; PROCHAZKA, J.; BELOBRADEK, Z.;
PETRLE, M.

The angiocardigraphic picture of the mitral orifice. Cor vasa 4
no.3:212-218 '62.

1. Centre for Cardiac Surgery, Faculty of Medicine, Charles University
Hradec Kralove.

(MITRAL VALVE radiography) (ANGIOCARDIOGRAPHY)

PETRE, M.; PROCHAZKA, J.; ENDRYS, J.; BELOBRADEK, Z.; KOSMAK, J.; STEINHARDT, L.;
VIZDA, J.

Recurrent tight mitral stenosis. Cor. vasa 6 no.2:104-111'64

1. 1st and IInd Internal Clinics, Surgical Clinic and Radiological Clinic, Faculty of Medicine, Caroline University, Hradec Kralove, Czechoslovakia.

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KOSMAK, I.; PETRLE, M.; ENDRYS, J.; BELOBRADEK, Z.; JURKOVIC, V.; STEINHART,
L.; SLEZAK, P.

On the methodology of intracardiac phonocardiography. Cor Vasa
6 no.4:281-287 '64.

1. IInd Internal Clinic, Ist Internal Clinic, Surgical Clinic,
Centre for Cardiac Surgery and Radiological Departments, Faculty
of Medicine of the Caroline University, Hradec Kralove,
Czechoslovakia.

SHTAYNGART, Leo [Stajnhart, Leo], doktor meditsiny; DITE, Bogumil [Dite, Bohumil], doktor meditsiny; PETRLE, Miroslav, doktor meditsiny; FROKHAZKA, Jaroslav [Prochazka, Jaroslav], prof., doktor meditsiny; BELOBRADEK, Zdenek, doktor meditsiny; TOMANEK, Yuriy [Tomaneck, Jiri], doktor meditsiny

Significance of angiocardiography in the diagnosis of congenital heart defects with left-to-right shunt. Khirurgiya no. 10:50-63 '64. (MIRA 18:8)

1. Kardiologicheskiy tsentr klinicheskoy bol'nitsy v Gradtse Kraiove i rentgenologicheskoye otdeleniye garnizonnoy bol'nitsy, Yaromerzh.

TLUSTY, Lubomir; PETRLE, Miroslav; FIEDLEROVA, Dagmar; REZAC, Vladimir;
VIZDA, Jaroslav; JURECKA, Jiri.

An attempt to determine some parameters of aging during routine
clinical examination. Sborn. ved. prac. lek. fak. Karlov. Univ.
9 no.1:339-355 '64.

I. I. Interni klinika (prednosta: prof. MUDr. F. Cernik)
Karlov University v Hradci Kralove.

PETRLE, Miroslav; KOSMAK, Ivan; ENDRYS, Jiri; BELOHRADEK, Zdenek;
MATEJA, Frantisek.

Congenital isolated pulmonary insufficiency. Sborn.ved.prac.
lek.fak.Karlov.Univ.(Hrad.Kral.) 6 no.3:319-323 '63.

I. I. interni klinika (prednosta:prof., MUDr. F.Cernik);
II.interni klinika (prednosta: prof., MUDr. V.Jurkovic)
a Chirurgicka klinika (prednosta: prof., MUDr.J.Prochaska),
Universita Karlova.

*

BELOBARDEK, Zdenek, [Belobradek, Z.], doktor med.nauk; PETRLE, Miroslav,
doktor med.nauk; PROKHAZKA, Jaroslav [Prochazka, J.], prof.
doktor meditsiny

Measurement of pressure in the left auricle by transbronchial
puncture. Khirurgiia 37 no.1:29-33 Ja '61. (MIRA 1412)

1. Iz 2-y kliniki vnutrennikh bolezney (rukovoditel' - dotsent
d-r meditsiny Vilo Yurkovich), 1-y kliniki vnutrennikh bolezney
(rukovoditel' - prof. d-r meditsiny Yan Rzhigorzh) i 2-y khirur-
gicheskoy kliniki (rukovoditel' - prof. d-r meditsiny Jaroslav
Prokhazka) Gradets Kralove (Chekhoslovakiya).
(HEART) (BLOOD PRESSURE)

PETHLE, M.; SKORPIL, J.; KORHON, M.

Block of both Tawara's node branches. Cas.lek.ceak. 99 no.10:
298-302 4 Mr '60.

1. I. interni klinika v Hradci Kralove, prednosta prof. MUDr.
- J. Bohor. Interni oddeleni ONZ Vysoke Myto, prednosta MUDr.
- J. Skorpil. Pat-anat. ustav v Hradci Kral, prednosta prof.
- MUDr. A. Fingerland.

(HEART BLOCK case reports)

EXCERPTA MEDICA Sec. 6 Vol. 11/8 Aug. 57
PETRLE M.

4629. PETRLE M. Interni Odd. KUNZ. Pardubicích. "Použití komorového gradientu u blokády levého raménka. The use of the ventricular gradient in left bundle-branch block ČAS. LÉK. ČES. 1956, 95/32 (870-874) Graphs 1 Tables 2

The ventricular gradient was calculated in the frontal plane in 40 patients with left bundle-branch block and the values obtained were compared with the clinical picture. Complete agreement between the values of the ventricular gradient and the clinical picture was found in 90% of the cases, incomplete agreement in 7.5% and complete disagreement in 2.5%. The results obtained show that calculation of the ventricular gradient in the frontal plane in left bundle-branch block can be a significant aid in dealing with complicated or noncomplicated left bundle-branch block.

PETRE, Miroslav, MUDr.

Use of ventricular gradient in left bundle branch block.
Cas. lek. cesk. 95 no.32:870-874 17 August 56.

1. Int. odd. KUNZ v Pardubicich, Predn. prof. Dr. J. Rehor.
(HEART BLOCK,
bundle branch block, ECG diag., value of ventric.
gradient (Cs))
(ELECTROCARDIOGRAPHY,
ventric. gradient, use in diag. of bundle branch
block (Cs))

CZECHOSLOVAKIA UDC 615.452 Alupent-092.22:616.131-008

DAUM, S.; STIKSA, J.; NIKODYNOVA, L.; PETRLE, M.; SVORCIK, C.;
Research Institute of Experimental Therapy (Vyzkumny Ustav Experimentální Terapie), Prague - Krc, Director (Reditel) Prof Dr O. SMAHEL.

"The Influence of Metaproterenol on Pulmonary Circulation."

Prague, Casopis Lekarů Ceských, Vol 105, No 42, 21 Oct 66, pp
1145 - 1149

Abstract /Authors' English summary modified 7: Pulmonary circulation of 8 patients was investigated after administration of 0.5 mg of metaproterenol (Alupent Bohringer). 4 patients received air with 21% and 4 with 60% oxygen. In 6 minutes heart volume rose by 12-25%, in all blood volume in pulmonary capillaries increased. The "PC" PAm, ADm, and the general and extraarterial pulmonary resistance declined in all 8. Pa_{O_2} does not decline after inhalation of 60% O_2 if Alupent was administered; it declines when 21% oxygen is administered. This indicates that the alveoli are ventilated less than would correspond to their perfusion. 4 Figures, 27 Western, 2 Czech references. (Manuscript received Jan 66).
1/1

BENES, L.; DRASIL, V.; PETRLIK, J.

Autoradiographic determination of low alpha activities in water. *Cesk. hyg.* 10 no.7:393-399 Ag '65.

1. Biofyzikalni ustav Ceskoslovenske akademie ved, Brno a Vyzkumny ustav vodohospodarsky, Praha.

PETRIK, Jaroslav

Electric measurement of soil moisture. Vodni hosp. 14, 1964, 45-51.

1. Research Institute of Water Resources Management, Prague, Podbátka.

PETLIK, Jaroslav

Contribution to the problem of winter thermal regime of open canals. Vodni hosp 14 no.10: 379-380, 381 '64.

1. Research Institute of Water Resources, Prague.

PETRLIK, V.

Repair of castings of light metal in the protective atmosphere of argon.
p. 500.

STROJIRENSKA VYROBA. (Ministerstvo tezkého strojírenství, Ministerstvo
presného strojírenství a Ministerstvo automobilového průmyslu a
zemědělských strojů) Praha, Czechoslovakia, Vol. 7, no. 11, Nov. 1959.
Jan, 1960

Monthly List of East European Accessions (EEAI), LC, Vol. 9, no. 1,
Jan, 1960

Uncl.

PEJML, Karel; PETRLIK, Z.

The relation between the weather and the hop Peronospora.
Rostlin vyroba 9 no.1:65-84 Ja '63.

1. Agrometeorologicak observator, Doksany and Ohri (for Pejml).
2. Vyzkumny ustav chmelarsky, Zatec (for Petrlik).

Country : CZECHOSLOVAKIA

Category: Plant Diseases. Diseases in Cultivated Plants.

Abs Jour: RZhBiol., No 18, 1950, No 82691

Author : Petrlik, Z.

Inst : -

Title : Results of Field Experiments on Spraying (Fungicides)
against Peronospora Infection in Hops.

Orig Pub: Chmelarstvi, 1950, 31, No 2, 28-29

Abstract: No abstract.

Card : 1/1

14

PETRLIK, Z., inzh.; SHTYS, Z.

New laboratory method for the cultivation of Peronospora of hops.
Agrobiologiya no.5:772-773 S-0 '61. (MIRA 14:10)

1. Nauchno-issledovatel'skiy institut khmelevodstva Chekhoslov-
atskoy akademii sel'skokhozyaystvennykh nauk, g. Zhatets.
(Hops---Diseases and pests)

PETRLIK, Zdenek, inz.; STYS, Zdenek

Examination of new products and methods for controlling the hop
Peronospora. Vest vyzk zemedel 9 no.12:544 '62.

1. Vyzkumny ustav chmelarsky, Zatec.

Z/034/61/000/005/003/010
E073/E535

18 3200

AUTHOR: Petrman, I.

TITLE: Refining of steel with synthetic slags

PERIODICAL: Hutnické listy, 1961, No.5, p.362

TEXT: The report describes a new progressive technology of manufacturing steel - refining with synthetic slags. The report contains the basic principles of this process, a description of the equipment and the results obtained in re-smelting ball bearing steel, which was chosen as the first steel type for re-smelting. The re-smelted ball bearing steel was subjected to exhaustive tests. In addition to the influence of re-smelting on the chemical composition, its influence on the following was investigated: macrostructure, specific gravity of the metal, micro-purity, content of non-metallic inclusions (determined by chemical methods), gas content and also the influence of re-smelting on improving the quality of the material tested under conditions of operation of antifriction bearings. The report also contains a short description of pilot plant equipment designed for manufacturing 200 kg ingots and an analysis of the economics

Card 1/2

JB

Refining of steel with ...

Z/034/61/000/005/003/010
E073/E535

J/B

of the method.

Report 1960, Prague: VÚHŽ RV 20-1-84.

[Abstractor's Note: This is a complete translation. In the title the term "ratification" is used but this is obviously a printing error for "refining"]

Card 2/2

Met. Review
1952

*0 - Ferrous Reduction
and Refining*

180-D. Contemporary Status of the Theory of Metallurgical Processes in the Production of Steel in the U.S.S.R. (In Czech.) Ivo Petřimán. *Hutnická Listy*, v. 6, Oct. 1951, p. 470-478; Nov. 1951, p. 534-541.
Results of theoretical investigations in the field of steel production in the USSR. (D) general. STI

BTR

2

3812* Contemporary Status of the Theory of Metallurgical Processes in the Production of Steel in the U.S.S.R. In Czech. Ivo Petruan. Hutnické Listy v. 6, Oct. 1951, p. 470-478. Nov. 1951, p. 538-541
Outline results of theoretical investigations in the field of steel production in the USSR and with investigations being conducted at the present time

REF: 1.

"Regulating The Constitution of Slavic Peoples The People of the Group 1000
In Open-Hearted Furnace Smelting." Vol. 3, No. 3, 1952, Praha.)

SC: Monthly List of East European Accidents, Vol. 3, No. 3, Library of Congress, March 1952, Inc.

Reduction & Refining
PETRMAN, Ivo

2

13457* Preparation of Open Hearth Slag Prior to Complete Melting of Charge. (Czechoslovakian.) Ivo Petrman. Hutnicke Listy, v. 7, no. 11, Nov. 1952, p. 566-573. Describes procedures for improving refining and degassing reactions. Tables, graphs. 3 ref.

PETRMAN, I.; TELICKY, E.

Production of ferroalloys in the USSR and in our country.

P. 1050. (HUTNICKE LISTY.) (Praha, Czechoslovakia) Vol. 12, No. 11, Nov. 1957

SO: Monthly Index of East European Accession (EEAI) LC. Vol. 7, No. 5, May 1954

Z/032/61/011/005/004/008
E073/E535

AUTHOR: Petrman, I.

TITLE: Refining of Steel by Means of Synthetic Slags

PERIODICAL: Strojirenství, 1961, Vol.11, No.5, p.396

TEXT: The subject of the report is a description of a new, progressive, technology of steel-refining by using synthetic slags. The following are described: the basic principle of this process; equipment used and results obtained in re-smelting steel for antifriction bearings, which was chosen as the first grade for re-smelting. The re-smelted steel was subjected to extensive tests. In addition to the influence of re-smelting on the chemical composition, its influence on the following was determined: change in the specific weight; micropurity; content of nonmetallic admixtures (determined by chemical methods); gas content and influence of re-smelting on improving the quality of the material tested directly under conditions of operation of antifriction bearings. A brief description is included of pilot-plant equipment intended for producing 200 kg ingots. The report is concluded with an economic analysis.

Card 1/2

18.1150 2808, 1471, 1496 only

85188
Z/034/60/000/011/001/009
E073/E335

AUTHORS: Petrman, Ivo, Engineer and Kašik, Ivan, Engineer

TITLE: Improvement of the Quality of Antifriction Bearing Steel by Electroslag Resmelting 14 17

PERIODICAL: Hutnické listy, 1960, No. 11, pp. 839 - 851

TEXT: In the first part of the paper an explanation is given of the operation of the electroslag resmelting principle which has been developed largely by the Soviet Ye.O. Paton Electric Welding Research Institute (and has been in use since 1958 at the Soviet Dneprospetsstal Works). On the basis of Soviet information on the method (Refs. 3-6) the Ferrous Metallurgy Research Institute has carried out investigations for the purpose of improving the properties, particularly the micropurity of bearing steels and in this paper the results of this research are described. The process of electroslag smelting is, to some extent, similar to the process of melting electrodes in vacuum arc furnaces. The starting material (steel or alloy) is made into electrodes by classical methods. These are electrothermally melted off, subjected to refining in the liquid state (by vacuum or slag) and made to solidify rapidly in a
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E073/E335

Improvement of the Quality of Antifriction Bearing Steel by
Electroslag Resmelting

water-cooled metallic crystalliser. In the electroslag furnace the electrode is melted off by the heat released in the fused-slag layer. The layer of the molten slag above the metal acts as an electric resistance to the electric current and simultaneously as a refining and protection layer for the melting metal. The electric process does not involve arc formation and AC is used for the purpose. The refining of the metal proceeds during the passage of the metal drops through the overheated slag layer which is of a special composition. During the passage of the metal drop through the slag layer it becomes purified of gases, nonmetallic admixtures and some other harmful admixtures, particularly sulphur. As a result of this the composition is improved, whilst during solidification the structure is improved. The smelting is in the crystallite itself so that smelting and solidification proceed simultaneously. The solidifying part of the ingot is continuously covered with a layer of melting liquid metal which, jointly with the thick layer of the overheated slag, provides ideal and constant crystallisation

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E075/E355

Improvement of the Quality of Antifriction Bearing Steel by
Electroslag Resmelting

conditions. Crystallisation is fast each time for a small quantity of liquid metal and with a continuous direction of the solidification from the bottom upwards. As a result of this the ingots are free of typical defects of ingots produced by classical methods. The Czech experiments comprised 32 experimental heats carried out exclusively with the steel CSN 14104. The electrodes were rods of 50 mm diameter and the produced ingots were of 140, 120 and 90 mm diameter with heights of 250, 350 and 600 mm. The ingots were forged by standard methods to 80 and 55 mm diameter and to 50 mm square. The following slags were used: $\text{CaF}_2\text{-Al}_2\text{O}_3$ (A), CaF_2 (B) and $\text{CaF}_2\text{-CaO}$ (C). The resmelting was effected by means of a modified automatic SDK 5000 welding machine which was specially adapted for the purpose. The speed of the electrodes during the smelting could be controlled between 0 and 16 m/h. The crystalliser consisted of two concentric copper tubes with water cooling. The laboratory results were obtained with the
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E073/E335

Improvement of the Quality of Antifriction Bearing Steel by
Electroslag Resmelting

participation of M. Mandl, A. Pössnerová, R. Freiwillig,
R. Říman, B. Petr, M. Kase, M. Pelikán, K. Tykal, V. Zák,
Z. Kodedová, J. Prokopec. The results are described in great
detail, giving information on the chemical composition,
macrostructure, mechanical properties, gas content, micro-
purity and microstructure. Furthermore, the technological
influences on the electroslag process are described and also
the economics of the process. It was found that the quality
of the metal had improved greatly. The surface and the macro-
structure of the ingots was without any defects; the steel
was of a fine grain, uniform and dense. The quantity of
sulphur decreased considerably and so did the quantity of
sulphide admixtures and, in some cases, also of oxide admixtures.
The remaining admixtures are more uniformly distributed and are
of a more favourable shape. There was also a drop in the
content of hydrogen and nitrogen of the steel. The achieved

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E073/E335

Improvement of the Quality of Antifriction Bearing Steel by
Electroslag Resmelting

laboratory results indicate that electroslag smelting of steel does improve its quality considerably. Research in this field is continuing and the influence of various technological factors is being studied on a laboratory scale. A semi-industrial installation is to be built for the purpose of carrying out some industrial smelting tests. The properties of the produced steel are being tested by means of specially designed long-duration tests simulating the stress conditions pertaining in antifriction bearings. Acknowledgments are expressed to M. Záruba, J. Petráček, O. Doubal and J. Janoušek of VÚS STS for their assistance in carrying out the tests.

There are 10 figures, 12 tables and 10 references: 8 Soviet and 2 Czech. X

ASSOCIATION: VÚHŽ, Prague

SUBMITTED: September 15, 1960

Card 5/5

Z/034/62/000/008/004/004
E073/E335

AUTHOR: Petrman - Kasik

TITLE: Improvement of the quality of bearing steel by
electroslag resmelting (Concluding report)

PERIODICAL: Hutnické listy, no, 8, 1962, 592

TEXT: A brief summary is given of the results of investigation carried out in 1960, of the electroslag process aimed at developing a technology for manufacturing steel of an improved quality for antifriction bearings. The report also gives a description of heats of two pilot plants, ESP-PP-2 (VÚHŽ) and SONP Kladno, which were used for verifying the research results. On the basis of the experience gained and the obtained results a technological specification was worked out for manufacturing steel for antifriction bearings by electroslag resmelting. Attention was also paid to the process of preparation of the slags which fulfil the necessary conditions for manufacturing steel by electroslag resmelting. The report contains a recommendation on the chemical composition of a suitable slag for electroslag resmelting of steel for antifriction bearings and a description
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E073/E335

Improvement of

of the method of producing the slag. A separate chapter is devoted to the problem of combining electroslag resmelting with arc-vacuum smelting for producing steels of extremely high quality. Results are also given of a series of experiments carried out for this purpose. Antifriction-bearing steel produced by electroslag resmelting was subjected to intensive tests of their properties, which included two types of fatigue tests. The results are given in the report. The report is concluded by an economic evaluation of the solution of this problem with proposals for its practical realization.

Card 2/2

PETRMICHL, J., inz.

"Encyclopedic handbook of cooling techniques. 1. Techniques of artificial cooling production." Reviewed by J.Fetrmichl. Strojirenstvi 12 no.7:556-557 J1 '62.

PETRAICHL, J.; KOTEK, J.

"A new series of high-speed refrigeration compressors. (Supplement)" p. 13

PRUMYSL POTRAVIN. Praha, Czechoslovakia, Vol. 9, No. 5, May, 1958

Monthly List of East European Accessions (EEAI), LC, Vol. 8, No. 9, September, 1959
Uncl.

PETRO, Ede

Mollusk fauna of the Godollo hills. Allattani kozl 51 no.
87-97 '6'.

1. Chair of Zoology, University of Agriculture, Godollo.

PETRO, Ede

Reliability investigation of the taxonomic properties of *Unio tumidus solidus* Zel. and *Unio pictorum balatonicus* Kust. Allattani közl 50 no.1/4:113-120 '63.

1. Agrartudományi Egyetem Allattani Tanszéke, Godollo.

TRAKHTMAN, I.M.; IOFFE, A.B.; CHERNYI, M.I.; FUZNETSOV, S.M.; SOLOV'YEV, N.
P.; DOROGUSH, G.I.; KAPUSTIN, L.D.; VINBERG, B.G.; RUBCHINSKIY, Z.
M.; PETRO, G.A.; ZAGORDAN, N.M.; BRAVIN, V.F.

Multiple-unit rail car with regenerative braking. Prom. energ. 15
no.11:18-19 N '60. (MIRA 14:9)
(Railroad motorcars) (Electric railway motors)

Petro, I.

3

Investigation of catalysts. XIII. Autoxidation of ascorbic acid as a function of pH values. Z. Csizros and I. Petro (*Acta chim. hung.*, 1955, 7, 199-222).--The oxidation of ascorbic acid (1) is first-order: the curve of its rate constant as a function of initial pH values shows two sharp max. at pH 5 (1 mol. of alkali) and 11.5 (2 mol.), but the use of NaOH, KOH, aq. NH₃, and other bases (e.g., tartrate, phosphate and acetate) leads to different results with each base. In general, the O uptake increases with initial pH values up to 10 mol. of alkali, and proceeds to 2 atoms of O per mol. of I. At the pH 5 max., dehydroascorbic acid is the only product. Apart from this narrow region the oxidation is irreversible and proceeds by several simultaneous routes. The O uptake of dehydroascorbic acid is low in acid and alkaline solutions, and changes produced are mainly degradations. (28 references.)

T. P. McLAUGHLIN.

Mc
CH

①

PETRO, Jozsef, kandidatus

One year's work of the Working Committee on Catalysis. Kem tud
kozl 18 no.3:483-485 '62.

CSUROS, Zoltan, prof., dr.; PETRO, Jozsef; HOLLY, Sandor

Investigations on catalysts. XXXVII. Investigations on Raney nickel catalysts, XI. Interaction of Raney nickel and substrate in hydrogenation reactions. Acta chimica Hung 29 no.3:351-371 '61.

1. Institute of Organic Chemical Technology, Technical University, Budapest.

(Catalysts) (Nickel) (Hydrogenation)

CSUROS, Zoltar; POTTRO, Jozsef; TALLERH, Vince; ERDEY, Laszlo; LAJLIK, Ferenc

Changes in the catalytic properties of Raney nickel depending on the conditions of its preparation. *Magyar Kemiai Folyoirat* no. 8:337-348 Ag '64.

1. Chair of Organic Chemical Technology of the Budapest Technical University. 2. Editorial board member, "*Magyar Kemiai Folyoirat*", Budapest (for Erdey).

PETRO, Jozsef, kandidatus

Report on the discussion of the dissertation prepared by Denes Kallo for obtaining the title of candidate of chemical sciences.
Kem tud kozl MTA 20 no.2:287-292 '63.

PETRO, Jozsef, a komiai tudományok kandidátusa

An account of my study trip to Poland. *Kémiai közl. MTA*
21 no.3:341-42 1961.

1. Department of Organic Chemical Technology, Budapest University
of Technical Sciences.

PETRÓ, JÓZSEF

Distr: 4E3d

V Catalysts: XXXIV. Raney-nickel catalysts. 9. Behavior of different substrates with bound hydrogen of the Raney nickel. Zoltán Csuros and József Petró (Budapesti Műszaki Egyetem Szervet Kémiai Technol. Intézet, Budapest). Magyar Tudományos Akad. Kém. Tudományok Osztályának Közleményei 13, 29-38 (1960); cf. CA 54, 20449a.

—The behavior of AcPh, Ph₂CO, BzH, PhCH₂CN, PhNO, was investigated with bound H from Raney Ni. The type of the compd. is given. Substrates take up more hydrogen from catalysts of higher hydrogen content. Part of the compds. of the B type (cf. Frejdlin and Ziminova, CA 45, 1836h) show similar behavior to that of the A type. In the case of a catalyst of high H content the PhNO, which belongs to the C type behaves like the B type. Exptl. results relate to room temp. J. Catalyst

4
1-BW(BW)
1-Joz(NB)

PETRO, Jozsef (Budapest)

An account of my Moscow and Leningrad study trip. Kem tud kozl MTA
(EEAI 10:6)
15 no.1:99-104 '61.

1. Muszaki Egyetem Szerves Kemiai Technologiai Tanszeke, Budapest.
(Academy of Sciences of the U.S.S.R.)
(Hydrogenation) (Catalysis)
(Hungarians in Russia)

PETRO, J.

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 Catalysis. XXX. Investigations with nickel catalysts on carrier. 2. Possibilities of increasing the activity and the effectiveness of nickel-magnesium oxide catalysts prepared from formates. Z. Ceuroa and J. Petro (TECH. Univ., Budapest), *Acta Chim. Acad. Sci. Hung. 19*, 221-41 (1959) (in English); cf. C.A. 53, 39c, 17053b.—
 The effect on the catalytic activity of Ni-MgO catalysts was studied of adding Co and of treating the catalyst with NH₃. The activity was increased by small addns. of Co, the max. activity occurring near 0.8 mole % Co. Treatment with NH₃ can appreciably raise the activity of the catalysts, esp. when the treatment with NH₃ is started after the first half hour of ridn. Donald Hamm

299(NA)

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PETRO J.

68.007.3

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42/68 Investigations on catalysts, XXXI.° Investigations on Raney nickel catalysts. VI. Investigation of the changes in the activity and effectiveness of Raney nickel on the addition of acids. (In English) Z. Gábor, J. Petro. *Acta Chimica Academiae Scientiarum Hungaricae*, Vol. 19, 1969, No. 4, pp. 379-431, 43 figs., 3 tabs.

The effect of the addition of various acids was investigated in the hydrogenation of various model compounds, carried out in the presence of Raney nickel as catalyst. The earlier statements by certain authors that Raney nickel is poisoned by acids was found to be valid only in a certain range of concentrations. A given, generally minute, amount of acid may have a more or less favourable effect as well which manifests itself partly by increased activity and partly by increased effectiveness of the catalyst. By adding an adequate quantity of acid, favourable results were obtained with each of the tested samples. The best results were observed with the compounds where the activity and effectiveness of the catalyst were low without the addition of acid. The quality of the acid does not essentially influence the effect of the acid. It was proved that the original activity of Raney nickel catalysts which lose most of their activity during storage can be almost completely restored by the addition of acids.

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COO

Catalysts. XXIV. Investigations of Raney-nickel catalysis. 3. Effect of various alkalies applied for extraction on the hydrogenation activity of Raney-nickel preparations. Z. Láng and J. Petro (Tech. Univ., Budapest). *Acta Chim. Acad. Sci. Hung.* 17: 289-308 (1968) (in English); cf. C.A. 52, 12270j, 19694i; 53, 29c. — Raney-Ni catalysts were prepd. by extn. of com. Ni-Al alloy (Ni 48-41.52%) with different alkalies including NaOH, KOH, K₂CO₃, Na₂CO₃, and NH₄OH under varying conditions of time and temp. Each catalyst was used to reduce eugenol (I), Ph₂CO, Me₂CO, BzH, PhCH₂CN, and PhNO₂ (0.01 mole samples in anhyd. EtOH to which 1 ml. catalyst was added). Relative activity of the catalysts varied with both method of prepu. and functional group of substance reduced. Catalysts of generally higher activity were produced by K₂CO₃ and Na₂CO₃ extn., though NaOH extn. gave a catalyst of max. activity for reducing PhNO₂. Addn. to each reduction of 0.001 mole PhNMe₂ as a promoter reduced the activity of the more active catalysts and all catalysts in the hydrogenation of PhCH₂CN and PhNO₂, but raised the activity of less active catalysts. XXV. Investigations on Raney-nickel catalysts. 4. Investigation of the activity

of catalysts prepared from Al-Ni-Co and Al-Ni-Cr alloys. Z. Csuros, J. Petro, and J. Heisemann (Tech. Univ., Budapest). *ibid.* 309-24. — Hydrogenation of I, Me₂CO, Ph₂CO, Ph₂CO, BzH, PhCH₂CN, and veratrol (II) with Raney Ni contg. varying amts. of Co or Cr and Raney Co was studied. The catalysts were prepd. by adding 125 g. alloy (prepd. by aluminothermic technique in a graphite crucible) with stirring to half of a NaOH soln. (250 g. in 750 ml. H₂O) so that temp. stayed at 15-20°. The other half of NaOH soln. was then added; the mixt. stirred 50 min. at 50°, then allowed to cool to room temp. The supernatant liquid was decanted and the residue washed to neutral with distd. H₂O, then anhyd. EtOH. The catalysts were pyrophorous, were stored in anhyd. EtOH, and required special handling for analysis. Hydrogenation was carried on with 0.2 mole samples in 50 ml. anhyd. EtOH at 150-20° and 30 atm. pressure for II, and with 0.01 mole samples in 14 ml. anhyd. EtOH at room temp. and atm. pressure for the other compds. Raney-Ni catalysts contg. 3-20% Co were the most active, having up to 2.5 times the activity of Raney Ni; increasing the Co content decreased activity until at 60% Co it was about the same as Raney Ni. Activity of Raney Ni contg. Cr and of Raney Co was low. *Chim. Ber.*

4E3d 3 May 6

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PETRO, J. ; CSUROS, A.

Investigations on catalysts XXXII. Investigations on Raney-nickel catalysts. VII. Investigation of the action of nickel, copper, and manganese salts on the hydrogenation activity and effectiveness of Raney nickel. In English. p. 129.

ACTA CHIMICA. (Magyar Tudományos Akademia) Budapest, Hungary. Vol. 20
No. 2, 1959

Monthly Lists of East European Accessions, (EEAI) LC, Vol. 9, No. 1, 1960

Uncl

PETRO, J.; CSUROS, Z.

Examinations by catalysts. XXVIII. Examinations by Raney nickel catalysts.
VII. Examinations of the effect of nickel, copper, and manganese salts on the
hydrogenating activity and effectiveness of Raney nickel. p. 263.

KOZLIMENYEL. Magyar Tudományos Akademia. Kemiai Tudományok Osztálya.
Budapest, Hungary. Vol. 11, no. 4, 1959.

Monthly List of East European Accessions (EEAI), IC, Vol. 9, no. 2, Feb. 1960
Uncl.

PETRO, J.; CSUROS, Z.

Examinations by catalysts. XXIV. Investigations by Raney-nickel catalysts. III. The effect of various alkalies used for dissolution on the hydrogenating activity of Raney nickel. p. 187.

Magyar Tudományos Akademia. Kémiai Tudományok Osztálya. KOZLEMENYEI. Budapest, Hungary, Vol. 10, No. 2, 1958.

Monthly List of East European Accessions (EEAI) LC, Vol. 8, No. 7, July 1959
UNCL

PETRO, J.; HEISZMANN, J.; CSUROS, Z.

Examinations by catalysts, XXV. Investigations by Raney-nickel catalysts. IV. Investigations into the efficacy of the catalysts made of Al-Ni-Co and Al-Ni-Cr alloys. p. 205.

Magyar Tudományos Akademia. Kémiai Tudományok Osztálya. KOZLEMENYEI. Budapest, Hungary, Vol. 10, No. 2, 1958.

Monthly List of East European Accessions (EEAI) LC, Vol. 8, No. 7, July 1959
UNCL

PETRO, J. KONIG, P. CSUROS, Z.

Examinations by catalysts. XXVI. Investigations by mixture catalysts. I. Investigation into the activity of nickel-magnesium-formate mixture catalysts. (To be contd.) P. 329.

Magyar Tudományos Akadémia. Kémiai Tudományok Osztálya. KÖZLEMÉNYEI. Budapest, Hungary, Vol. 10, No. 3, 1958

Monthly List of East European Accessions (EEAI) LC, Vol. 8, No. 7, July 1959
UNCL

PETRO, J.

7
Reinvestigation of the autoxidation of ascorbic acid. Z. Czerny and J. Petro (Polytech. Univ., Budapest). *Periodica Polytechnica*, 1967, 1, 6-23 (1967). Rates of autoxidation of ascorbic acid (A) were measured over 8-16-hr periods for 10 ml of unbuffered 0.114M in I to det. the dependence of the reaction on pH, temp, and pH and the effect of other added substances. The reaction changes with each pH region. The course of the process is different when under otherwise identical conditions NaOH or KOH or NH₄OH are applied for alkalization. The reaction depends on the temp, its correlation changing with the pH values. The carrier effect was examined by use of hydroquinone, resorcinol, and pyrocatechol. A possible mechanism for the reaction is suggested. W. Clark

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E-15
HUNGARY / Organic Chemistry. Natural Substances and
Their Synthetic Analogues.

G-3

Abs Jour: Ref Zhur-Khimiya, 1958, No 17, 57600.

Author : Csuros Z., Petro J.

Inst : Not given.

Title : Investigations of Catalysis. XVII. Autooxidation
of Ascorbic Acid as a Function of Temperature and
Initial pH.

Orig Pub: Magyar tud. akad. kem. tud. oszt. közl., 1957,
No 1, 43-60.

Abstract: Effect of temperature on the addition of oxygen
(AO) to ascorbic acid (I) was investigated. At a
pH < 3, AO increases to a greater degree with in-
creasing temperature than in neutral media (at pH
of 4-8) or in alkaline media (pH > 8). At a 0.4
pH (acidified with HCl) and at 60°, 5 times more

Card 1/5

72

HUNGARY / Organic Chemistry. Natural Substances and
Their Synthetic Analogues.

G-3

Abs Jour: Ref Zhur-Khimiya, 1958, No 17, 57600.

Abstract: O₂ goes into the combination than it does at 30°
and with pH varying from 4-8 and > 8. With the
increase in temperature from 30° to 60° the AO
increases only by 20-30%. In alkaline media the
AO proceeds faster, with the equilibrium being es-
tablished in 1-2 hours. In an acid medium the
equilibrium is not reached in 3 hours. At a pH of
4-6 and at a temperature of 40° and higher, the
increase in pH, as the result of reaction, is not
noticed. At 50° and higher, in all the cases, pH
tends to decrease toward the end. The highest AO
was noticed at 90°. Three AO maxima occur at 0.5,

Card 2/5

HUNGARY / Organic Chemistry. Natural Substances and Their Synthetic Analogues. G-3

Abstr Jour: Ref Zhur-Khimiya, 1958, No 17, 57600.

Abstract: an expected level (in the temperature range extending to 60°), provided that I is oxidized to dehydro-I. In alkaline media the AO is considerably greater than that predicted from the reducing ability. This difference is proportional to temperature and to the excess of alkali. In the study of the reaction reversibility at a constant temperature as affected by the terminal pH, it was found that the reversibility occurs in the 3-5 pH range. With increasing temperature the limits are narrowed to 4-5 pH. The decomposition reaction velocity constant of I as a function of pH at tem-

Card 4/5

COUNTRY : Hungary B-9
CATEGORY :
ABS. JOUR. : RZKhim., No. 21 1959, No. 74288
AUTHOR : Scueroes, Z., Petro, J., and Koenig, P.
INST. : Hungarian Academy of Sciences
TITLE : Catalyst Studies. XXVI. Investigation of Mixed
Mixed Nickel-Magnesium Formate Catalysts
Part I. Study of the Activity of
Mixed Nickel-Magnesium Formate Catalysts
ORIG. PUB. : Acta Chim Acad Sci Hung, 17, No 4, 419-437 (1958);
Magyar Tud Akad Kem Tud Oszt Koezl, 10, No 3, 329-
ABSTRACT : The activity of previously described (see RZhKhim,
1955, No 15, 31270) catalysts has been studied
in the hydrogenation of a series of compounds
(eugenol, cyclohexene, benzaldehyde, acetone,
acetophenone, benzophenone, benzyl cyanide).
Catalysts containing 20-50 mol % Ni were found
to exhibit the greatest activity. In a number of
cases the specific activity of the catalyst (Ni
bases) exceeds the activity of Raney Ni catalysts
by a factor of 5. At elevated pressures (30 atm)

CARD: 1/2

*346 (1958)

42

CSUROS, Zoltan, prof., dr. (Budapest XI., Muegyetem); DUSZA, Zsigmond
(Budapest XI., Muegyetem); PETRO, Jozsef (Budapest XI., Muegyetem)

Investigations on catalysts.XXXIX. Investigations on Raney-nickel
catalysts.XIV.Correlations between the hydrogen content, sorption
power and activity of Raney-nickel catalyst. Acta chimica Hung
30 no.4:461-471 '62.

1. Institute of Organic Chemical Technology, Technical University.
2. Editor, "Acta Chimica" (for Csuros).

CSUROS, Zoltan, r.tag (Budapest); PETRO, Jozsef (Budapest); HEISZMANN, Jozsef (Budapest)

Examinations by means of catalysts. XXXIII. Investigations by means of Raney nickel catalysts. 8. Investigation of the effect of cobalt salts on the activity and effectiveness of Raney nickel. Kem tud kozl (EEAI 10:2)
MTA 13 no.1:17-27 '60.

1. Budapesti Muszaki Egyetem, Szerves Kemiai Technologiai Intezet.
2. Magyar Tudomanyos Akademia (for Csuros)
(Catalysts) (Nickel) (Cobalt)

CSUROS, Zoltan, prof., dr.; PETRO, Jozsef

Investigations on catalysts. XXVI. Investigations on Raney nickel catalysts. X. Studies on the behavior of Raney nickel catalyst in hydrogenation processes, as a function of its hydrogen content. Acta chimica Hung 29 no.3:321-349 '61.

1. Institute of Organic Chemical Technology, Technical University, Budapest.

(Catalysts) (Nickel) (Hydrogenation)

CSUROS, Zoltan, prof., dr.; PETRO, Jozsef; HOLLY, Sandor

Investigations on catalysts. XXXVIII. Investigations of Raney nickel catalysts. XII. Effect of additives on hydrogen sorbed by Raney nickel. Acta chimica Hung 29 no.4:419-445 '61.

1. Institute of Organic Chemical Technology, Technical University, Budapest. 2. Editor, "Acta Chimica Academiae Scientiarum Hungaricae" (for Csuros).

CSUROS, Zoltan, r.tag (Budapest); PETRO, Jozsef (Budapest)

Examinations by means of catalysts. XXXIV. Investigations by means of Raney nickel catalysts. 9 Behavior of various substrata in connection with the fixed hydrogen of Raney nickel. Kem tud kozl MTA 13 no.1: 29-38 '60. (EPAI 10:2)

1. Budapesti Muzsaki Egyetem, Szerves Kemiai Technologiai Intezet.
2. Magyar Tudomanyos Akademia (for Csuros)
(Catalysts) (Nickel) (Hydrogen)

CSUROS, Zoltan, dr., prof.; PETRO, Jozsef; HEISZMANN, Jozsef

Investigations on catalysts, **XXIII**. Investigations on Raney nickel catalysts. **VIII**. Investigation of the effect of cobalt salts on the activity and effectiveness of Raney nickels. Acta chimica Hung 22 no.1: 73-85 '60. (EBAI 9:9)

1. Institute of Organic Chemical Technology, Technical University, Budapest.
(Catalysts) (Nickel) (Cobalt)

CSUROS, Zoltan, dr. prof.: PETRO, Jozsef

Investigations on catalysts. XXXIV. Investigations on Raney nickel catalysts. IX. Investigation of the behavior of various substrates with the bound hydrogen of Raney nickel. Acta chimica Hung 22 no.1: 87-98 '60. (EBAI 9:9)

1. Institute of Organic Chemical Technology, Technical University, Budapest.

(Catalysts) (Nickel) (Hydrogen)

PETRO, J.

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Distr: 4E2c(j)/4E3d

Catalysis. XXXII. Raney nickel catalysts. 7. Action of nickel, copper, and manganese salts on the hydrogenation activity and effectiveness of Raney nickel. 2. Cause and effectiveness of Raney nickel. 2. Cause and effectiveness of Raney nickel. 2. Cause and effectiveness of Raney nickel. *Acta Chim. Acad. Sci. Univ. Szeged (Tech. Univ., Budapest)*. *Acta Chim. Acad. Sci. Hung.* 20, 129-67 (1959) (in English); cf. C.A. 54, 4128e. The effect was investigated of the addn. of $NiCl_2$, $Ni(NO_3)_2$, $NiSO_4$, $Ni(OOCCH_3)_2$, $Ni(NH_4)_2Cl_2$, $Ni(NH_4)_2(SO_4)_2$, $(NH_4)_2(CO_3)_2$, $Cu(NO_3)_2$, $CuSO_4$, $Cu(OOCCH_3)_2$, $MnCl_2$, $MnSO_4$, $Mn(NO_3)_2$, $KMnO_4$, $NaCl$, Pb , and Mn resins in various concns. on the hydrogenation of acetone, acetylphenone, benzophenone, benzaldehyde, eugenol, benzylcyanide, and nitrobenzene in presence of Raney Ni. Ni salts in low concn. (0.01-0.001 M) had no effect on the activity of most of the org. compds. investigated, except eugenol where $Ni(NO_3)_2$ concn. increased the hydrogenation activity. With higher concn. the catalyst was poisoned. For all except acetone and eugenol. Cu and Mn salts raised the activity slightly when added in 0.01-0.001 M concn. There was very little difference in the activity of the various cations for hydrogenation, and the activity decreased in the order Ni, Cu, Mn, and Na. Among anions the optimum was nitrate.

R. S. Mann

4/1 C.V.

Distr: 4E2c/4E3d

7 Catalysts. XXXIII. Investigations with Raney-nickel catalysis. VIII. Investigation of the effect of cobalt salts

on the activity and effectiveness of Raney nickel. Zoltán Csuros, István Petró, and István Heiszmann (Budapesti Műszaki Egyetem Szerves Kém. Technol. Int., Budapest, Hung.). *Magyar Tudományos Akad. Kém. Tudományok Osztályának Közleményei* 13, 17-27(1960); cf. CA 54, 7004c. —Changes in hydrogenating ability of the Raney nickel were investigated in the presence of simple and complex Co salts. Model compds. are: eugenol, acetone, acetophenone, benzophenone, acetaldehyde, benzyl cyanide, and nitrobenzene. It can be established that over a certain concn. the salts exert impeding effect on catalyst efficiency, while at very low concns. they are promoters. The effect depends on the anions (best in the case of NO₃ ion), and is good if Co is present in the anion. J. Császári

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1-BW(BW)
1-njc (30)
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PETRO, J.; CSURCS, Z.

Investigations of catalysts. XXX. Investigations with nickel catalysts on carrier. II. Possibilities of increasing the activity and the effectiveness of nickel-magnesium oxide catalysts prepared from formates. p.221

ACTA CHIMICA. Budapest, Hungary, Vol. 19, no. 2/3, 1959

Monthly List of East European Accessions (EEAI), LC. Vol. 8, No. 9, September 1959
Uncl

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2 May 4E 3d

Investigations on catalysts. XXVI. Investigations on mixed catalysts. 1. Investigation of the activity of nickel-magnesium formate mixed catalysts. Zoltan Csuros, Jozsef Petro, and Peter Konig (Tech. Univ., Budapest). *Ann. Chim. Acad. Sci. Hung.* 17, 419-37 (1958) (in English); cf. *C.A.* 53, 15734c.—The activity of hydrogenation catalysts prepd. from mixts. of Ni(II) and Mg(II) formates was examd. with several test compds. In the hydrogenation of eugenol, cyclohexene, benzaldehyde, acetone, acetophenone, benzophenone, and benzyl cyanide, catalysts of max. activity were found to have 20 and 50 mole-% Ni. The specific activity of these catalysts in some cases was five times that of Raney Ni (I). In the hydrogenation of the aromatic ring of veratrole at 30 atm. and 170° these catalysts are less effective than I. PhNMe₂ promotes the activity of catalysts with Ni contents up to 30 mole-%. XXVII. Reaction of benzaldehyde with compounds containing active hydrogen in the presence of boron trifluoride. Zoltan Csuros and Gyula Drák (Tech. Univ., Budapest). *Ibid.* 430-47.—Treatment of substituted benzaldehydes and acetophenones in HOAc with HIOAc-BF₃ gives a chalcone (I). In a typical procedure 0.005 mole of the benzaldehyde and 0.005 mole of the acetophenone in 5 ml. of HOAc is treated with 0.015 mole of BF₃-HIOAc and the mixt. allowed to stand 5 days at room temp. When the mass turned red, it was poured into a mixt. of 10 ml. H₂O and 5 ml. satd. aq. NaOAc and then neutralized with a 20% soln. of NaOH in H₂O. The ppt. was filtered off, washed to neutrality and dried. The following substituted chalcones were prepd. in this way (substituent and m.p. of the crude products given): 2-fluoro, 53°; 4-fluoro, 37°; 4,4'-difluoro, 116°; 2-fluoro-4'-nitro, 160.5°; 4-fluoro-4'-nitro, 210°; 2,4'-difluoro, 61.5°; 2-nitro-4'-fluoro, 162°; 4-nitro-4'-fluoro, 166°; 2-fluoro-4'-methoxy, 102.5°; 4-fluoro-4'-methoxy, 118.5°; 4-methoxy-4'-fluoro, 120°. Condensation of BzH (II) and CH₂(CO₂Et)₂ (III) under similar conditions gave a 33% yield of PhCH=C(CO₂Et)₂, and condensation of *p*-O₂NC₆H₄CHO III gave 06% *p*-O₂NC₆H₄CH=C(CO₂Et). α -Cyanocinnamic acid was obtained in 11% yield in a similar reaction involving II and NCCH₂CO₂H. Mark M-jones

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HUNGARY / Organic Chemistry. Natural Compounds and Their Synthetic Analogues. C-3

Abs Jour: Ref Zhur-Khimiya, No 3, 1959, 8426.

Author : Csuros, Z., Petro, J.
Inst : Hungarian Academy of Sciences.
Title : Investigations on Catalysis. XVI. Autoxidation of Ascorbic Acid as a Function of pH Values in the Presence of Various Alkalies.

Orig Pub: Acta chim. acad. scient. hung., 1958, 14, 1-2, 95-106.

Abstract: See RZhkhim, 1958, 18120.

Card 1/1

102

PETRO J.

SCIENCE

Periodicals ACTA CHIMICA Vol. 17, no. 3, 1958

PETRO, J. Investigations of catalysts. XXV. Investigations on Raney-nickel catalysts. IV. Investigation of the activity of catalysts prepared from Al-Ni-Co and Al-Ni-Cr alloys. In English . p. 309.

Monthly List of East European Accessions (EEAI), IC. Vol. 8, No. 5,
May 1959, Unclass.

PETRO, J.

SCIENCE

Periodicals ACTA CHIMICA. Vol. 17, no. 3, 1958

PETRO, J. Investigations of catalysts. XXIV. Investigations on Raney-nickel catalysts. III. Effect of various alkalies applied for extraction on the hydrogenation activity of Raney-nickel preparations. In English. (To be contd.) p. 289.

Monthly List of East European Accessions (EEAI), LC. Vol. 8, No. 5,
May 1959, Unclass.

Distr: 4E2c/4E3d

59. Investigation on the use of Raney nickel catalysts.
(In English) Z. Čačík, J. Pátró, J. Váňa
Periodica Polytechnica, Chemical Engineering. Vol. 1,
1957, No. 3, pp. 153-185, 29 figs., 2 tabs.

The change of the hydrogenating activity of Raney nickel was studied by varying the conditions of the preparation (dissolution, time and temperature of after-treatment) using acetone, acetophenone, benzophenone, eugenol and veratrol as model compounds. The aromatic ring of veratrol was hydrogenated at 30 atm and 160°C, the other compounds being treated at atmospheric pressure and room temperature. It was found that the activity of the catalyst and the extent of hydrogenation depends greatly on the conditions of preparation, the degree of the effect differing for each model. The effect of various added materials, such as organic and inorganic bases and high-molecular N-containing organic compounds, was investigated as well. The greatest increase of activity was produced with dimethyl aniline used in amounts of 0.1 mol referred to the substrate. Triethylamine was also found effective. Inorganic bases and high-molecular organic materials had either no effect or an unfavourable effect.

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PETRO, J.

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44. Investigations on catalysis, XVI* (In English)
Z. Csurgó, J. Petro. *Acta Chimica Academiae
Scientiarum Hungaricae* Vol. 14, 1958, No. 1-2, pp.
95-106, 11 figs.

Marked differences were observed in the oxidation of ascorbic acid in alkaline medium depending on the nature of the alkali (sodium, potassium or ammonium hydroxide). Above pH 8 the molar amounts of the various alkalis present are different at the same pH values. The progress of the reaction is more precisely defined by the molar quantity of alkali present than by the pH value alone. Differences can also be observed in the presence of identical molar quantities of the different alkalis (specific effects) but these are much smaller than those obtained by comparative experiments carried out at the same pH values. Sodium hydroxide in general displayed the most decided effect depending on the initial pH values.

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PETRO, J., CSUROS, Z.

Investigation of catalysts. XIII. Autoxidation of ascorbic acid as a function of pH values. In English p. 199 Vol. 7, no. 1/2 1955

SOURCE: Monthly list of East European Accessions, (EEAL), IC, Vol. 5 no. 3, March 1956

PETRO, J.

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27. Investigations on catalysis, XIII. Autoxidation of ascorbic acid as a function of the pH. (In English).
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The autoxidation of ascorbic acid was studied at 20 °C as a function of the initial pH. It was found that the oxygen uptake increased by raising the initial pH, attaining its highest value at double the amount of atomic oxygen required by the dehydroascorbic acid stage. Oxygen uptake decreased at above 10 M alkali concentrations. The course of the reaction was influenced in different ways by the different bases (potassium hydroxide, sodium hydroxide, ammonium hydroxide) under identical experimental conditions. The oxygen uptake was higher if bases were employed to secure the desired pH value than if buffer salts were used for the same purpose. The reaction velocity was increased similarly in the presence of Brønsted bases (acid anions). The reaction proved to be of the first order with respect to ascorbic acid. Decomposition of the ascorbic acid in aqueous solutions occurred throughout the whole pH range but the rate and course of the process depends upon the initial pH region. Based on the experimental data available a threefold effect may be attributed to the bases: they encourage the formation of ionic ascorbic acid and dehydroascorbic acid; they shift the state of equilibrium toward the aliphatic forms and finally they influence the oxido-reduction potentials. All of these processes promote the autoxidation of ascorbic acid.

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TITLE: Investigations on catalysts. Part 40: Investigations on Raney-nickel catalysts. Section 15: Effects of the alkali used as extractant and of the hydrogen content on the activity

SOURCE: Academiae scientiarum hungaricae, Acta chimica, v. 42, no. 2, 1964, 131-144TOPIC TAGS: nickel, catalysis, hydrogen, basic catalysis

ABSTRACT: A derivatographic method was developed for the study of pyrophoric catalysts such as those from Raney-nickel. The method was applied to catalysts prepared by using various solvents such as sodium hydroxide, potassium hydroxide, and sodium carbonate solutions. Catalysts prepared by using KOH or NaOH contained relatively high quantities of hydrogen and the hydrogen content was in proportion to their nickel content. However, no relation was evident between the catalyst's composition and its effectiveness. Orig. art. has 1 graph and 4 tables.

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P.P., kand.tekhn.nauk, red.; PETROCHENKO, V.P., kand.tekhn.nauk, red.;
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