

CZ/8-52(92)-10-17/39

Sulpholanes II. Hydroxy Derivatives of Sulpholanes

rates of reaction of the epoxide IV and the bromohydrine VIII with liquid ammonia at  $-33^{\circ}\text{C}$  is given. The hydroxy-sulpholane VI was also prepared in high yields by the reaction of the chlorohydrine V with liquid ammonia. Details of the preparation of the various compounds, their percentage composition, melting points and yields are quoted. There is 1 Figure and there are 10 references: 3 German, 2 Belgian, 3 Czech, and 2 English.

ASSOCIATION: Katedra organické chemie, Matematicko-fyzikální fakulta, Karlova universita, Praha (Chair of Organic Chemistry, Department for Mathematics and Physics, Charles University, Prague)

Card 3/3

7  
 Sulfolanes. III: Degradation of the sulfolane ring with alkali. Miloš Procházka and Václav Horák (Karlova Univ., Prague). *Chem. Abstr.* 52: 2334-7 (1958); *C. 52*: 33, 6948. — Refluxing 3-sulfolene (I) with 20% aq. NaOH gives a brown mixt. of polymers and cleavage products characterized as methanesulfonamide, m. 84-5°, and 1,2-dimethanesulfonylethane, m. 192-3°. The authors suggest that I rearranges to 2-sulfolene, which under basic catalysis adds H<sub>2</sub>O, yielding 3-hydroxy-sulfolane. All these compounds undergo at raised temp. cleavage of the sulfolane ring yielding methanesulfonic acid (II) and aldehydes which quickly polymerize. Similarly are cleaved 4-hydroxy-2-sulfolene and *cis*- and *trans*-3,4-dihydroxy-sulfolane which yield mixts. contg. (m. 9°) lactic acid (III) 40-8, acrylic acid (IV) 18, II 65-61, and dimethylsulfone I 2. III was characterized as 2-hydroxyethylbenzimidazole, m. 177-8°. IV as CH<sub>2</sub>(CH<sub>2</sub>CO<sub>2</sub>H) m. 81°. Reaction mechanisms are discussed.

4  
 2 May  
 HEZ-CJ

99

COUNTRY : G: USSR 6-2  
CATEGORY :  
ABS. JOUR. : RZKhim., No. 1959, No. 81597  
AUTHOR : Prodanov, M.; Harkov, V.  
INST. :  
TITLE : On the Polymers. I. High-molecular-weight.  
ORIG. PUB. : Collect. Chem. Chem. Commun., 1959, 24,  
No. 2, 69-72  
ABSTRACT : See RZKhim., 1959, No. 82, 7904.

CARD:

PROCHAZKA, Milos

*ated*

Transannulated five-membered rings. Chem listy 57 no.6:629-635 Je '63.

1. Katedra organické chemie, Přírodovědecká fakulta, Karlova universita, Praha.

*X  
Přírodovědecká fakulta*

CZECHOSLOVAKIA

HELGL, J.; PROCHAZKA, M.: Gynecological Department and OXS [Abbreviation not explained/ Okresni Institute of National Health (Gynekologicko-porodnicke Oddeleni a OXS OUNZ), Rakovnik, Director (Reditel) Dr J. PECHA.

"Epinephrine in the Treatment of Lumbalgias and Sacralgias."

Prague, Casopis Lekarů Ceskych, Vol 105, No 31, 9 Aug 66, p 845

Abstract: Treatment of 73 women and 78 men showed that epinephrine is a suitable drug for the treatment of muscular fibrositis, mainly lumbalgia and sacralgia; subcutaneous pain, affliction of body parts outside of joints, and perineural afflictions are affected only to a very limited extent. No references.

PROCHAZKA, Miroslav, inz.

Experience resulting from comparing prestressed concrete tanks of various types. Inz stavby 9 no.11:416-419 N '61.

1. Vojenske stavby, Praha.

PROCHAZKA, *Miloslav*

A new method for lifting derailed heavy equipment. p. 231

ZEL'ZNIČAR (Ministerstvo dopravy) Vol. 6, No. 3, Sept. 1956

Praha, Czechoslovakia

SOURCE: East European List (EEL) Library of  
Congress, Vol. 6, No. 1, January 1957

PROCHAZKA, M.

TECHNOLOGY

Periodical: ZELEZNICAR. No. 12, Dec. 1958.

PROCHAZKA, M. Safety on railroads. p. 270.

Monthly List of East European Accession (EEAI) LC, Vol. 8, no. 3  
March 1959 Unclass.



PROCHAZKA, M.

"Derailment of passenger and freight trains." p. 149.

ZELEZNICAR. (Ministerstvo dopravy). Praha, Czechoslovakia, No. 6, June 1959.

Monthly list of East European Accessions (EEAI), LC, Vol. 8, No. 8,  
August 1959.  
Uncla.

PROCHAZKA, Miloslav

Problems of safety of railroad transportation. Doprava no.11:  
370-371 '62.

1. Ministerstvo dopravy a spoju.

PROCHAZKA, Miloslav

Causes of accidents. Zel dop tech 10 no.11:323-324 '62.

ZIMMERMANNNOVA, H.; PROCHAZKA, M.

Isomerization of double bonds and addition of alcohol to unsaturated sulfones. Coll Cz Chem 30 no.1:286-296 Ja '65.

1. Institut für organische Chemie, Karlsuniversität, Prague.  
Submitted August 24, 1962.

PROCHAZKA, Miloslav, inz.

Earthwork in winter constructions. Inz stavby 11 no.11:  
401-406 N°63.

1. Vojenske stavby, n.p., Praha.

2/0039/64/025/006/0313/0319

ACCESSION NR: AP4039418

AUTHOR: Prochazka, Miroslav (Engineer, Candidate of sciences)

TITLE: Electromagnetic light waves in communications engineering

SOURCE: Slaboproudy obzor, v. 25, no. 6, 1964, 313-319

TOPIC TAGS: electromagnetic light wave, message transmission, long distance message transmission, laser, gas laser, solid state laser

ABSTRACT: The article discusses the basic problems associated with the use of light waves for the long-distance transmission of information. The questions of generating, modulating, and detecting light signals are pointed out. The author points out that continuous-duty generators are best suited for this type of communications. Gas and solid state lasers belong to this category. Inasmuch as alternating currents with a frequency of light cannot be generated, the radio signal carrier frequency can be effected by a modulation current signal. The chief problem in the modulation of electromagnetic light waves, which would permit the use of high frequency carrier waves, is the wide bandwidth of the modulation. The

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ACCESSION NR: AP4039418

frequency of an electromagnetic wave in the red part of the spectrum is given as approximately  $4 \times 10^{14}$  cycles, i.e. 400 teracycles, which means that a 1% modulation band represents a bandwidth of  $4 \times 10^6$  mc, which is sufficient for the simultaneous transmission of one billion telephonic messages. Modulation methods based on subcarrier frequency have a much better chance of success. Many experiments with modulation of light waves by subcarrier frequencies have already been carried out, and a modulation of 10 gigacycles has been attained. A light ray was modulated by a 2.8-gigacycle subcarrier with a modulation band of 5 mc and with a modulation index of 200 watts. The effect of atmospheric and meteorological conditions upon light-wave transmission is discussed. The application of light guides or optical pipelines for light wave transmission of information is mentioned. Examples of a bunched and hollow light guide are given. A critical estimate of employing light waves for message transmission in the foreseeable future is presented. Orig. art. has: 8 figures, 1 table, and 6 equations.

ASSOCIATION: Vyzkumny ustav pro sdlovaci techniku A. S. Popova, Prague (Research Institute for Communications Engineering)

SUBMITTED: 30Jan64

ATD PRESS: 3073

ENCL: 00

SUB CODE: OP, EC

NO REF SOV: 000

OTHER: 006

Card 2/2

PROCHAZKA, M.

Electrical Engineering Abstr.  
Section B  
March 1954  
Telecommunication.

621.396.677  
769. Aerial gain and its graphical determination for  
directional arrays. M. PROCHAZKA. *Nachrichten-  
technik*, 3, 453-5 (Oct., 1953) In German.  
Translated from *Kratke Viny* [Prague] 2, No. 4, 77-9  
(1951), the paper explains in simple terms the integra-  
tion of the Poynting vector, tabulates theoretical  
gains (relative to an isotropic radiator) of single  
dipoles with various excitations, and outlines methods  
of estimating gain by planimeter integration of a  
function derived from the polar diagram, assuming  
the latter to have a simple form of symmetry.

F. F. ROBERTS

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8-13-54



PROCHAZKA, M.

CZECH

621.396.676

3455. Problem of an aerial for mobile communication at short distance. M. PROCHAZKA. *Státní promýšleňský Obzor*, 16, No. 2, 72-73 (1955) in Czech.

The aerial is in the form of a rod whose length (2.5 m) is a small fraction of the transmitted wavelength. Relative efficiency of the aerial and the radiated field strength are investigated as functions of various parameters, it being concluded that a rod aerial with a compensating coil of medium Q-value has a nearly constant performance over frequencies ranging from 3 to 30 Mc/s, for distances up to 20 km.

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PHASE I BOOK EXPLOITATION 803

Caha, Vladimír, Engineer, and Procházka, Miroslav, Engineer

Anteny (Antennas) Prague, SNTL, 1956. 462 p. 3,500 copies printed.

Reviewers: Stránský, Josef, Dr., Engineer, Corresponding Member of the Czechoslovak Academy of Sciences, and Beňa, Josef, Dr., Engineer; Ed.: Major, Rudolf;  
Tech. Ed.: Appl, Jiří;

PURPOSE: This book is a textbook for institutions of higher learning. It may be used also by technicians in research establishments and in factories of the electrical equipment industry.

COVERAGE: The monograph deals with the theoretical principles of transmitting and receiving antennas and of antenna systems, and discusses several antenna types and constructions from the point of view of practical design, calculation and measurement. The book is based on information acquired in the course of several years experience in the theory and practice of antenna design. For technical reasons it proved necessary to omit any treatment of the following subjects:

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Antennas

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the fundamental relations of the electromagnetic field and the propagation of an electromagnetic field along a conductor; descriptions of certain types of antennas rarely encountered in practice (for example, polygonal antennas); grounding systems for a symmetrical antennas. In the chapter on impedance relations in antenna conductors, the authors limited themselves to a simple enumeration of current methods of calculation. In composing the book, the authors have tried to include the richest material accessible in the domestic (Czech) and foreign literature on the subject since in Czechoslovakia there has not been enough experience in microwave work. As far as standard symbols are concerned, the designation of time and space vector magnitudes caused typographical difficulties. The time vectors and complex numbers, therefore, are indicated in normal italics. The space vectors are given in half-thick italics. The technical terminology follows the provisional plan for terminology standards worked out by the Ministry of Machine Building. In several cases, where it was found that a given term was already in wide use, this is not so. The author thanks the electrical engineering editorial staff of SNTL for their help in preparing the book for publication. No personalities are mentioned. There are 159 references of which 13 are Czech, 10 Soviet, 19 German, 1 Swedish, 6 French, and 109 English, including 1 translation. In addition, another Soviet source is cited in the preface.

~~Card 2/12~~

PROCHAZKA, M.

PROCHAZKA, M. Miniature direction kv. antennas. p. 5

Vol 4, no. 1, Jan. 1956  
SDELOVACI TECHNIKA  
TECHNOLOGY  
Praha, Czechoslovakia

So: East European Accession Vol. 6, no. 2, 1957

PROCHAZKA, M.

"What a builder of radio receivers should know about antennas."

p. 93 (Sdelovaci Technika, Vol. 6, No. 3, March 1958, Praha, Czechoslovakia)

Monthly Index of East European Accessions (EFAI) LC, Vol. 7, No. 9, September 1958.

PROCHAZKA, M.

"Facts about cubical antennas." P. 127.

SEDLOVACI TECHNIKA, (Ministerstvo strojirenstvi). Praha, Czechoslovakia,  
Vol. 7, No. 4, Apr. 1959.

Monthly list of East European Accessions (EEAI), LC, Vol. 8, No. 8,  
August 1959.  
Uncla.

41798  
S/194/62/000/008/086/100  
D413/D308

9.1111  
AUTHOR:

Procházka, Miroslav

TITLE:

An indirectly illuminated aerial system

PERIODICAL:

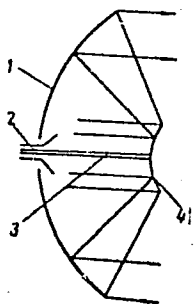
Referativnyy zhurnal. Avtomatika i radioelektronika,  
no. 8, 1962, abstract 8-7-120 a (Czech. pat., cl. 21a<sup>4</sup>.  
46/02, no. 98119, Jan. 15, 1961)

TEXT: A simple solution is proposed to the problems of separating the differently polarized waves of the transmitted and received signals in the aeriels of radio relay stations. The known solutions are described. A description is given of the system to be patented, which does away with their disadvantages. This system contains no waveguide bends, and its features are adequate broadbandness, only slight screening of the reflector surface, and the convenient use of a feed from behind the reflector. The primary reflecting surface 4 of the system (see Figure) is formed of an auxiliary parabolic reflector, which is connected to the main reflector 1 along their common axis by the dielectric waveguide 3, itself provided with the excitation device 2. [Abstracter's note: Complete translation  
Card 1/2

An indirectly illuminated aerial system  
tion.]

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D413/D308

Fig.



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D291/D304

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AUTHOR: Procházka, Miroslav, Engineer, Candidate of Sciences

TITLE: Miniaturization of antennas

PERIODICAL: Slaboproudý obzor, v. 22, no. 11, 1961, 675-682

TEXT: The Výzkumný ústav sdělovací techniky A.S. Popova v Praze

(Communication-Engineering Research Institute A.S. Popov in Prague) studies methods for reducing the dimensions of antennas for the VHF and SHF band. This article surveys possibilities of miniaturizing antennas and antenna arrays and critically evaluates application possibilities. There are three methods for reducing antenna dimensions: (1) To select and apply a suitable inductivity and/or capacity that changes the current and voltage distribution along a linear antenna in a way which necessitates a shorter conductor for the required electrical effect; (2) To surround dipole or loop antennas with a magnetodielectric medium; and (3) To find such array arrangements or feeding systems which have a

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Miniaturization ...

maximum directivity factor in a given space. For evaluating miniaturized antennas, the following parameters are tested: (a) broad-band capacity; (b) impedance properties; (c) directivity factor; and (d) antenna efficiency. The results obtained in antenna-miniaturization tests can be summarized as follows: (1) Capacitive shortening is most advantageous, especially for large reduction of antenna dimensions (10 - 30%), since the real component of the input impedance is increased which, in turn, results in increased antenna efficiency and improved broad-band properties. In cases where the dimensions of the capacitive load are a hindrance, a combination of capacitive and inductive (L-C) shortening should be used. The inductivity should be applied at the current maximum rather than at the ends of antenna conductors. The highest antenna efficiency (i.e. gain factor nearly equal to the directivity factor) is achieved with capacitive shortening or an L-C combination with prevailing capacitive shortening. In the practical design of such a shortened antenna, impedance matching must be solved by suitable transformation and compensation. An antenna, reduced to 35%, has a very good gain and

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Miniaturization ...

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can be used for TV reception.. (2) Since electromagnetic waves are shorter in a magnetodielectric medium than in free space, also resonance and anti-resonance occurs at shorter distances when electrical dipoles are placed in a magnetodielectric material (sphere). The Q factor of the shortened antenna is considerably increased and the real components of the input impedance are considerably lowered. Both the efficiency and gain factor depend on the magnitude of dielectric losses and can be calculated with the aid of electronic computers. However, it must be considered that the otherwise regular dipolar radiation pattern is severely dissipated in certain critical cases. Antenna miniaturization with the aid of dielectrics is only seldom used, with the exception of few applications in the field of centimetric waves (dielectric rod antennas). (3) Several efforts were made to reduce the size of antenna arrays by appropriate spacial arrangement. It was found that the miniaturization is always accompanied by a large increase of the Q factor (very small bandwidth) which results in so-called supergain antennas which are, so far, very difficult to realize. In conclusion the author states that antenna miniaturization is always a great problem

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Miniaturization ...

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D291/D304

since it is always accompanied by a certain reduction of the bandwidth. Some progress can be achieved when linear antennas or dipoles are shortened by applying a capacitance (or L-C combination) or the principle of reducing the speed of wave-propagation in a magnetodielectric medium. Another, indirect method to reduce antenna dimensions is the utilization of semi-conductors (e.g. tunnel diodes) installed directly into receiver antennas. There are 10 figures, 2 tables, and 6 references: 4 Soviet-bloc and 2 non-Soviet-bloc. The references to the 2 English-language publications read as follows: Ch. Polk: Resonance and Supergain Effects in Small Ferromagnetically or Dielectrically Loaded Biconnical Antennas. IRE Transaction on Antennas and Propagation, v. AP-7, 12, 1959 Special Suppl; R.F. Harington: Effect of Antenna Size on Gain, Bandwidth and Efficiency, Journal of Research (Nat. Bur. Stand) v. 64D, no. 1.

ASSOCIATION: Výzkumný ústav pro sdělovací techniku A.S. Popova, Praha  
(Communication-Engineering Research Institute A.S. Popov  
in Prague)

SUBMITTED: June 20, 1961

Card 4/4

PROCHAZKA, Miroslav, inz., C.Sc.

Conditions of television reception with an indoor antenna. Sds1 tech  
10 no.8:288-289 Ag '62.

CZECHOSLOVAKIA

PROCHAZKA, M; CERNY, J.V; SMISEK, M

1. Institute of Organic Chemistry, Karlova University, Prague - (for ?);
2. Institute of Physical Chemistry, Czechoslovak Academy of Sciences, Prague - (for ?)

Prague, Collection of Czechoslovak Chemical Communications, No 3, March 1966, pp 1315-1322

"Oxabicyclo(3,3,0)octanes."

BEHUNCIK, Jozef, inz.; BALOUN, Jaroslav; PROCHAZKA, Miroslav

Some experiences of the Hutne stavby National Enterprise, Kosice.  
Pozemni stavby 13 no.4:132-134 '65.

1. Hutne stavby National Enterprise, Kosice (for Behuncik and  
Baloun). 2. Ministry of the Building Industry, Prague (for  
Prochazka).

CZECHOSLOVAKIA

Microbiology

CZ/0064/66/011/005/0337/0346

AUTHOR: Prochazka, O.

ORG: Military Institute of Hygiene, Epidemiology and Microbiology,  
Prague

TITLE: Preparation of conjugates of 19S and 7S globulins of anti-  
tularemia sera for use in determining the specific fluorescence of  
*Pasteurella tularensis*

SOURCE: Folia microbiologica, v. 11, no. 5, 1966, 337-346

TOPIC TAGS: tularemia, bacterial disease, bacterial antigen, rabbit,  
serology, fluorescence

ABSTRACT: Conjugates of 19S and 7S globulins from antitularemia sera  
with fluorescein isothiocyanate were used to detect *Pasteurella tular-*  
*ensis*. Serum was obtained from rabbits 7-10 days after immunization.  
Experimental results showed that the 19S globulin fraction had a weak  
immunofluorescence reaction with pure cultures of *Pasteurella tular-*  
*ensis*, although it contained the most agglutinating antibodies. The 7S  
fraction (with a low agglutinin content) produced more intense fluores-  
cence. It was concluded that agglutinating antibodies may not be the  
carriers of fluorescence. The immunofluorescence reaction did not show

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striking differences between various virulent strains of *Pasteurella tularensis*. Orig. art. has: 2 figures and 4 tables. [W.A. 50]

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- 22 -

ACC NR: AP6032917

SOURCE CODE: CZ/0064/66/011/005/0337/0346

AUTHOR: Prochazka, O.

ORG: Military Institute of Hygiene, Epidemiology and Microbiology,  
Prague

TITLE: Preparation of conjugates of 19S and 7S globulins of anti-  
tularemia sera for use in determining the specific fluorescence of  
*Pasteurella tularensis*

SOURCE: Folia microbiologica, v. 11, no. 5, 1966, 337-346

TOPIC TAGS: tularemia, bacterial disease, bacterial antigen, rabbit,  
*SEROLOGY, FLUORESCENCE*

ABSTRACT: Conjugates of 19S and 7S globulins from antitularemia sera  
with fluorescein isothiocyanate were used to detect *Pasteurella tular-*  
*ensis*. Serum was obtained from rabbits 7-10 days after immunization.  
Experimental results showed that the 19S globulin fraction had a weak  
immunofluorescence reaction with pure cultures of *Pasteurella tular-*  
*ensis*, although it contained the most agglutinating antibodies. The 7S  
fraction (with a low agglutinin content) produced more intense fluores-  
cence. It was concluded that agglutinating antibodies may not be the  
carriers of fluorescence. The immunofluorescence reaction did not show

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ACC NR: AP6032917

striking differences between various virulent strains of *Pasteurella tularensis*. Orig. art. has: 2 figures and 4 tables. [W.A. 50]

SUB CODE: 06/ SUBM DATE: 12Jan66/ ORIG REF: 005/ OTH REF: 014/  
SOV REF: 006

Card 2/2

BENDA, R.; MYSKA, V.; PROCHAZKA, O.; CERVA, L.; HRONOVSKY, V.; DUBANSKA, H.

Experiences with the fluorescence antibody method in the diagnosis of human herpetic keratoconjunctivitis. *Cesk. epidem.* 14 no.5: 257-265 S '65.

1. Vojensky ustav hygieny, epidemiologie a mikrobiologie, Praha a II. očni klinika fakulty vseobecneho lekarstvi Karlovy University, Praha.

E 31017-66 T

ACC NR: AP6023125

SOURCE CODE: CZ/0060/65/000/006/0268/0273

AUTHOR: Prochazka, Otakar (Lieutenant colonel; Engineer; Candidate of sciences)

ORG: Military Institute of Hygiene, Epidemiology, and Microbiology, Prague  
(Vojensky ustav hygieny, epidemiologie a mikrobiologie)

32  
B

TITLE: Fluorescence of staphylococci and some methods of their suppression

SOURCE: Vojenske zdravotnicke listy, no. 6, 1965, 268-273

TOPIC TAGS: bacteriology, fluorescence, bacteria, bacterial antigen, formaldehyde, diagnostic medicine

ABSTRACT: The fluorescence of staphylococci (and of other bacteria) may interfere with the immunofluorescence method for the diagnosis of infections caused by bacterial antigens. Misleading positive results may be found. Some methods for the suppression of fluorescence of staphylococci in the system Staphylococcus pyogenes - Pasteurella tularensis are described. Formalization of the preparation using a minimum 5% concentration of formaldehyde and a 3 hour residence time removes the fluorescence. Papain gives good results only in pure cultures. Trypsin acts well but cannot be used because it suppresses also the fluorescence of the homologue antigen. Orig. art. has: 7 tables. [JPRS]

SUB CODE: 06 / SUBM DATE: none / ORIG REF: 005 / OTH REF: 013

Card 1/1 IC

UDC: 576.851.252.095(1612.014.445).095.87  
0915 832

PROHAZKA, Otakar, podplukovník inz., CSc.

Staphylococcal fluorescence and some methods for its suppression.  
Voj. zdrav. listy 34 no.6:268-273 D '65.

1. Vojenský ústav hygieny, epidemiologie a mikrobiologie v Praze.

L 61558-65 EWT(L)/EWA(j)/EWA(b)-2 JK

ACCESSION NR: AP5013802

CZ/0064/65/010/002/0077/0084

AUTHOR: Franek, J. (Franek, Yu.); Prochazka, O. (Prokhaszka, O.)

TITLE: Detection of *Pasteurella tularensis* by means of fluorescent antibodies

SOURCE: Folia microbiologica, v. 10, no. 2, 1965, 77-84

TOPIC TAGS: Pasteurella tularensis, fluorescent antibody, antigen, serum, tularemia, diagnosis

ABSTRACT: The authors investigated various factors involved in using the immunofluorescence method to detect *Pasteurella tularensis* and studied the sensitivity, specificity, and reliability of the reaction under experimental conditions. Various virulent and avirulent strains of the microorganism were used to immunize fowl, rabbits and guinea pigs. The best serum with respect to specificity and brilliance

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ACCESSION NR: AP5013802

after boiling for 2 hours--all indicate that the basis of the reaction is the combining of fluorescent antibodies with surface antigen. The authors consider the value in detecting antigen



REHACEK, K.; PROHAZKA, O.

Activity of the section dealing with the morphology of polymers.  
Chem listy 58 no.9:1133 S '64.

1. Research Institute of Coating Materials, Prague.

PROCHAZKA, O.

Stimulation of antibody formation by bacterial lipopolysaccharide.  
The influence of repeated doses of lipopolysaccharide on antibody  
formation. Folia microbiol 6 no.3:157-163 '61. (EEAI 10:8)

1. Department of Microbiology, Institute of Biology, Czechoslovak  
Academy of Sciences, Prague 6.  
(ANTIGENS AND ANTIBODIES) (LIPOPOLYSACCHARIDES)  
(BACTERIA)

PROHAZKA, Oldrich, inz.

Tall oil resin, a suitable raw material for production of wrapping paper size. Papir a celilosa 20 no.2:46-49 F '65.

1. Research Center of the Severoceske papirny, Stesti.

PROCHAZKA, P.; HAHN, P.; KOLDOVSKY, O.; NOHYNEK, M.; ROKOS, J.

The activity of  $\alpha$ -amylase in homogenates of the pancreas of rats during early postnatal development. *Physiol. Bohemoslov.* 13 no.3:288-291 '64

1. Institute of Microbiology and Institute of Physiology,  
Czechoslovak Academy of Sciences, Prague.

ROKOS, J.; RIGICA, J.; PROCHAZKA, P.

Investigations on production of chlortetracycline by *Actinomyces aureofaciens* I. Fol.biol., Praha 1 no.4:214-219 30 Aug 55.

1. Biologicheskiy institut ChSAN, mikrobiologiya, Praga  
(CHLORTETRACYCLINE, preparation of,  
technic)

ROKOS, Josef; RICICA, Jan; PROCHAZKA, Pavel

Investigations on production of chlortetracycline by *Actinomyces aureofaciens*. *Cesk. biol.* 4 no.6:333-337 June 55.

1. Biologicky ustav CSAV, mikrobiologie, Praha.  
(CHLORTETRACYCLINE, metabolism,  
*Actinomyces aureofaciens*, biosynthesis)  
(ACTINOMYCES,  
*aureofaciens*, biosynthesis of chlortetracycline)

Procházka, Pavel.

✓ Effect of chlortetracycline on the activity of  $\alpha$ -amylase.  
Mikuláš Burger, Josef Rokos, and Pavel Procházka (Czech  
Acad. Sci., Prague). *Českoslov. mikrobiol.* 7:105-10 (1956).  
—Chlortetracycline in concns. above  $8 \times 10^{-4}M$  produces  
reversible inhibition (I) of the dextrinase activity of  
*Aspergillus oryzae*  $\alpha$ -amylase. I is not caused by the re-  
moval of  $Ca^{2+}$  by the antibiotic but depends on pH and  
on the presence of anions. I is increased by  $PO_4^{3-}$ , lowered  
by phthalate, benzoate, fumarate, and tartrate, and abolished  
by  $2 \times 10^{-3}M$  citrate and oxalate. L. J. Urbánek.

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PROCHAZKA, P.; ROKOS, J.; BURGER, M.

"Effect of chlortetracycline on the pancreatic lipase"

Ceskoslovenska Mikrobiologie. Praha, Czechoslovakia. Vol. 3, no. 4, 1958

Monthly list of East European Accessions (EEAI), LC, Vol. 8, No. 7, July 59, Unclas



MALEK, P.; ROKOS, J.; BURGER, M.; KOIG, J.; KRATKOVA, E.; PROCHAZKA, P.

Effect of chlortetracycline on exzymes & its practical significance.  
Cas. lek. cesk. 98 no.9:262-266 27 Feb 59.

1. Ustav klinicke a experimentalni chirurgie v Praze, reditel doc. dr.  
B. Spacek. Biologicky ustav CSAV v Praze, reditel akademik I. Malek.  
Detska interna Thomayerovy nemocnice v Praze, prednosta prim. dr. E.  
Kratkova. P. M., Praha-Krc, Budejovicka 800.

(CHLORTETRACYCLINE, eff.

on pancreatic alpha amylase & lipase, eff. of citric acid  
(Cz))

(AMYLASES

pancreatic alpha amylase, inhib. by chlortetracycline (Cz))

(LIPASES

inhib. by chlortetracycline, eff. of citric acid (Cz))

(PANCREAS, metab.

alpha amylase & lipase, inhib. eff. of chlortetracycline,  
reversal by citric acid (Cz))

(CITRATES, eff.

citric acid on inhib. of pancreatic alpha amylase & lipase  
by chlortetracycli (Cz))

KUBAT, Z.; ROKOS, J.; PROCHAZKA, P.; LIEBL, V.

Interaction of corneal polysaccharides with basic macromolecules.  
Cas. lek. cesk. 103 no.33:909-913 14 Ag '64.

1. I očni klinika fakulty vseobecneho lekarstvi Karlovy University  
v Praze (prednosta prof. dr. E. Dienstbier, DrSc.) a Mikrobiologicky  
ustav Ceskoslovenske akademie ved v Praze (reditel akademik I. Malek).

PROCHAZKA, P.; ROKOS, J.; ZASTAVA, V.; KOLC, J.

Localization and uptake of chlortetracycline in the pancreas.  
Cas. lek. cesk. 104 no.27/28:743-744 9 J1 '65.

1. Mikrobiologický ústav Československé akademie věd v Praze  
(ředitel akademik I. Malek) a Ústav klinické a experimentální  
chirurgie v Praze (ředitel prof. dr. B. Spacek, DrSc.).

KUBAT, Z.; ROKOS, J.; PROCHAZKA, P.; LIEBL, V.; NOHYNEK, M.

A contribution to the problem of electrostatic bonds of the macromolecules of the corneal stroma. Sborn. lek. 67 no.6: 196-198 Je'65.

I. I. oční klinika fakulty všeobecného lékařství University Karlovy v Praze (prednosta: prof. dr. E. Deinstbier, DrSc.); a Mikrobiologický ústav Československé akademie věd v Praze (reditel: akademik: I. Malek).

ROKOS, J.; HAHN, P.; KOLDOVSKY, O.; PROCHAZKA, P.

The postnatal development of lipolytic activity in the  
pancreas and small intestine of the rat. *Physiol. bohemoslov.*  
12 no.3:213-219 '63.

1. Institute of Microbiology and Institute of Physiology,  
Czechoslovak Academy of Sciences, Prague.  
(PANCREAS) (INTESTINE, SMALL)  
(LIPID METABOLISM) (CORTISONE)  
(ANIMALS, NEWBORN) (MILK)

MALEK, P.; ROKOS, J.; KOJECKY, Z.; KOLC, J.; PROCHAZKA, P.; ZAK, F.

The special role of tetracycline antibiotics in the prevention and therapy of acute pancreatitis. Rozhl. chir. 42 no.3:174-180 Mr '63.

1. Ustav klinicke a experimentalni chirurgie v Praze, reditel prof. dr. B. Spacek DrSc. II vnitřni klinika lekárske fakulty PU v Olomouci Biologicky ustav CSAV v Praze, reditel akademik I. Malek. II patologickoanatomicky ustav lek. fak. KU v Praze, prednosta prof. dr. V. Jedlicka.  
(PANCREATITIS) (TETRACYCLINE) (LIPASE)  
(ENZYME INHIBITORS) (CHLORTETRACYCLINE)

MALEK, P.; ROKOS, J.; KOJECKY, Z.; KOLC, J.; PROCHAZKA, P.; ZAK, F.

The special role of tetracycline antibiotics in the prevention and therapy of acute pancreatitis. Rozhl. chir. 42 no.3:174-180 Mr '63.

1. Ustav klinicke a experimentalni chirurgie v Praze, reditel prof. dr. B. Spacek DrSc. II vnitřni klinika lekárske fakulty PU v Olomouci Biologicky ustav CSAV v Praze, reditel akademik I. Malek. II patologickoanatomicky ustav lek. fak. KU v Praze, prednosta prof. dr. V. Jedlicka.  
(PANCREATITIS) (TETRACYCLINE) (LIPASE)  
(ENZYME INHIBITORS) (CHLORTETRACYCLINE)

PROCHÁZKA, St

Content of formic acid in fruit and fruit products. D. A. J. Sedláček and St. Procházka (Ústav hyg., Prague). *Průmysl Potravin* 5, 491-3 (1957).—Several methods of estg. formic acid (I) were compared and over 150 tabulated results are reported. Content of I in 29 kinds of fruit never exceeded 2.5 mg. % except in peaches (3.34 mg. %). Content of I in 29 fruit products (both in cans and glass containers) differs only slightly from that in the fresh fruit and never exceeds 4 mg. %, except in the peach compote (4.92 mg. %). Packing material and storage do not affect substantially the content of I and it is not raised by technological processes either. L. J. Urbánek



CZECH/14-~~59~~-4-5/48

9(1)  
AUTHOR:

Procházka, Miroslav, Engineer

TITLE:

Facts About the Cubical Quad Antenna

PERIODICAL:

Sdělovací Technika, 1959, Vol 7, Nr 4, pp 127-128  
(Czechoslovakia)

ABSTRACT:

The "new" Cubical Quad antenna has been much discussed but there is a considerable amount of **inexact** information about it in circulation. In order to check some of the exaggerated claims, this type of antenna has been subjected to a series of tests in the A.S. Popov Institute. A simple construction of the test aerial was used. The type recommended in foreign literature proved to be subject to secondary influences so that the theoretical maximal potential could not be reached. The question of measuring the antenna's plus and minus deviations belongs to the most difficult ones in the whole field. For this reason, all claims about the sensational gains obtained with these "new types" must be taken with ✓

Card 1/2

Facts About the Cubical Quad Antenna

CZECH/14-59-4-5/48

reservation, all the more so when the measuring is done with simple instruments. The present article registers results of tests done under relatively favorable conditions in a well equipped scientific laboratory. Its purpose is to pacify the technical public whose great interest has been aroused by sensational information from predominantly foreign literature. There are 4 diagrams, 2 graphs, 2 tables and 4 references, 1 of which is American, 1 Czech and 2 German. ✓

Card 2/2

PROCHAZKA, S.

H-28

CZECHOSLOVAKIA/Chemical Technology - Chemical Products and  
Their Application, Part 4. - Synthetic Polymers,  
Plastics.

Abs Jour : Ref Zhur - Khimiya, No 7, 1958, 23246

Author : S. Prochazka

Inst :

Title : Gluing of Glass and Ceramics with Epoxy Resins.

Orig Pub : Sklar a keramic, 1957, 7, No 3, 72

Abstract : The epoxy-resins "Upon 1001" and "Epoxy 1200" are used in  
Czechoslovakia for gluing glass and ceramics, as well as  
glass and ceramics with metals. "Upon 1001" is solidified  
by heating to 200° 20 min., "Epoxy 1200" is solidified  
with 4% of a solidifier at about 20° in 24 hours. The ten-  
sile strength of porcelain glued together with "Epoxy 1200"  
is usually 200 kg per sq.cm and in some cases it is above  
300 kg per sq.cm.

Card 1/1

PROCHAZKA, SWANTE

Distri 4E2c

Influence of alkali content on the properties of artificial  
 white corundum for grinding purposes. Jaroslav Křídla,  
 Miloslav Havrůska, Jan Hlaváč, and ~~Branka Veselá~~  
~~Štikalý~~ 2: 102-3(1958). Alkali and CaO are added  
 in the block upper parts of the molten corundum substance  
 which gives rise to scaly crystals of  $\beta$ -corundum. An  
 abrasive material containing a substantial percentage of  $\beta$ -  
 corundum has greater tendency to be splintered and abraded.  
 Oscar Günter

JB  
1

5  
1

Svante Prochazka

Distr: 4E3d/4E2c  
Apparatus for measurement of high-temperature thermal  
conductance of sintered ceramic materials. Svante Pro-  
cházka and J. Hlaváček. *Silický 2*, 200-6 (1968). The  
thermal conductance of sintered ceramic materials at 200-  
500° is detd. on disks of 2-4 cm. diam. and 0.6 cm. thick-  
ness. The temp. gradient is measured by Ag and Pt thermo-  
elements plated on the specimen surface. The accuracy is  
±10%. H. Morawetz

*Handwritten initials/signature*

12721

S/081/62/000/021/038/069  
B171/B101

15.3200

AUTHORS: Bárta, Rudolf, Procházka, Svante, Šebek, František

TITLE: A method of producing refractory concretes

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 21, 1962, 347, abstract  
21K367 (Czechosl. patent 99958, June 15, 1961)

TEXT: Refractory concretes, including also the light-weight concretes, obtained by addition of loosening or foaming agents, can be prepared from a mixture of crushed aggregate, such as corundum and mullite wastes, with a cementing agent. The crushed aggregate is mixed either with  $H_3PO_4$ , or with its solution or a solution of its salts. Alumina or  $Al(OH)_3$  is also added. The mass consolidates at  $50-300^{\circ}C$ . Example 1: composition of the mass: mullite (0.5-0.2 mm fraction) 40%; ditto (0.2-0.1 mm) 25%; ditto (0.1-0.06 mm) 8%; ground alumina 4%; 60%-solution of  $H_3PO_4$  14%.  $H_3PO_4$  is added to the dry mixture of aggregate and alumina and the product is vibrated. After several hours, the set mass is heated to  $80-100^{\circ}C$  in a form or after its removal therefrom. Example 2. Composition of the mass:

Card 1/2

A method of producing refractory ...

S/081/62/000/021/038/069  
B171/B101

fused corundum (0.2-0.1 mm fraction) 43%; ditto (0.06 mm) 40%;  $H_3PO_4$  17%.  
The mixture is poured into a form and consolidated by drying at temperatures rising, from 50 to 120°C. After its removal from the form, the mass is fired at 1700°C. [Abstracter's note: Complete translation.]

Card 2/2

BARTA, Rudolf, prof., inž., doktor technických ved; BARTUSKA, Miloslav;  
HLAVAC, Jan; PROCHAZKA, Svante

High-corundum materials for electric insulation and electronics. Sbor  
chem tech no.3, part 1:425-431 '59.

1. Katedra technologie silikatu, Vysoka skola chemicko-technologicka,  
Praha.





S/081/62/000/006/061/117  
B149/B108

Highly refractory ...

to  $-30^{\circ}\text{C}$ . This property is related with the dispersivity of the filler.  
The properties of a mass in which mullite was used as filler are also  
given. [Abstracter's note: Complete translation.]

X

Card 2/2

28117

Z/013/61/000/002/004/006  
D006/D102

1.1600 also 3108, 3308

AUTHOR: Procházka, Svante, Engineer, Candidate of Technical Sciences

TITLE: Some considerations on the technology and economy of ultra-fine grinding

PERIODICAL: Sklár a keramik, no. 2, 1961, 61-64

TEXT: The development of new ceramic materials calls for much finer particles than are required in conventional fine ceramics. Ultra-fine grinding (average particle size about 1 micron) for instance, made possible the development of Kitaygorodskiy's Microlite CM 322. The article evaluates four mill types, namely the ball, vibrating, colloid, and fluid-energy mills (micronizers), as to their fitness for ultra-fine grinding. (1) In the majority of cases, dry ultra-fine grinding in ball mills is not practicable because most materials after reaching a certain degree of fineness tend to adhere to the drum walls. Wet grinding produces better results especially when smaller balls are used. According to Soviet experiences, replacement of the balls by rollers can increase the mill output up to 30%. (2) Vibrating mills are more economical than ball mills, but the current models have

Card 1/3

28117

Z/013/61/000/002/004/006  
D006/D102

Some considerations...

a maximum capacity of only 200 liters, requiring frequent recharging. Also, according to Soviet information, vibration grinding is accompanied by a considerable abrasion of the mill material (1.1% of iron was found in a fused-carborundum charge after 120 min) and the mills require considerable maintenance and repair due to the fatigue of the spring material. In the USSR vibration grinding was applied to the production of high-frequency ceramics. Here the main advantage is that the mixture can be prepared in a dry state. Economically, vibration grinding is advantageous for preparation of smaller material quantities. However, there are still great unused reserves in the current types of vibrating mills, which, if fully utilized by proper improvements, could raise their specific output. (3) Due to their energy consumption, almost double that of ball mills, and other unfavorable factors, colloid mills should be used only in cases in which ball mills cannot be used at all or only with difficulty. Most promising is the use of colloid mills for casting-slip preparation. (4) The Czechoslovak ceramic industry does not yet use the fluid-energy mills. Tests with a Berc laboratory-size fluid-energy mill produced promising results. It was found that this mill type could reduce considerably capital and operating costs as well as floor space. The main obstacle to the in-

Card 2/3

28117

Z/013/61/000/002/004/006  
D006/D102

Some considerations...

roduction of fluid-energy mills in the Czechoslovak ceramic industry is the lack of up-to-date equipment for continuous and economical production of press masses from ultra-fine mixtures. (5) Research is currently being conducted in the USSR and at the Výzkumný ústav mechanizace a automatizace (Research Institute of Mechanization and Automation) in Nové Město nad Váhom on electrohydraulic disintegration by high-voltage discharges in liquids. Although the potentialities of this principle cannot yet be judged, it seems that this method might be suitable for grinding of very hard materials. There are 5 figures and 1 table.

ASSOCIATION: Výzkumné pracoviště národního podniku Jiskra Tábor  
(Research Laboratory, Jiskra, National Enterprise, Tábor)

Card 3/3

X

PROCHAZKA, Vaclav, inz.; MISKOVIC, Vladimir, inz.

Examination of the sintering kinetics of the Cu-Pb system  
on models. Sbor VST Kosice 2:65-80 '62.

1. Ceskoslovenska akademie ved, Laboratorium hutnickej  
technologie Slovenskej akademie vied, Kosice.

EXCERPTA MEDICA Sec 15 Vol 9/6 Chest Dis. June 56

1368 PROCHÁZKA V. Odd. pro chirurg. léčbu tuberkulózy, Praze-Krč. Apic-  
leomie. Cavernostomy ROZH. TUBERK. 1955, 15/6 (247-252)  
A report on 33 cavernous pulmonary tb patients treated by cavernostomy. Healed  
24%, Improved 24%, died 30%, failed 9%, result unknown 12%. Skin flap plastics  
and muscle graftings for closure of drainage bronchus were without obvious effect.  
The best and most lasting results were achieved in apical segment of lower lobe  
cavities and in patients younger than 30 yr. old. We failed in patients with bilate-  
ral processes and in old people with persistent drainage bronchus. All 33 patients  
were followed-up 3 to 5 yr. Today we prefer resection.  
Procházka - Prague (XV,94)

HRBEK, A., Dr.; PROCHAZKA, V., Dr.

Seizures in children. Cesk. pediat. 11 no.11:811-813 Nov 56.

1. II. detska klinika fakulty detskeho lekarstvi v Praze,  
prednosta prof. Dr. J. Houstek Detske oddeleni OUNZ v Kutne  
Hore, primar Dr. V. Prochazka.

(EPILEPSY, in inf. & child  
incidence of seizures & unconsciousness, statist. (Cz))



PROHAZKA, V.

Kosice conference on the quality of agricultural machinery, implements, and spare parts. p. 147. ((Mechanisace Zemedelstvi, Vol. 7, No. 7, Apr. 1957, Praha, Czechoslovakia)

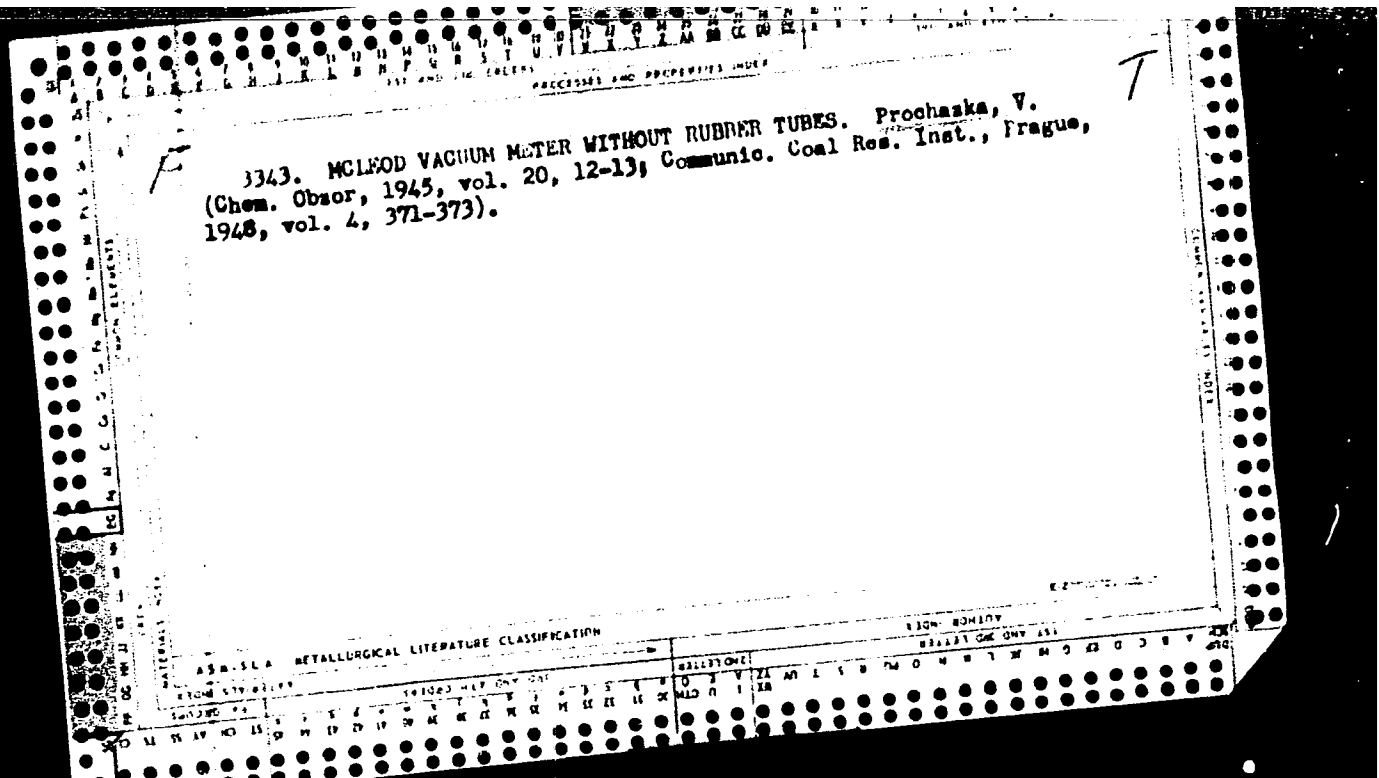
SO: Monthly List of East European Accessions (EEAL) LC, Vol. 6, No. 8, Aug 1957. Uncl.

PROCHAZKA, V.

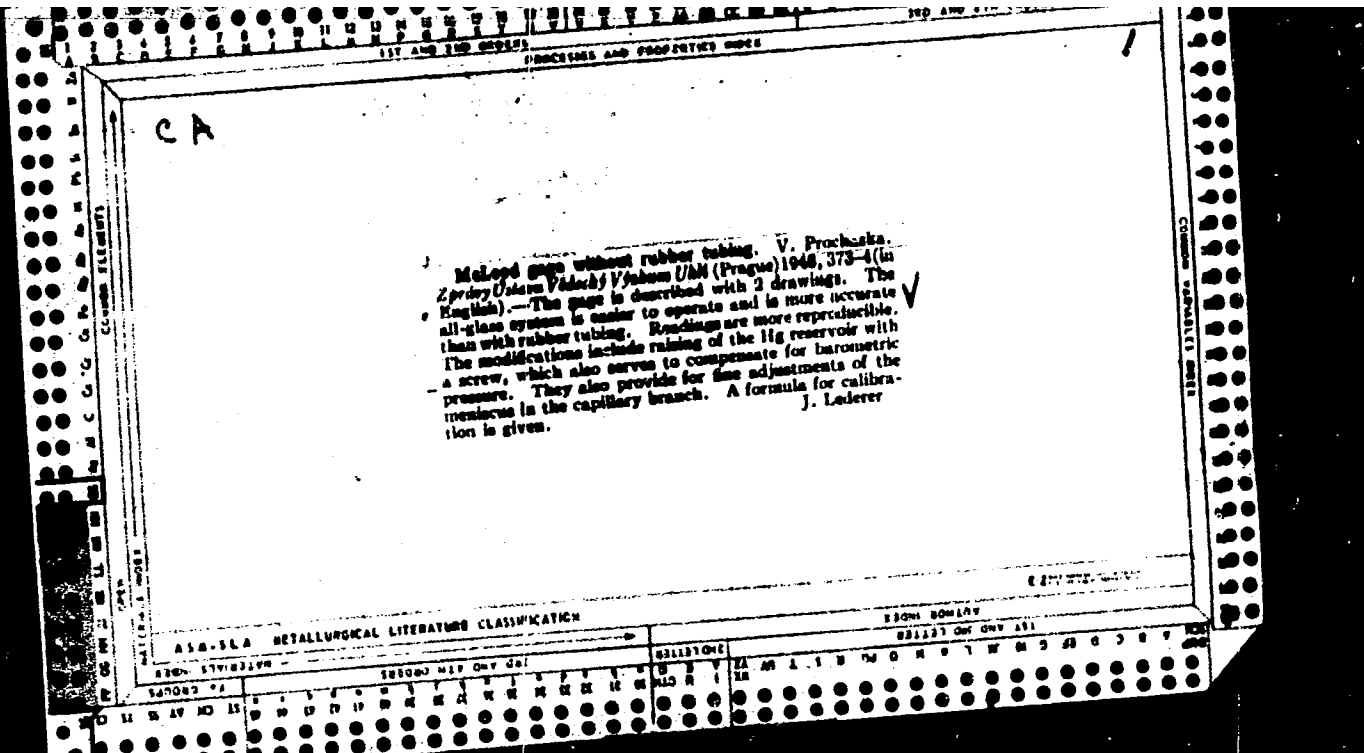
"Building non-flying maquettes."

p. 244 (Letecky Modelar) Vol. 8, no. 12, Dec. 1957  
Prague, Czechoslovakia

SO: Monthly Index of East European Accessions (EEAI) LC. Vol. 7, no. 4,  
April 1958

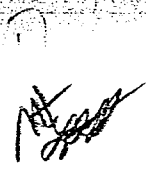








FU Apparatus useful for gas analysis. Břetislav G. Šimek,  
Vladimír Procházka, and Josef Blaha. Falca 32, 124-30,  
1957. app., techniques, methods, and calcn.  
are described in detail. Još. Lederer.



PROCEEDING, 7.

"Comments on C. Vogel's article: 'Remarks on Gas Analysis By The Great Apparatus.'" p. 236. (Faliv. Vol. 28, No. 11, Nov. 1951, Irkutsk.)

SC: Monthly List of East European Accessions, Vol. 3, No. 3, Library of Congress, March 1954, Uncl.



PROCHAZKA, V.; CEKAN, Z.; BATES, R. B.

On terpenes. Pt. 151. Coll Cz Chem 28 no. 5: 1202-1210  
My '63.

1. Research Institute for Natural Drugs, Prague, and Department of Chemistry and Chemical Engineering, University of Illinois, Urbana, Illinois.

Таблица, V.

2669. SLOW REACTION OF CARBON MONOXIDE IN MINE ATMOSPHERES.  
Klim, J. and Procházka, V. (Prac. Úst. Vyk. Využ. Poliv. (Comm. Fuel Res. Util. Inst., Prague), 1955, (1-9), 66-77). Experiments were made on the reaction of carbon monoxide with coal in order to explain the slow disappearance of carbon monoxide from mines that are closed after fires or explosions. It was found that carbon monoxide reacts with the coal and does not disappear by adsorption or diffusion through it. Complex oxygen compounds on the surface of the coal act as oxygen carriers to the coal substance and to the carbon monoxide. This explanation is based on the fact that wet coal removes carbon monoxide faster than dry, and that air enclosed in sealed glass tubes with coal is used up and replaced by carbon dioxide. Changes in the concentrations of oxygen and

carbon dioxide in closed coal-air systems were measured and conclusions were drawn as to the reactivity of different coals as they affect mine atmospheres. (1)

✓ 3692. DETERMINATION OF SULPHUR IN SYNTHESIS GAS. Kline, J. and  
Prochazka, Y. (Prace Úst. Vyz. Vuz. Pally (Commun. Fuel Res. Util.  
Inst., Prague), 1955, (1-9), 78-100). The gas is led at 20 to 25 l/h over  
a surface-active substance such as silica gel, on which the sulphur  
compounds are adsorbed. Description is carried out in a combustion furnace  
in two sections, with simultaneous oxidation with air. The compounds are  
oxidized further with ammonium hypochlorite to sulphates, precipitated with  
n/50,000 barium chloride and the excess barium chloride is determined  
polarographically. The difference between the heights of the curves for  
the barium chloride solution before and after precipitation indicates the  
quantity of sulphur. The method is simple, improved accuracy and saves time.

V. Procházka

meta  
5992\* Sintered Machine Parts as Replacements for Castings and Forgings. Náhrada litých a kovaných součástí spékáním. Vylisky. (Czech.) V. Procházka. Strojírenství, v. 8, no. 3, Mar. 1950, p. 209-211. 1  
General principles for selecting sintered parts; economic factors involved in their application; main qualities of metallic powders used for manufacturing sintered parts. Table, diagrams, photographs. 3 ref.

100

PROCHAZKA V.

6

Preparing trimethylbenzylammonium hydroxide (Triton B). J. Stuchlik, M. Tichý, and V. Procházka (Tech. Univ., Prague). *Chem. Listy* 50, 882(1956). The described procedure replaces the use of expensive  $Ag_2O$  by an ion exchanger.  $PhCH_2Cl$  (83 g.), 300 ml. 30% Me<sub>3</sub>N-EtOH, and 100 ml. EtOH heated 6 hrs. to 70-6° gave 109 g.  $PhCH_2NMe_3Cl$  which, passed over a strongly basic resin in the  $OH^-$  cycle and the soln. evapd. under N, yielded 135-157 g. of 60-70% soln. of Triton B ready for use as catalyst. L. J. Urbánek

(3)

*M. J. Urbánek*

27  
Hydrides of metals. Stanislav Lando, Frantisek Petr, Jaroslav Vit, Vladimir Picháček, and JH Mosterky. Czech 45 727, July 18, 1957. The process of heating in an autoclave 35 parts Na and 0.32 part MoS<sub>2</sub> with H<sub>2</sub> (initial pressure 130 atm. for 2 hrs. to 270° gives NaH in quant. yield. Similarly W<sub>2</sub>S<sub>3</sub> and the Cu-Cr-O-catalyst can be used. L J Urbánek. //

JM

6

CZECHOSLOVAKI/Chemical Technology. Chemical Products and Their  
Application. Elements. Oxides. Mineral Acids. Bases.  
Salts.

H

Abstr Jour: Ref Zhur-Khim., No 8, 1959, 28042.

Author : Petru, F., Hajek, B., and Prochazka, V.

Inst :

Title : Industrial Scale Production of Scandium and Scandium  
Compounds.

Orig Pub: Chem Prumysl, 7, No 5, 230-232 (1957) (in Czech with  
English and Russian summaries)

Abstract: Live steam is passed into a mixture of 850 kg of  
the residue remaining after the processing of Zin-  
wald tungstenate and 1700 liters conc HCl until the  
volume of the mixture reaches 2500 liters. To each  
1000 liters of the solution thus obtained 120 liters

Card : 1/2

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CZECHOSLOVAKIA/Chemical Technology. Chemical Products and Their Application. Elements. Oxides. Mineral Acids. Bases. Salts.

E

Abs Jour: Ref Zhur-Khim., No 8, 1959, 28042.

of technical grade  $H_2SiF_6$  (27-30° Be) are added, after which the mixture is refluxed for 4-5 hours with wet [saturated] steam, filtered, the filtrate is evaporated, and the residue is dried at about 40°; 5 kg of Sc concentrate containing about 40%  $Sc_2O_3$  are obtained. The product is ground in a ball mill, sintered at 600°, mixed with activated charcoal (6:1 ratio), and chlorinated in a tube packed with silicon (length 1 m, O. D. 60 mm, I. D. 50 mm) placed in an electric furnace heated to 1000-1100°. The process used in the production of scandium oxide and of metallic Sc from  $ScCl_3$  is described. -- I. Elinek.

Card : 2/2



PROCHAZKA, VLADIMIR

CZECHOSLOVAKIA/Chemical Technology - Chemical Products and Application, Part 3. - Treatment of Natural Gases and Mineral Oil, Motor and Rocket Fuel, Lubricants. H-22

Abs Jour : Ref Zhur - Khimiya, No 7, 1958, 22730

Author : Vladimir Prochazka

Inst :

Title : Production of Pure Methane from Natural Gas.

Orig Pub : Sblrka praci vyzkumm. ust., 1957, A8, No 17-26, 35-46.

Abstract : A method of producing considerable amounts of  $CH_4$  from natural gas was developed. The natural gas contained (in %):  $CO_2$  - 0.1,  $C_nH_m$  - 0.2,  $O_2$  - 0.2,  $N_2$  - 4.2,  $C_nH_{2n+2}$  - 0.2,  $CH_4$  - 95.0 and S compounds - 0.029 g per cub.m. Activated carbon, metallic Ca and the method of repeated condensation were used for the purification.  $CO_2$ , saturated and unsaturated hydrocarbons, water vapor,  $O_2$  and other gases are eliminated at the purification.

Card 1/2

CZECHOSLOVAKIA/Chemical Technology - Chemical Products and H-22  
Their Application, Part 3. - Treatment of Natural  
Gases and Mineral Oil, Motor and Rocket Fuel,  
Lubricants.

Abs Jour : Ref Zhur - Khimiya, No 7, 1958, 22730

The analytical methods used for checking the purity of the  
produced  $CH_4$  are described.

Card 2/2

~~Proc~~ Prochazka, VLADIMIR

H-22

CZECHOSLOVAKIA / Chemical Technology, Chemical Products and  
Their Application, Part 3. - Treatment of Solid  
Combustible Minerals.

Abs Jour : Rof Zhur - Khim., No 14, 1958, No 47976.

Author : Bohumil Sule, Vladimir Prochazka.

Inst : -

Title : Gas Determination in Gas Carrying Coals.

Orig Pub : Sbirka praci vyzkumn. ust., 1957, 18, No. 17-26, 47 - 59.

Abstract : A modified method of Peters and Warneke was applied to the determination of gases physically combined with coal; its main distinguishing feature is the application of a ball mill with inclined shaft. A sample of fresh coal in a sealed glass flask is put into the ball mill; after the air in the mill has been pumped out, the mill is started. The glass splinters improve the milling considerably, and four hours later the coal is a very fine powder of the grain size below

Card 1/2

CZECHOSLOVAKIA / Chemical technology, Chemical Products and  
Their Application, Part 3. - Treatment of Solid  
Combustible Minerals.

H-22

Abs J<sup>U</sup>ur : Ref Zhur - Khim, No 14, 1958, No 47976

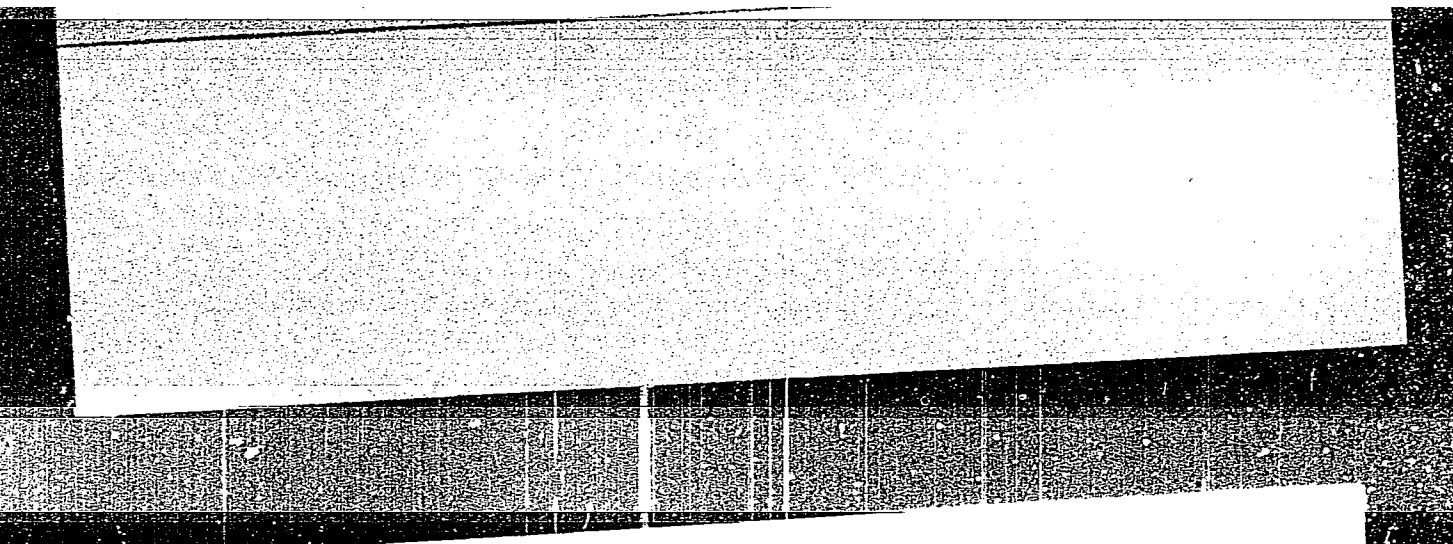
0.001 mm. The separated gases are removed with a vacuum pump and analyzed after their volume has been measured. 13 samples of brown and regular coals of Czechoslovakia were studied by this method. The method proved to be suitable for systematic determination of gas contents in gas carrying coal seams, which allows to take measures for their degasing in proper time.

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Card 2/2

**"APPROVED FOR RELEASE: 06/15/2000**

**CIA-RDP86-00513R001343110014-3**



**APPROVED FOR RELEASE: 06/15/2000**

**CIA-RDP86-00513R001343110014-3"**

PROCHAZKA, V.

CZECHOSLOVAKIA / Inorganic Chemistry. Complex  
Compounds. C

Abs Jour: Ref Zhur-Khimiya, No 19, 1958, 63979

Author : Petru F, Prochazka V, Hajek B

Inst : Not given

Title : On the Chemistry of the Rarer Elements. III.  
The Extraction of Scandium in a Compact State.

Orig Pub: Collect. Czechosl. chem. communs, 1958, 23,  
No 3, 367-371

Abstract: See RZhKhim, 1958, 28159.

Card 1/1

Metal hydrides. II. Reaction of alkali metals with hydrogen at higher pressures and temperatures. Stanislav Landa, Frantisek Petru, Jiri Mostecky, Jaroslav Vit, and Vladimire Prochazka (Vys. skola chem.-technol., Prague) Chem. listy 52, 1357-9(1958); df. Czech. 86,722 (C.A. 52, 6737e).--KH, NaH, and LiH were prepd. in quant. yields by hydrogenating in a 2500 ml. Stainless-steel rotating autoclave 10 g. atoms of K, Na, and Li, resp., in the presence of 0.1% WS<sub>2</sub> (prepn., cf. C.A. 50, 771d) or MoS<sub>2</sub> (prepn., cf. C.A. 50, 13854d) at 120 atm. and 140-150°. Local overheating destroys the activity of catalyst. In case of KJ and NaH (not LiH) it is necessary to heat at the end of 250° and 350°, resp., to obtain a stable product. The hydrides prepd. are pure enough to be used in the synthesis of complex hydrides.

Jiri Pliml

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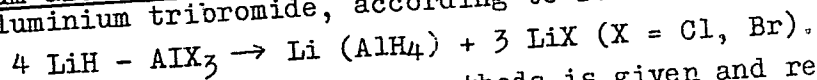
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AUTHORS: Vít, J., Procházka, V., and Petru, F

TITLE: About Lithium- and Sodium-Aluminium Hydride ||

PERIODICAL: Chemický průmysl, 1960, Nr 4, pp 183-187

ABSTRACT: The authors have studied the preparation of sodium- and lithium-aluminium hydride from lithium or sodium hydride and aluminium tribromide, according to reaction:

A critical survey of existing methods is given and reasons for discrepancies in yield and quality of product are analysed. It is held, that these can be accounted for by two main factors: A) presence of traces of moisture in the reactants and B) inactivation of the surface of lithium- or sodium hydride. The inactivation is explained by lack of solubility of lithium chloride in the reaction medium, which may lead to sedimentation on the surface of lithium hydride. As a result of these considerations and their own preliminary studies, the authors have given preference to aluminium tribromide as a starting material for their synthesis. Aluminium tribromide has also better solubility characteristics in benzene, than aluminium trichloride.

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About Lithium- and Sodium-Aluminium Hydride

In preliminary preparative studies the two compounds were prepared as follows: 1) The lithium compound was produced by reacting a solution of aluminium tribromide, dissolved in benzene, with lithium hydride, using diethylether as reaction medium. 2) The sodium derivative was synthesised from aluminium tribromide in benzene and sodium hydride using tetrahydrofurane as reaction medium. The mixture of benzene and tetrahydrofurane are the subject of Czechoslovak Patent 89.103 (15.3.1959). Diethyl ether has been found unsuitable, because the sodium aluminium hydride is decomposed in its presence. The importance of completely anhydrous conditions is again emphasized. If these conditions are adhered to, the addition of reaction catalysts can be dispensed with. It is pointed out that particularly in the preparation of sodium aluminium hydride the presence of free bromine, which could be formed from oxygen and aluminium tribromide, has a very deleterious effect on yields. It is therefore essential to carry out the reaction in an atmosphere of nitrogen, which had been

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studied the separation of lithium and sodium aluminium hydride from the respective reaction mixtures and have also studied the solubility of sodium aluminium hydride in a mixture of benzene and tetrahydrofuran. They have established that the solubility of the product was 4.5 grms in 100 cc of the solvent consisting of two parts by volume of tetrahydrofuran to one part by volume of benzene. Sodium-aluminium hydride was obtained by crystallisation from this mixture in colourless tetragonal crystals of up to a few mms in size. The crystallography is described in another Czechoslovak publication. The authors warn against the danger of explosion at the final drying of sodium aluminium hydride in vacuo. As a result of small-scale trials the authors then describe larger experiments, based on approximately 20 molar proportions. Experimental details and sketches of equipment are provided. The starting material, lithium hydride and sodium hydride were prepared according to Czechoslovak Patent 86.722. Aluminium tribromide was prepared according to Inorganic Syntheses, Volume III, page 30. The drying of the solvents is described in great detail. For the preliminary drying an

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alloy K-Na (60% to 40%) is suggested. The final drying is carried out either with lithium aluminium hydride as such, or with freshly prepared Grignard reagent. The yields of lithium-aluminium hydride and sodium-aluminium hydride were 89 to 92% and 88 to 93% respectively. A table illustrating some reactions of sodium-aluminium hydride is given.

Acknowledgments are expressed to T. Bartovský and P. Henger for their assistance in carrying out the here-described experimental work. There are 4 figures, 1 table and 33 references, 19 of which are English, 2 Soviet, 5 German, 3 French, 3 Czech and 1 Belgian.

ASSOCIATION: Katedra anorganické chemie, Vysoká škola chemicko-technologická, Praha (Department of Inorganic Chemistry, University of Chemical Technology, Prague)

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PROCHAZKA, V.

Distz: LiEt<sub>2</sub>

Lithium aluminum hydride and sodium aluminum hydride. Jaroslav VIL, Vladimír Procházka, and František Petrš (Vys. škola chem. technol. Příkoe). *Chem. průmysl* 10, 183-7 (1960).—Et (600 ml.) was slowly dropped onto 210 g. of Al mixed with the same vol. of silica. AlBr<sub>3</sub> (2000 g. yield) was sepd. by distn. in a N atm. at reduced pressure. Et<sub>2</sub>O (1500 ml.) previously dried with Na-K alloy and distd. from NaH was boiled 0.5 hr. with 0.1-0.2 mole of MeMgBr. From this soln. Et<sub>2</sub>O was distd. onto 160 g. LiH (20 moles) until 100 ml. remained in the still. Into this soln. was slowly dropped a soln. of AlBr<sub>3</sub> in C<sub>6</sub>H<sub>6</sub> prepd. as follows: 1000 ml. of C<sub>6</sub>H<sub>6</sub> distd. from NaH was poured into 1067 g. melted AlBr<sub>3</sub> and the brown-violet color of this soln. was removed by a short boiling with LiH or NaH. When 1/3 of the AlBr<sub>3</sub> soln. had been added to the LiH soln., an addnl. 600 ml. of Et<sub>2</sub>O was distd. from MeMgBr into the reaction mixt. during addn. of the remaining AlBr<sub>3</sub> soln. The reaction mixt. was then cooled and centrifuged. From the separated soln. solvent was distd. on the water bath at atm. pressure. Cryst. LiBr was removed and the remainder of the solvent was distd. off at 80° and 10-20 mm. Hg pressure. All operations were carried out in an atm. of dry N. The yield was 135-140 g. LiAlH<sub>4</sub> of purity <98%. NaAlH<sub>4</sub> was prepd. in the same way except for the substitution of tetrahydrofuran in equal amt. for C<sub>6</sub>H<sub>6</sub>; 480 g. of NaH was used. The reaction can be initiated with LiAlH<sub>4</sub>. The yield was 130-140 g. of NaAlH<sub>4</sub> which decompd. at 190°. About 60 g. of NaAlH<sub>4</sub> is in the centrifuged solid and can be extracted with tetrahydrofuran. The reactions of NaAlH<sub>4</sub> with BCl<sub>3</sub>, AlCl<sub>3</sub>, SiCl<sub>4</sub>, TiCl<sub>4</sub>, SnCl<sub>4</sub>, PCl<sub>3</sub>, AsCl<sub>3</sub>, SbCl<sub>3</sub>, B(MeO)<sub>3</sub>, P(EtO)<sub>3</sub>, solid CO<sub>2</sub>, CS<sub>2</sub>, and I were studied; they were generally the same as those with LiAlH<sub>4</sub>.

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