

VONDRA, N.; BALOGH, F.; SOLYMAR, J.

Experimental research in aureomycin sensibility and its adjuvant
role in urological diseases. Orv.hetil. 91 no.35:1052-1054 27 Aug
50. (CML 20:5)

1. Of the Urological Clinic (Director --Prof.Dr.Antal Babics),
Budapest University.

SOLYMAR, J.; FIALA, E.

Sleep therapy. Orv. hetil. 93 no. 47:1336-1339 23 Nov 1952.
(GML 24:1)

1. Doctors.

POLICZER, M.; FENYVESI, J.; SZEKELY, A.; SOLYMAR, J.; FIALA, E.; FOLDES, J.

Sleep therapy in hypertension. Orv. hetil. 93 no. 47:1340-1344 23
Nov 1952. (CML 24:1)

1. Doctors.

POLICZER, Miklos, dr.; NAGY, Gyula, dr.; GERGELY, Imre, dr.;
SOLYMAR, Jenő, dr.; SARDI, Valeria

Value of the hydergin, or rather hydergin-prostigmine test,
in diagnosis of functional and organic diseases of the heart.
Magy. Belorv. arch. 9 no.3:77-81 June 56.

1. Kutvolgyi uti Allami Korhaz (igaz.: foorvos: Hancsok, Mariusz, dr.)
belosztalyanak (foorvos: Policzer, Miklos, dr.) kozl.

(HEART, funct. tests

hydergin-prostigmine test, evaluation in differ. diag.
of funct. & organic heart dis. (Hun))

(HEART DISEASE, differ. diag.

hydergin-prostigmine test in differentiation of funct.
& organic dis., evaluation (Hun))

SOLYMAR, Jeno, dr.; POLICZER, Miklos, dr.; BARCA, Sandor, dr.;
SZEKELY, Arpad, dr.

Conditioned reflex studies with hydergine. Orv. hetil 97 no.
11:291-293 11 March 56.

1. A Kurvolgyi uti Allami Korhaz (igazgato-foorvos:
Hancsok, Mariusz dr.) Belosztalyanak (foorvos: Policzer, Miklos dr.)
kozlemenyse.

(ERGOT ALKALOIDS, eff.
dihydrogenated deriv., inducing conditioned reflexes.
(Hun))

(REFLEX, CONDITIONED
induction by dihydrogenated ergot alkaloid inj. (Hun))

SOLYMAR, Jozsef

High-power pole transformer station for cooperative villages. Ujit
lap 12 no.1:14 10 Ja '60.

SOLYMAR, Jozsef

Complex mechanization of agriculture and the specialization. Ujit
lap 12 no.11:4 of cover 10 Je '60.

SOLYMAR, Jozsef

The cooperative village of Atkar has already dealt with the complex mechanization of its intensive farming. Ujit lap 12 no.12:4 of cover 25 Je '60.

SOLYMAR, Jozsef

Experiment compulsory. Ujit lap 12 no.15:4 My '60.

(Hungary--State farms)

SOLYMAR, Jozsef

Bugac: the center of silviculture on sandy soil. Ujit lap 12 no.23:
11 10 N '60.

SOLYMAR, Jozsef

"Peaceful coexistence" of dwarf water storage reservoirs and
irrigation methods. Ujit lap 14 no.4:12 F '62.

SOLYMAR, Jozsef; TOTH, Judit

32,600,000 forint savings from agricultural innovations during
a year. Ujit lap 14 no.16:12-13 25 Ag '62.

SOLYMAR, Jozsef

Display of 1200 agricultural implements. Ujit lap 12 no.8:12 25 Ap
'60.

SOLYMAR

Parade of expert opinions. Ujit lap 12 no.4:5 25 F '60.

SOLYMAR

Quality control equipments. Ujit lap 12 no.10:4 of cover 30 My '60.

SOLYMAR, Jozsef

On the agenda; the construction of fodder factories. Ujit lap 12 no.15:
4 of cover 10 Ag '60.

PAPP, Elemer, dr. (Budapest XI Fehervari ut 144); SOLYMAR, Karoly (Budapest XI Fehervari ut 144)

Some problems of preparing and investigating high-purity metallic gallium. Acta chimica Hung 24 no.4:451-474 '60. (EEAI 10:4)

1. Research Institute for Non-Ferrous Metals, Budapest.
(Gallium) (Electrolysis) (Aluminates)

ORGOVANY, Laszlo; SOLYMAR, Karolyne

Testing high-power bright nickel baths by the Hull cells.
Gsp 15 no.6:241-247 Je '63.

1. Allami Penzverb.

CHY/12/15, 12

3

Kovács, R.; and Solymár, L. Theory of aperture aerials based on the properties of entire functions of the exponential type. Acta Phys Acad Sci Hungar 6 (1956), 161-184. (Russian summary)

25 2

The authors use properties of entire functions of exponential type to discuss a number of questions about aperture aerials. A prescribed radiation pattern cannot in general be realized exactly, but can in arbitrarily close approximation; the feasibility of doing this in a practical way is discussed. A bound is obtained for the quality in terms of the gain. The mathematical appendix contains statements and proofs of the relevant theorems on entire functions. All the theorems seem to be already available in the mathematical literature.

ell

R. P. Boas, Jr.

37008

SOLYMAR, L.

1-4E1d

3
1-4E1d

3142. THEORY OF SUPER-DIRECTIVE LINEAR ARRAYS. 621.396.677

M. Uzacov and L. Solymar

Acta phys. Hungar., Vol. 6, No. 2, 185-205 (1956).

Using data pertaining to elementary radiator feeding and geometrical arrangement, selected characteristics of an aerial system are defined, viz.: geometrical gain, geometrical quality and tolerance sensitivity. The geometrical gain gives the gain of an array of isotropic radiators; the geometrical quality shows how the bandwidth of the array is less than that of the elementary radiator; the tolerance sensitivity is the numerical expression of the extent to which the system is sensitive to current distribution variations. These characteristic properties are arrived at by making such simplifications in the strict physical definitions which result, on the one hand, in the separation of the properties relevant to the constructional details of the elementary radiator and to those of the aerial system; on the other hand, in formulae more amenable to mathematical treatment. These simplifications yield a simpler relationship of the three aforementioned quantities. Four of the current distributions dealt with in the literature are selected to show the values assumed by the newly introduced constants. Lastly, a generalization of the solutions is attempted in seeking the current distribution which gives the highest geometrical gain in case of various numbers of components and a prescribed geometrical quality.

Handwritten initials/signature

Handwritten initials/signature

SOLYMOS, A.

SOLYMOS, A. Report on the conference in Miskolc on mechanization of mines. p. 354.

Vol. 11, No. 6, June 1956

BANYASZATI LAPOK

TECHNOLOGY

Budapest, Hungary

So: East European Accession, Vol.6, No. 2, Feb. 1957

WIKING, E.

Istvan Fekete's Wiking, a book review, p. 668 (Ethnographia Vol. 67, no. 4, 1956, Budapest)

SO: Monthly List of East European Accession (HEAL) LC. Vol. 6 no. 7, July 1957, Uncl.

Ungary, 1949.

"Ungary: A critical report on the situation."

Ungary, Hungary, 1949. 23. p.

Monthly list of East European Accessions (EEAI), IC, Vol. 6, No. 2,
August 1949.
Uncle.

SOLYKOS, EDE.

IRKESZTO HALASZAT A VELENCEI TAVON. SPERRFISCHEREI AUF DEM SEE VON VELENCE.

Szekesfehervar, Hungary. (Fejer Megyei Helytobnethi Munkakozosseg) 1958. 47 p.
Istvan Kiraly Muzeum. Istvan Kiraly Muzeum kozlomenyei. A. sorozat, 6. sz.

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

Uncl.

SOLYMOS, Rezső

Research in silviculture and lumbering at the Scientific
Institute of Forestry. Erdo 11 no.12:560-565 D '62.

1. Erdészeti Tudományos Intézet tudományos osztályvezetője,
Budapest.

SOLYMOS, Rezső, dr., tudományos osztályvezető

Silvicultural aspects of the course of the growth of Scotch pines. Erdő 12 no.5:217-224 My '63.

1. Erdészeti Tudományos Intézet, Budapest.

SOLYMOS, Rezső, dr., tudományos osztályvezető

Silvicultural lessons from the snow damages in the Southern
Dunantul forests. Erdő 12 no.8:371-376 Ag '63.

1. Erdészeti Tudományos Intézet, Budapest.

SOLYMOS, Rezso, dr.

Correct development of crown dimensions is a silvicultural task. Erdo 12 no.10:474-480 0 '63.

1. Erdészeti Tudományos Intézet tudományos osztályvezetője,
Budapest.

SOLYMOS, Rezso, dr.

Role of spruce growing in the improvement of our pulpwood supply.
Erdo 13 no.9:418-422 S '64.

1. Scientific Division Chief, Scientific Institute of Forestry,
Budapest.

SOYMOS, Ryszard, dr.

Development and care of pinewoods as reflected in most recent
achievements in silvicultural and wood production research. Erac
14 no.3:113-126. Mr 1965.

SOLYMOSI, F.

Identification of the cucumber mosaic virus causing the so-called
"Uj-hituseg" of red pepper. Acta agronom Hung 10 no.1/2:177-196
'60. (EEAI 9:12)

1. Hungarian Research Institute for Plant Protection, Budapest.
(Red pepper) (Cucumbers) (Viruses) (Mosaic disease)

SOLYMOSY, Ferenc; FARKAS, Gabor

Biochemical mechanism of localized, acquired resistance to virus infection in tobacco tissues. Botan kozl 50 no.1: 13-20 My '63.

1. Növényvédelmi Kutató Intézet, Budapest, II., Herman Ottó ut 15. (for Solymosy). 2. Magyar Tudományos Akadémia Növényélettani Kutató Csoportja, Alsógöd; "Botanikai Közlemények" szerkesztő bizottsági tagja (for Farkas).

Soly mosi, F.

HUNG .

3

10. On the higher oxidations states of silver - *As újabb magasabb oxidációs állapotaírd* - L. Csányi and F. Soly mosi. (Hungarian Journal of Chemistry - *Magyar Kémiai Folyóirat* - Vol. 59, 1953, No. 11, pp. 327-334, 4 tabs.)

It has been proved experimentally that in a pH = 3 medium the mixing of silver nitrate and peroxy disulfate in a mole ratio of 2 : 1 and 4 : 1 yields $2 Ag_2O_2 \cdot Ag_2SO_4$ and $Ag_2O_2 \cdot 2 AgO \cdot Ag_2SO_4$, respectively. The compound thus obtained is stable but after a few months it is transformed into $4 AgO \cdot Ag_2SO_4$. Potential measurements proved that owing to the presence of silver(I) ions, only the normal potential of 1.02 volt could be observed as a result of the electron transition silver(II)-silver(I) although this compound contains tervalent silver. Moreover, silver oxides of higher oxidation states may also be obtained by reacting silver nitrate with Caro's acid. Oxides of silver produced by the reaction of ozone or formic acid have the following composition:

$AgO_2 \cdot 3 AgO \cdot AgNO_3$ and $AgO \cdot Ag_2O \cdot 16 HCOOAg$, respectively.

FA
Nef

0
3

Colorimetric determination of hydrogen peroxide, per-
monosulfuric acid (Caro's acid), and peroxydisulfuric acid.
L. J. Csányi and F. Solymosi (Univ. Szeged, Hung.). Z.
Anal. Chem. 142, 422-424 (1970). Mix 60-70 ml. of 1-2N
H₂SO₄ soln. to be analyzed with a measured quantity of
0.1N As₂O₃ soln. and titrate the H₂O₂ with 0.1N Ce(SO₄)₂
soln. in the presence of ferroin as indicator. To the titrated
soln. add 1 drop of 0.01M OsO₄ soln., and titrate the excess
As₂O₃ with Ce(SO₄)₂ soln. The quantity of As₂O₃ soln. re-
quired to reduce the permonosulfuric acid and hence the
concn. of the latter is thus detd. To det. the peroxydisul-
furic acid, add H₂SO₄ to make its concn. 18-20%, add an-
other measured quantity of As₂O₃ soln., and heat to boiling.
After 6-8 min., cool and titrate the excess arsenite. Care
should be taken to prevent atm. oxidation of the As₂O₃
which can be done by adding a little marble or KHCO₃ and
by using narrow-mouthed Erlenmeyer flasks. If the con-
tent of peroxy disulfuric acid is about equal to that of the
H₂O₂, a slight change in procedure is necessary. W. T. H.

20491001, 1.

1187, Remarks on the analysis of peroxy compounds and on the nature of the induction reactions involved.

L. L. Csányi and E. Solymosi (Szeged Univ., Hungary). *Anal. Chim. Acta*, 1958, 15 (6), 601-605.

The analysis of mixtures containing H₂O₂ (I), peroxy sulphuric acid (H₂SO₅) (II) and peroxydisulphuric acid (H₂S₂O₈) (III) by the selective oxidation of H₂O₂ with K₂MnO₄ or Ce(SO₄)₂ is discussed in relation to the induction reactions involved and to the causes of error in the analyses. The simultaneous determination of I, II and III can be effected indirectly by reducing II with As₂O₃ and then titrating the H₂O₂ with Ce(SO₄)₂; I and III are then determined together in another sample in the presence of OsO₄, III being titrated in the same sample after reduction with As₂O₃. The analysis can also be made directly by first titrating II with As₂O₃ soln. (in the presence of KBr), then titrating the H₂O₂ formed (after addition of OsO₄) and finally titrating III while the soln. is warmed. The end point is indicated by the dead stop or the bimetallic method. Both the indirect volumetric and direct As₂O₃ methods are applicable to the system H₂O₂, H₂SO₅ and to mixtures of H₂O₂ with peroxyacetic acid or peroxyphosphoric acids.

W. J. BAKER

4th

1214. Analytical applications of the osmium
 arsenite-ferrocyanide reaction, catalyzed by osmium
 tetroxide. L. Solvanyi (Inst. Inorg. and Anal.
 Chem., Sci. Univ. Szeged, Hungary). Magyar
Kém. Foly., 1956, 68 (9), 318-322. —The reaction
 between $Fe(CN)_6^{4-}$ and arsenite, when catalyzed by
 OsO_4 , is sufficiently rapid to be used for the quant.
 determination of $Fe(CN)_6^{4-}$ in a weakly alkaline
 soln. Procedure—Dilute a sample, containing
 $Fe(CN)_6^{4-}$, with 4 N NaOH (20 ml) and, if neces-
 sary, with water, to make a 2 to 3 N NaOH soln.
 Warm it to between 70° and 75°, remove it from the
 flame, add 0.01 N OsO_4 [0.255 g in 0.1 N H_2SO_4
 (100 ml)] (two to three drops) and titrate with 0.1 N
 As_2O_3 . The end-point can be detected either
 potentiometrically or by the dead-stop end-point
 method. Throughout the titration the temp. must
 remain above 50°. The method is suitable for the
 determination of $Fe(CN)_6^{4-}$ in various ppt. and for
 the back-titration of excess of $Fe(CN)_6^{4-}$ when used
 as an oxidising agent. In the presence of Hg^{2+} ,
 the concn. of alkali must be doubled and the
 titration carried out at 25° to 30°. The accuracy is
 within $\pm 0.2\%$.
 A. C. Peto

Ch...

mk

Soly most, 1

5
1-4E3d
1-4E48

23. On the reaction between peroxy compounds and the thiocyanate ions. Remarks on the existence of "solvate" peroxy acids (new type peroxy acids). I. Csányi. P. Soly most, Magyar Kémiai Folyóirat, Vol. 62, 1936, No. 10, pp. 356-368, 9 figs., 17 tabs.

The reaction between thiocyanate ions and peroxysulphuric acid (Caro's acid), as well as peroxymacetic acid has been submitted to careful examination. It has been found that the reaction which takes place between hydrogen peroxide and the thiocyanate ions is not due to the formation of "solvate" peroxy acids of a new type caused by a dipole association phenomenon, but is the result of an induction reaction occurring in the mentioned systems.

MS

SOLYMOSSI, F.

HUNGARY/Analytical Chemistry. General Problems.

E-I

Abs Jour: Ref. Zhur-Khimiya, No II, 1958, 35861.

Author : L. Csanyi, F. Solymosi.

Inst : Not given

Title : Data to the Analytical Chemistry of Peroxide Compounds.
I. Group Determination of Peroxide Compounds. II. Induced reactions at the Analysis of mixtures $H_2O_2 - H_2SO_4$. III. Cerimetric determination of Hydrogen Peroxide, Monopersulfuric Acid (Caro Acid) and Persulfuric Acid at their Simultaneous Presence. IV. Cerimetric Determination of Hydrogen Peroxide and Peracetic Acid and of Hydrogen Peroxide and Perphosphoric Acid at their Simultaneous Presence.

Orig Pub: Magyar tud. akad. Kem. tud. oszt. közl., 1957, 8, No 2-3, 261-276, 277-291, 293-298.

Card : 1/12

APPROVED FOR RELEASE: 08/25/2000

CIA-RDP86-00513R001652410004-8"

E-1

HUNGARY/Analytical Chemistry. General Problems.

Abs Jour: Ref. Zhur-Khimiya, No II, 1958, 35861.

A detailed critical review of the known analytical methods of determination of peroxide compounds is given in this paper. Methods are developed, with the aid of which it is possible to distinguish peroxides (bond -O-O-), hydroperoxide compounds (group -OOH) and per acids, one from another. The study is started with the hard substance, from which the crystallization H_2O_2 is eliminated by ether. The ether is separated and H_2O_2 , if necessary, is drawn by water and determined. Then the examined substance is dissolved in water, H_2O_2 form from the peroxides is determined with the aid of $TiOSO_4$ or $KMnO_4$ or by the Fenton's reaction (in the presence of potassium biphthalate and the diluted solution of $FeSO_4$ a yellow or brown coloration takes place). This reaction works in presence of many metallic ions (ions of

Card : 2/12

HUNGARY/Analytical Chemistry. General Problems.

E-1

Abs Jour: Ref. Zhur-Khimiya, No II, 1958, 35861.

Trompler of reduction with the aid of rhodanide. Per acids can be after that determined by separation of Br_2 from KBr at a long heating or by that of I_2 from KI (the later at pH 8-9). II. A review of known methods of analysis of the mixture of hydrogen peroxide (I), monopersulfuric acid (II) and persulfuric acid (III) is given. The accuracy of these methods is insufficient, their reproduction is bad. It is found that at titration of I by potassium permanganate in presence of III reduced values are obtained. Approximately the same error is observed at the determination of III, after that, with the aid of arsenous acid (IV). The error grows with the increase of the quantity of H_2O_2 . A reaction between I and III probably

Card : 4/12

HUNGARY/Analytical Chemistry. General Problems.

E-1

APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001652410004-8"

Abs Jour: Ref. Zhur-Khimiya, No II, 1958, 35861.

takes place. The error increases with the reduction of acidity. The inaccuracy of Skrabal and Vacek's opinion (Skrabal A, Vacek I.P., Oesterreich. Chem. Ztg., 1901, 13, 27) about the inducing of the reaction between III and the permanganate is proven. The authors discovered that the determination error grows in proportion to the length of the titration as a result of a catalytic influence of Mn^{2+} ions, formed at the titration, on the reaction between I and III. It is found that a great quantity of Mn^{2+} ions does not increase, as was supposed in literature on the subject, but decreases to the contrary the induced reaction. The same results are obtained by the decrease in temperature. A similar study was conducted also for the system $\text{H}_2\text{O}_2 - \text{H}_2\text{SO}_4$. The results are analogous to the preceding ones but the error is even bigger.

Card : 5/12

3

HUNGARY/Analytical Chemistry. General Problems.

E-1

HUNGARY/Analytical Chemistry. General Problems.

E-1

Abs Jour: Ref. Zhur-Khimiya, No II, 1958, 35861.

The authors arrive to the conclusion that the error of determination can be reduced by the increase in acidity, the decrease in temperature and the addition of a great number of Mn^{2+} and Ce^{3+} ions. The titrating solution is to be added by big batches and must be strongly mixed.

III. The authors recommend a following method of analysis of the mixtures H_2O_2 - H_2SO_4 : to the solution containing I n. H_2SO_4 , a measured quantity of 0.1 n of the solution of IV is added and I is titrated by the solution of cerium sulfate in the presence of ferroine. No reaction between I and IV takes place in the course of several minutes at such an acidity. IV enters into a reaction with cerium sulfate only in presence of OsO_4 (it can be

Card : 7/12

4

Card : 8/12

APPROVED FOR RELEASE: 08/25/2000

CIA-RDP86-00513R001652410004-8

HUNGARY/Analytical Chemistry. General Problems.

E-1

Abs Jour: Ref. Zhur-Khimiya, No II, 1958, 35861.

tration (with ferroine as an indicator) the surplus of IV is determined. The total amount of I and II is determined. After that, the acidity of the same solution is brought up to 2-3 n (in relation to H_2SO_4) and by adding of marble an atmosphere of CO_2 is created over the solution, more IV is added, boiled for 4-5 minutes, indicator and catalyst are added and the surplus IV is titrated with cerium sulfate. In this manner the quantity of III is determined. By the described method the quantity of peroxides, equivalent to 3-45 mg O_2 can be determined. The method's accuracy is 0.15 - 0.2%. The analysis lasts 30-35 min. at three parallel measurements of each component. The determination of I, II and III, taken in pairs, is described. The influence of foreign ions is examined. Br^- , I^- , NO_2^- , Sn^{2+} , SO_3^{2-} , S^{2-} , SCN^- , Fe^{2+} and others are hampering the

Card : 9/12

5

HUNGARY/Analytical Chemistry. General Problems.

E-1

Abs Jour: Ref. Zhur-Khimiya, No II, 1958, 35861.

process but they do not occur together with I, II and III. IV. The analysis of mixtures $H_2O_2 - CH_3COOH$ and $H_2O_2 - H_4PO_4$ encounters many difficulties in view of induced reactions, instability of peracetic acid (V) and so on. The cerimetric method, developed by the authors (see part II) for mixtures $H_2O_2 - CH_3COOH$, is extended also for the above named mixtures. For the analysis $H_2O_2 - H_3PO_4$: 0.1 n of the examined solution is acidified by a 20% solution of H_2SO_4 and a measured quantity of 0.1 n of IV solution is added in order to reduce V. I is titrated by cerium sulfate (indicator-ferroine). One drop of OsO_4 is added after that and the excess of IV is determined. The concentration of V is determined in that manner. The

Card : 10/12

APPROVED FOR RELEASE: 08/25/2000

CIA-RDP86-00513R001652410004-8"

HUNGARY/Analytical Chemistry. General Problems.

E-1

Abs Jour: Ref. Zhur-Khimiya, No II, 1958, 35861.

accuracy of determination is 0.2% at the content of examined substances in quantities equivalent to 5 - 20 mg O_2 . At the analysis of mixtures $H_2O_2 - H_3PO_4$, containing I, monopero-phosphoric acid (VI) and perphosphoric acid (VII) arise new difficulties, caused by little stability of VII and by the fact that phosphate ions form a deposit with cerium ions. The latter is eliminated by introduction of Al^{3+} ions, which constitute a complex with the phosphate. For analysis, a 0.1 n solution is taken, acidified by sulfuric acid, an excess of IV and 2 g aluminum sulfate are added and titrated by cerium sulfate. The sources of error are eliminated in presence of IV. The general quantity of I and VI is determined by the new batch of the solution by addition of IV, of a drop of OsO_4 , 10 ml of 20% solution H_2SO_4 , 2 g aluminum sul-

Card : 11/12

SUMMARY

1

Analysis of peroxy compounds. I. Determination of the constitution of peroxy compounds. L. I. Csányi and E. Solymosi (Univ. Szeged). *Acta Chim. Acad. Sci. Hung.* 15, 7-10 (1957) (in German); cf. *C.A.* 53, 8025d.—The following method proved suitable for the detn. of the constitution of peroxy compds. When solids contg. H_2O_2 of crystn. were shaken with Et_2O , the loosely bound H_2O_2 split off; the Et_2O soln. shaken with H_2O gave an aq. ext. of H_2O_2 , which was then detectable by the usual reagents. Aq. solns. of peroxide compds. that contained an O—O bond showed, with the exception of peroxy diacids, the known reactions of H_2O_2 . Hydroperoxides were detected by the liberation of Br from an acid soln. of KBr. Peroxy diacids were detected by selective redn. by using As_2O_3 or thiocyanate. The procedure completed the Riesenfeld-Liebhaufsky test (cf. L., *C.A.* 29, 1345) serving also as a control of this test. II. Induction reactions proceeding during the analysis of the system H_2O_2 - H_2SO_4 . *Ibid.* 19-36.—When H_2O_2 was titrated in the presence of peroxymonosulfuric acid or peroxydisulfuric acid by $KMnO_4$ or $Ce(IV)$ sulfate, a considerable error appeared in the amt. of H_2O_2 and the peroxyacids. The ratio of the error in H_2O_2 to that of the peroxyacids ranged about 1.0, indicating that the reaction between H_2O_2 and the oxidizing agent induced also between H_2O_2 and the peroxyacids a reaction process according to the mole ratio 1:1. It was proved that Mn^{++} promoted the induction reaction between H_2O_2 and II whereas Ce^{+++} was ineffective. It was also shown that the induction error could be reduced by raising the acid concn. or the temp. of the soln. by decreasing the vol. of soln. and by increasing the speed of titration. Also, the error decreased when a greater amt. of Mn^{++} was added in $KMnO_4$ titrations and Ce^{+++} in cerimetric titrations. Ce^{++} reacted with I in the same way as with $KMnO_4$.

AE3d
x

William Brak

off

Distr: 4E3d

Analysis of peroxy compounds. III. Cerimetric determination of hydrogen peroxide, peroxyacetic acid (Care's acid), and peroxydisulfuric acid in the presence of each other. L. J. Csanyi and F. Solymos (Univ. Szeged, Hung.). *Acta Chim. Acad. Sci. Hung.* 13, 267-73 (1957) (in German); cf. *ibid.* 19.—The method employed is based on the application of selective reducing agents and suitable catalysts to speed up desirable reactions. After studying the behavior of the single compds. with reducing agents the following procedure is suggested. Make the soln. of the substances to be detd. about *N* with H_2SO_4 and dil. to 40-60 ml. Add 0.1*N* As_2O_3 and titrate the H_2O_2 with $Ce(SO_4)_2$ and ferroin as indicator. To the titrated soln. add a drop of 0.01*N* O_2 acid (acting as a catalyst) and back titrate the excess As_2O_3 cerimetrically. The amt. of reagent used is equiv. to the amt. of H_2SO_4 previously present. Increase the acidity of the soln. to 8-12% H_2SO_4 and add coarse pieces of marble (or $KHCO_3$). After the evolution of CO_2 has subsided add 0.1*N* As_2O_3 again. Heat the mixt. for 6-8 min. and cover with a watch glass to prevent too much evapn. After cooling, back titrate the As_2O_3 with $Ce(SO_4)_2$ after adding the O_2 catalyst and ferroin indicator. The amt. of As_2O_3 used in this titratn corresponds to the amt. of H_2O_2 present. The method described gives exact results only if the amt. of H_2SO_4 present is less than half the amt. of H_2O_2 or vice versa. If this condition is not fulfilled a slightly changed method must be employed. Good results are obtainable with this procedure. All substances reacting with $Ce(SO_4)_2$ and As_2O_3 interfere. Ag ions must be removed. Ferricyanide ions poison the O_2 catalyst, and

if present, an excess of the catalyst must be employed. IV. Cerimetric determination of hydrogen peroxide and peroxyacetic acid, further hydrogen peroxide and peroxyphosphorus acid in the presence of each other. *Ibid.* 275-83.—Procedures are given for H_2O_2 and $AcOOH$ detns. Acidify the soln. (~ 0.1*N*) with 5 ml. 20% H_2SO_4 and add 0.1*N* As_2O_3 . Dil. to about 60 ml. and, after adding 1 drop of ferroin indicator, carry out the cerimetric titration of H_2O_2 . Then add 1 drop of O_2O_2 catalyst to the titrated soln. This results in the spontaneous decompn. of $AcOOH$ into H_2O_2 and $AcOH$. Cerimetric titration of the newly formed H_2O_2 gives the amt. of peroxyacetic acid previously present. Procedure for H_2O_2 and H_3PO_4 : Acidify the soln. with 5 ml. 20% H_2SO_4 , add excess 0.1*N* As_2O_3 , and 2 g. $Al_2(SO_4)_3$. Dil. to 60 ml. and titrate the H_2O_2 cerimetrically. In another aliquot det. H_2O_2 and H_3PO_4 simultaneously. After the addn. of sufficient As_2O_3 add a drop of O_2O_2 , acidify with 10 ml. 20% H_2SO_4 , and add 2 g. $Al_2(SO_4)_3$ and 20 ml. water. Det. the excess As_2O_3 quickly by cerimetric titration. This soln. is suitable for the detn. of $H_2P_2O_7$. Add 0.1*N* As_2O_3 , 10 ml. 10% H_2SO_4 , and marble (or $KHCO_3$). Boil for 3-4 min., cool to 40°, add 1 drop of O_2O_2 , and titrate the excess As_2O_3 cerimetrically with ferroin as indicator. Ernst M. Goldstein

✓ The determination of sulfur compounds in presence of one another with ferricyanide and osmium tetroxide as a catalyst. E. Solymosi and A. Varga (Univ. Szeged, Hung.). *Anal. Chim. Acta* 17, 608-9 (1957) (in German).—S-contg. compds. like sulfite, bisulfite, pyrosulfite, sulfide, dithionite, thiosulfate, and tetrathionate can be titrated with $[Fe(CN)_6]^{3-}$ in 4 to 5M NaOH soln. at 50 to 60° in the presence of OsO_4 catalyst. Either dead-stop or potentiometric end point detection can be used. A. L. Underwood

4
252

6w
vi

SOLYMOSI, I.

Osmium tetroxide as a general catalyzer of ferricyanide oxidations; a preliminary communications.

p. 294. (MAGYAR KEMIAI FOLYOIRAT) Vol. 63, no. 10, Oct. 1957
Budapest, Hungary

SO: Monthly Index of East European Accessions (EEAI) LC, Vol. 7, No. 3,
March 1958

SOLYMOSI, FRIGYOS
 (HUNGARY) / Analytical Chemistry. Analysis of Inorganic
 Substances.

E-2

Abstr Jour : Ref Zhur - Khim., No 10, 1958, No 32194

Author : Frigyes Solymsi

Inst : ~~Magyar Kem. Folyóirat~~

Title : Rapid Determination of Solonite with Potassium Ferrocyanide.

Orig Pub : Magyar kem. folyóirat, 1957, 63, No 11, 313-316.

Abstract : A new simple method of SO_3^{2-} determination based on the oxidation of SO_3^{2-} to SO_4^{2-} with potassium ferrocyanide was developed. The oxidation reaction proceeds at a noticeable rate in a strongly alkaline medium (3.5 to 5 n. referring to NaOH or 2.3 n. referring to KOH) at heating (55 to 65°), but the solution becomes suitable for titration only in the presence of the catalyst OsO_4 . The solution to be analyzed is heated to 55 to 65°, 3 drops of 0.01 N OsO_4 solution is

Card 1/2

16

(HUNGARY) / Analytical Chemistry. Analysis of Inorganic Substances.
 "APPROVED FOR RELEASE: 08/25/2000" CIA-RDP86-00513R001652410004-8"

Abstr Jour : Ref Zhur - Khim., No 10, 1958, No 32194

added and the titration is carried out with 0 (sic) M $\text{K}_3\text{Fe}(\text{CN})_6$. The final point of titration is determined either by the method of final sharp point or potentiometrically. The determination error is 0.15 to 0.2%. The influence of foreign ions was studied in detail. All ions, the oxidation potentials of which are below that of the reagent, interfere. Ammonia (over 0.02 n.), tellurates and tellurites bind the catalyst. In the presence of Hg^{2+} and Tl, it is possible to determine the final point of titration only potentiometrically.

Card 2/2

HUNGARY / Inorganic Chemistry. Complex Compounds. C

Abs Jour: Ref Zhur-Khimiya, No 3, 1959, 7732.

Author : Csanyi, L. J., Solymosi, F.
Inst : Hungarian Academy of Sciences.
Title : Reactions Between Peroxide Compounds and Thiocyanide Ions. On the Existence of Solvate Peroxides (Peracids of a New Type).

Orig Pub: Acta chim. Acad. scient. hung., 1958, 15, No 3, 231-255.

Abstract: See RZhKhim, 1957, 63296.

Card 1/1

32

F. Solymosi

27 Analytical applications of the reaction between sodium arsenite and iron(III) cyanide catalyzed by osmium tetroxide. F. Solymosi (Univ. Szeged). *Acta Chim. Acad. Sci. Hung.* 16: 287-29 (1958) (in English).—By using OsO_4 as an homogeneous catalyst the reaction between Fe(III) cyanide (I) and arsenite (II) was accelerated to the point where the direct titration was feasible of I with II at low alkali concns. (i.e., 4.5N NaOH at 55°). End points are detd. potentiometrically or by the dead-stop method. The method was successfully applied to the back-titration of I in the presence of oxidation products of Sb(III), V(IV), As(III), Sn(II), Cr(III), Co(II), Hg(I), U(IV), Fe(II), Ce(III), peroxide, S, saccharose, hydrazine, thiocyanate, and hydroxylamine. W. A. Van Hook

5
2.11.57

Ed

Distr: 4E2c/4E3c

Analysis of peroxy compounds. V. Direct determination of peroxy compounds in the presence of each other by means of arsenious acid. J. J. Csányi and P. Solymosi (Univ. Szeged). *Acta Chim. Acad. Sci. Hung.* 17, 69-80 (1958) (in German); cf. *C.A.* 52, 19687g. — H_2O_2 , H_2SO_5 , and $H_2S_2O_8$ can be detd. in the presence of each other. Detn. in one sample: Add to a 1-2N H_2SO_4 soln. of the material to be analyzed 0.1-0.2 g. of KBr and titrate the soln. for H_2SO_5 with arsenious acid. Then to the soln. add 2 g. more of KBr, 2 drops 0.01 M OsO_4 , and 1-2 ml. of 5% $(NH_4)_2MoO_4$ soln., and det. the H_2O_2 . Finally heat the soln. to a temp. of 60-70°, increase the H_2SO_4 concn. to 20-25%, and det. $H_2S_2O_8$. In all 3 titrations use polarized Pt electrodes or a Pt-C electrode pair. Detn. in 2 samples: In the first sample det. H_2SO_5 , as above. To the second sample add 2 drops of OsO_4 soln., and titrate the sum of the H_2SO_5 and H_2O_2 . Finally det. $H_2S_2O_8$ as above. Use a Pt-C electrode pair. Results by either method are accurate to within 0.002 meq. for all 3 components. The method is also suitable for the detn. of other peroxy compds. (e.g., peroxyacetic and peroxyphosphoric acid). O. I. Milner—

4
2

U1
V1

7/c

SOLEMOSI, F.

SCIENCE

PERIODICALS: ~~ACTA ZOOLOGICA. Vol. 64, No. 7/8 July/Aug. 1958~~
MAGYAR KEMENYI FOLYHAT. Vol. 64, No. 7/8 July/Aug. 1958

Solymosi, F. Mechanism and analytical use of ferricvanide oxidations catalyzed by osmium tetroxide. p. 245.

Monthly list of East European Accessions (EEAA) IC Vol. 6, No. 2,
February 1959, Unclass.

Country : Hungary F-2
Category : Analytical Chemistry - Analysis of inorganic substances
Abs. Jour : Referat Zhur - Khim, No 13, 1959 45581
Author : Solymosi, F. and Varga, A.
Institut. : Not given
Title : Analytical Applications of Ferricyanide Oxidation Reactions Catalyzed by Quadrivalent Osmium. II. Direct Determination of Sulfur Compounds by Titration
Orig. Pub. : Magyar Chem Folyoirat, 64, No 11, 443-447 (1958)
Abstract : It has been established that the oxidation of SO_3^{2-} , $\text{S}_2\text{O}_4^{2-}$, $\text{S}_2\text{O}_3^{2-}$, S^- [sic], $\text{S}_2\text{O}_3^{2-}$, and $\text{S}_4\text{O}_6^{2-}$ to SO_4^{2-} by ferricyanide (I) in alkaline medium is markedly accelerated by the presence of small amounts of OsO_4 ; under the conditions determined the above reactions are quantitative, instantaneous, and can be used for analytical purposes. NaOH is added to the solution to be analyzed until its concentration is 4.5-5 N, after which the solution is heated to 50-60°, 2-3 drops of 0.01 M

Card: 1/4

Country : Hungary E-2
 Category : Analytical Chemistry - Analysis of inorganic
 substances 45581
 Abs. Jour : Referat Zhur - Khim, No 13, 1959
 Author :
 Institut. :
 Title :
 Orig. Pub. :
 Abstract : and the oxidation of SO_3^{2-} by atmospheric oxygen
 is neglected. The error in all cases is
 0.1-0.2%. The investigation of the applicability
 of the method to the determination of $\text{S}_4\text{O}_6^{2-}$ has
 shown that side reactions involving the alkaline
 hydrolysis of $\text{S}_4\text{O}_6^{2-}$ do not take place during
 the analysis and that the decomposition can follow
 only the reaction scheme:

$$2\text{S}_4\text{O}_6^{2-} + 6\text{OH}^- = 5\text{S}_2\text{O}_3^{2-} + 3\text{H}_2\text{O}$$
 ($\text{S}_2\text{O}_3^{2-}$ and SO_3^{2-} are subsequently oxidized to

Card: 3/4

"APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001652410004-8"

Country : Hungary E-2
 Category : Analytical Chemistry - Analysis of inorganic
 substances 45581
 Abs. Jour : Referat Zhur - Khim, No 13, 1959
 Author :
 Institut. :
 Title :
 Orig. Pub. :
 Abstract : SO_3^{2-}). The authors report an interesting ob-
 servation: during the reaction of SO_3^{2-} with I
 in the absence of the catalyst under the condi-
 tions described, the solution changes color from
 green to red; in the opinion of the authors this
 change involves the primary formation of a green-
 colored complex which on combining with I is
 transformed into a binuclear red-colored complex.
 For communication I see RZhKhim, No 10, 1958,
 32194.

I. Krishtofori

Card: 4/4

SOLYMOSI, F., VARGA, A.

Analytic applications of ferricyanide oxidations catalyzed by osmium tetroxide.
III. Determination of sulphur compounds in the presence of each other. In
English, p. 399

ACTA CHIMICA. Budapest, Hungary, Vol. 20, No. 4, 1959

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

Reaction between Ce(IV) ions and peroxyulfuric acid. L. J. Csányi, F. Solymosi, and J. Szucs (Univ. Szeged, Hung.). *Naturwissenschaften* 46, 353(1959)(in English).— With $Ce(SO_4)_2$ and in the presence of SO_4^{--} the decompn. of H_2SO_5 in 1 min. increases in proportion to the concn. of Ce^{++} ions. However, the decompn. reaches 50% even when the initial concn. of Ce^{++} is 0.1 the amt. of H_2SO_5 . When Ce^{+++} is added, the decompn. decreases, depending on the ratio of Ce^{++} to Ce^{+++} . If this value reaches 0.1, the decompn. practically stops. The data show that the decompn. cannot be described by a simple stoichiometric equation. The amt. of O evolved is a little greater than that calcd. from the equation $H_2SO_5 \rightarrow \frac{1}{2}O_2 + H_2SO_4$, and indicates a side reaction. No O_2 is detected in the evolved O. With $Ce(NO_3)_3$ the presence of NO_3^- causes the reaction between H_2SO_5 and Ce^{++} to be more rapid than in the presence of SO_4^{--} . The rate of reaction, contrary to expts. with $Ce(SO_4)_2$, increases on the addn. of Ce^{+++} and 2 to 3 times the Ce^{++} disappears. In the presence of SO_4^{--} in soln. nonreacted Ce^{++} always remains; in the presence of NO_3^- , the ratio of H_2SO_5 and Ce^{++} being 5:1 or less, all Ce^{++} rapidly disappears. Over a longer period, however, H_2SO_5 reacts quant. On adding SO_4^{--} or $C_2H_3O_2^-$ to $Ce(NO_3)_3$ soln. the rate of decompn. decreases. The decompn. of H_2SO_5 may be ascribed to the free, non-complexed Ce^{++} ions. George Meister.

4426 3
5/29/59

TA
1/1

That one

2 *4*

~~Change of catalytic activity and electric conductivity of the mixed oxide $MgO-Cr_2O_3$ during spinel formation. Z. G. Szabó and E. Solymosi (Univ. Szeged, Hung.). Z. Elektrochem. 63, 1177-83(1959); cf. C.A. 34, 2921g.—Catalytic and elec. properties of mixed oxides $MgO-Cr_2O_3$ were investigated as a function of sintering temp. During spinel formation the mixed oxides have enhanced catalytic activity, which is brought into direct relation with a higher defect-electron-cond. during the intermediate states by cond. measurements.~~

H. H. Jaffe

HUNGARY/Analytical Chemistry - Inorganic Analysis.

E

Abs Jour : Ref Zhur Khimiya, No 20, 1959, 71251

Author : Solymsi, Frigyes; Varga, Andras

Inst : -

Title : Analytical Utilization of Oxidation Reactions with Ferricyanide Catalyzed by Osmium Tetroxide. III. The Determination of Sulfur Compounds Simultaneously When Present

Orig Pub : Magyar kem. folyoirat, 1959, 65, No 2, 52-55

Abstract : A simple method for the determination of S compounds based on their ease of oxidation with K ferricyanide (I) at different conditions has been worked out. $S_2O_4^{2-}$ upon titrating with 0.1 N. solution of I in a weakly alkaline medium (0.5-1 N.NaOH) is oxidized only to SO_3^{2-} (in N_2 atmosphere). If NaOH concentration is changed to 4-4.5 N, 2-3 drops 0.01 M. OsO_4 are added, and the solution titrated with the solution of I at

Card 1/2

- 9 -

Soly mosi, FRIGYES

The change of the catalytic activity and electrical conductivity of MgO-Cr₂O₃ mixed oxide during spinel formation. Zoltán G. Szabó and Frigyes Soly mosi (Univ. Szeged, Hung.). *Z. anorg. u. allgem. Chem.* 301, 225-7 (1959).— The influence of ignition temp. (300-1100°) on the elec. cond. of a 1:1 MgO-Cr₂O₃ catalyst and on the catalytic effect of the oxide on the decompn. of HCO₂H are studied. The elec. cond. and catalytic effect increase slightly as the ignition temp. increases from 100° to 600°, then rise sharply. Above 600° the elec. cond. falls steadily for higher ignition temps. but the catalytic effect has a broad max. near 800°. The elec. cond. is independent of O pressure. The activation energy for the HCO₂H decompn. change little for oxide preps. ignited at 600-800° but increases sharply for ignition temps. above 900°. The increase in cond. and catalytic effect correlate well with spinel formation, shown by color changes at 600° and appearance of MgCr₂O₄ lines in the x-ray diffraction pattern at 700°. Richard H. Jaquith

4/
1959 (nb)

Card 1/1

ant

97

II/005/60/000/011/002/002
E142/E335

AUTHORS: Szabó, Zoltán and Solymosi, Frigyes

TITLE: Relation Between the Catalytic and Electric
Behaviour of p-type Conducting Oxides

PERIODICAL: Magyar Kémiai Folyóirat, 1960, No. 11.
pp. 469 - 475

TEXT: Mayer (Z. Elektrochem., 50, 274, 1944 - Ref. 2) and, later, Bevan, Schelton and Anderson (J. Chem. Soc., 1948, 1729 - Ref. 3) first investigated the electric properties of chromic oxide catalysts and found that the conductivity of chromic oxide increased with the partial pressure; this indicates that chromic oxide belongs to the p-conductor group. Results of later investigations by Hauffe and Block (Z. Phys. Chem., 198, 232, 1951 - Ref. 4) and Schottky, Weller and Voltz (J. Amer. Chem. Soc., 76, 4695, 1954 - Ref. 5a; Z. Phys. Chem. N.F., 5, 100, 1955 - Ref. 5b) are discussed. The authors investigated the catalytic activity of chromic and nickel oxides by studying the dehydrogenation and

Card 1/4

H/005/60/000/011/002/002
E142/E335

Relation Between

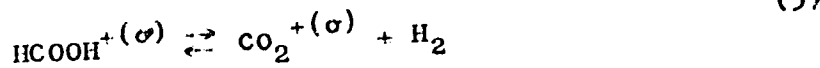
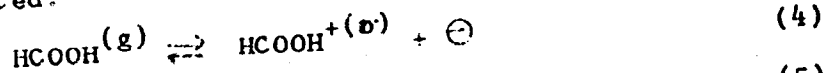
dehydration reactions of formic acid. The reaction rates were measured on a modified Schwab reactor. The following catalysts were tested. Cr_2O_3 , $\text{Cr}_2\text{O}_3\text{-TiO}_2$, $\text{Cr}_2\text{O}_3\text{-K}_2\text{O}$, $\text{Cr}_2\text{O}_3\text{-Li}_2\text{O}$. Conductivity measurements have shown that although the conductivity of Cr_2O_3 decreases under the test conditions, due to the reduction of formic acid, the p-conducting property of Cr_2O_3 is still maintained. It was found that decrease in the defect electron concentration of chromic oxide lowers the activity of the catalyst whilst increasing its activation energy. Similar conclusions were reached on comparing the initial activities of nickel oxide- Li_2O and $\text{Cr}_2\text{O}_3\text{-Ni}_3\text{O}_4$ catalysts. The authors also found that a decrease in the conductivity of the catalyst has a beneficial effect on the dehydrogenation reaction. Further experiments dealt with the catalytic and electric properties of chromic oxide contaminated with small amounts of potassium oxide. The following ^{reaction} mechanism

Card 2/4

H/005/60/000/011/002/002
E142/E335

Relation Between

is suggested:



Experimental results have also shown that the electric properties of the catalyst are affected by the selectivity of the catalyst and that variations in the concentration of defective ions affect the activation energy of the formic acid disintegration. There are 10 figures, 1 table and 16 references: 2 Hungarian and 14 non-Hungarian. The four latest English-language references quoted are: Ref. 5a (in text); Ref. 6 - R. Chaplin, R.H. Griffith and J.D.F. Marsh, Proc. Roy. Soc., A 224, 419, 1954;

Card 3/4

Relation Between

H/005/60/000/011/002/002
E142/E335

Ref. 8 - S.E. Voltz and S.W. Weller - J. Phys. Chem. 59,
566, 1955; Ref. 9 - S.E. Voltz and S.W. Weller, J. Amer.
Chem. Soc., 76, 1566, 1954.

ASSOCIATION: Szegedi Tudományegyetem Szervetlen- és
Analitikai-Kémiai Intézet
(Szeged Scientific and Research Institute for
Analytical Chemistry)

SUBMITTED. March 21, 1960

Card 4/4

SZABO, Zoltan (Szeged); SOLYMOSI, Frigyes (Szeged)

Study of the heterogeneous catalytic reactions on the basis of the theory of electrons. II. Metals and alloys as catalysts. *Kem tud kozl* (EBAI 10:2)
MTA 13 no.1:81-95 '60.

1. Szegedi Tudományegyetem Szervetlen és Analitikai Kémiai Intézete.
2. Levelező tag, Magyar Tudományos Akadémia (for Szabo)
(Catalysts) (Chemical reactions)
(Electrons) (Metals) (Alloys)

SOLYMOSI, Frigyes (Szeged)

Study of the heterogeneous catalytic reactions on the basis of the theory of electrons. III. Application of the theory of semiconductors on the problems of heterogeneous catalysts. Kem tud kozl MTA 13 no.1: 97-114 '60. (EEAI 10:2)

1. Szegedi Tudományegyetem Szervetlen és Analitikai Kémiai Intézete.
(Catalysts) (Chemical reactions) (Electrons)
(Semiconductors) (Metals)

SZABO, Zoltan G, Prof. dr. (Szeged, Beloiannisz ter 7); SOLYMOSI, Frigyes
(Szeged, Beloiannisz ter 7)

Investigations on the catalytic decomposition of formic acid as a
function of the defect structure of electron conductor titanic
dioxide; a preliminary report. Acta chimica Hung 25 no.2:145-160
'60. (EAI 10:4)

1. Institute of Inorganic and Analytical Chemistry, University
of Szeged, Hungary.

(Catalysts)	(Decomposition)	(Formic acid)
(Electrons)	(Titanium oxides)	(Dehydrogenation)
(Chromium oxides)		

SZOBO, Zoltan G., Prof., dr.; SOLYMOSI, Frigyes, dr

Correlation between the electric and catalytic properties of defect conductor oxides. Acta chimica Hung 25 no.2:161-176 '60. (EEAI 10:4)

1. Institute of Inorganic and Analytical Chemistry, University of Szeged, Hungary.

(Electric properties)	(Catalysts)	(Oxides)
(Electric conductors)	(Potassium oxides)	
(Chromium oxides)	(Nickel oxides)	(Dehydrogenation)
(Lithium oxide)	(Formic acid)	

SZABO, Zoltan; SOLYMOSI, Frigyes.

Investigation of catalytic and electrical properties of mixture oxides with chrome oxide base during the information of spinel. Magy kem folyoir 66 no.7:275-273 J1 '60.

1. Szegedi Tudományegyetem Szervetlen és Analitikai Kémiai Intézet. 2. "Magyar Kémiai Folyóirat" szerkesztő bizottsági tagja (for Szabo).

BATTA, Istvan; SCLYMCSI, Frigyes; SZABO, Zoltan

Investigation of the decomposition of dinitrogenoxide on a differently fed copper oxide catalvst. *Magy kem folyoir* 66 no.7: 278-281 J] '60.

1. Szegedi Tudományegyetem Szervetlen és Analitikai Kémiai Intezete. 2. "Magyar Kémiai Folyoirat" szerkeszto bizottsagi tagja (for Szabo).

83832

H/005/60/066/008/001/002
B020/B064

5.1190 (1231)
AUTHORS: Solymosi, Frigyes, and Szabó, Zoltán
TITLE: Effect of the Semiconductor Properties of the ¹Titanium
Dioxide Carrier on the Catalytic Properties of Metallic
Nickel
PERIODICAL: Magyar Kémiai Folyóirat, 1960, Vol. 66, No. 8,
pp. 289 - 291

TEXT: In the present paper, the catalytic properties of a nickel layer with an n-type titanium dioxide carrier are investigated as a function of the electron vacancies of titanium dioxide. The activation energy of the decomposition of formic acid as a function of the nickel content was measured, with different amounts of nickel being applied to the carrier of pure titanium dioxide annealed at high temperature. Furthermore, the effect exerted by the doping with ions of higher Sb_2O_5 , WO_3 and lower Be_2O_3 valency was studied. It was found that the reduction of the electrical conductivity of titanium dioxide (doping with ions of

Card 1/3

83832

Effect of the Semiconductor Properties of the
Titanium Dioxide Carrier on the Catalytic
Properties of Metallic Nickel

H/005/60/066/008/001/002
B020/B064

lower valency) reduces the activation energy of the decomposition of formic acid, whereas an increase in the electrical conductivity (doping with ions of higher valency) increases the activation energy measured on pure nickel. The results obtained from the doping of nickel oxide (Table 1) showed that an addition of only 1% of NiO reduced the activation energy considerably, with an especially high reduction at 5 mole% NiO. On adding chromium oxide, the doping mechanism depends to a great extent on the gas medium used in annealing. In the authors' opinion, the rise in conductivity due to chromium oxide is caused by the formation of a p-type layer in the oxygen medium on the surface of the carrier. Nickel oxide constitutes a similar case; the surprisingly great reduction in the activation energy is not due to the decreasing conductivity of titanium dioxide, but above all to the formation of a particularly effective Ni/NiO contact. The results obtained were also discussed by comparison with those of G. M. Schwab and his collaborators, and it was pointed out that shortly after Schwab the authors published an article on the carrier properties of nickel oxide (Ref. 2). This

Card 2/3

83832

Effect of the Semiconductor Properties of the Titanium Dioxide Carrier on the Catalytic Properties of Metallic Nickel H/005/60/066/008/001/002
B020/B064

paper was read at the szegedi Vegyészkonferencia (Meeting of Chemists at Szeged) of the Magyar Kémikusok Egyesülete (Society of Hungarian Chemists) in 1959. There are 1 table and 3 references.

ASSOCIATION: Szegedi Tudományegyetem Szervetlen- és Analitikai-Kémiai Intézete (Institute of Inorganic and Analytical Chemistry of the Academy of Sciences, Szeged)

SUBMITTED: October 30, 1959

4

Card 3/3

26898

H/005/61/000/010/002/002
D239/D302

Thermal decomposition of...

ity resulted in an increase of the reaction rate, the decrease of the conductivity in a decrease of the reaction rate and an increase in the induction period. On the other hand, the activation energy values remained practically unchanged as a result of the above variations. The explosion resulting from the mixture of NH_4ClO_4 and ZnO with a ratio between 300:1 and 10:1 was extremely violent and accompanied by flame. With a 50:50 ratio the decomposition of NH_4ClO_4 still resembled a mild explosion, while with a further increase of ZnO only a weak detonation took place. The experiments revealed furthermore, that the presence of only 0.2 % of zinc oxide set the explosion temperature of NH_4ClO_4 at about 240°C , which is 200°C less than quoted by A.K. Galwey and P. W. M. Jacobs (Ref. 5: J. Chem. Soc., 5031, 1960), who also stated that the proton transfer mechanism is the decisive factor in the explosion phenomena, whereas, in fact, the activation energy values

Card 2/5

26898

H/005/61/000/010/002/002
D239/D302

Thermal decomposition of...

found by the authors are close to 32 kcal which corresponds to the electron transfer mechanism. Values of the activation energy of various samples are shown in Table 1 and 2. There are 2 tables, 2 figures and 5 references: 4 non-Soviet-bloc and 1 Soviet-bloc. Their references to the English-language publications read as follows: L. L. Bircumshaw and B. H. Newman: Proc. Roy. Soc., A227, 115, 1954; Proc. Roy. Soc., A227, 228, 1955; A. K. Galwey and P. W. M. Jacobs: Proc. Roy. Soc., 254, 455, 1960; J. Chem. Soc., 827, 1959; A. K. Galwey and P. W. M. Jacobs: Trans. Faraday Soc., 55, 1165, 1959; A. K. Galwey and P. W. M. Jacobs: J. Chem. Soc., 5031, 1960.

ASSOCIATION: Szegedi Tudományegyetem Szervetlen- és Analitikai Kémiai Intézete (Inorganic and Analytical Chemistry Institute of the Szeged University of Sciences)

X

Card 3/5

SZABO, Zoltan; SOLYMOSI, Frigyes

Investigation of the catalytic decomposition of formic acid as a function of the defect structure of the electron-conducting titanium dioxide. Magyar kem folyoir 66 no.11: 462-468 N '60.

1. Szegedi Tudományegyetem Szervetlen és Analitikai Kémiai Intézete. 2. "Magyar Kémiai Folyoirat" szerkeszto bizottsagi tagja (for Szabo).

SAZBO, Zoltan; SOLYMOSI, Frigyes

Correlation between the electrical and catalytic properties of the defect conducting oxides. Magyar kem folyoir 66 no.11:469-475 N '60.

1. Szegedi Tudományegyetem Szervetlen és Analitikai Kémiai Intézete. 2. "Magyar Kémiai Folyoirat" szerkeszto bizottsagi tagja (for Szabo).

SOLYMOSI, Frigyes, a kémiai tudományok kandidátusa (Szeged)

An account of my study trip in the German Democratic Republic. Kem
tud kozl MTA 16 no.1:139-141 '61.

1. Szegedi Tudományegyetem Szervetlen és Analitikai Kémiai Tanszéke.

(Catalysts) (Hungarians in Germany, East)

SZABO, Zoltan; SOLYMOSI, Frigyes, kandidatus; EGRI, Laszlo

The effect of the electrical properties of carriers on the activity of catalysts. Kem tud kozl 18 no.3:447-458 '62.

1. Szegedi Tudományegyetem Szervetlen és Analitikai Kémiai Tanszéke, Szeged. 2. Akadémiai levelező tag, és "A Magyar Tudományos Akadémia Kémiai Tudományok Osztályának Közleményei" szerkesztő bizottsági tagja (for Szabo).

SOLYMOSI, Frigyes, a kémiai tudományok kandidátusa

An account of my Prague study trip. Kem tud kozl MTA 18 no.4:625-626 '62.

1. Szegedi Tudományegyetem Szervetlen és Analitikai Kémiai Tanszék, Szeged.

SOLYMOSI, Frigyes; REVESZ, László

Catalysis of solid-phase reactions; thermic decomposition of ammonium-perchlorate in presence of iron oxide. Magyar kémiai folyóirat 68 no.6:255-262 Jé '62.

1. Szegedi Tudományegyetem Szervetlen- és Analitikai-Kémiai Tanszéke.

SOLYMOSI, Frigyes; KRIX, Nora

Catalysis of solid-phased reactions; thermal decomposition of potassium-chlorate in presence of various metal-oxide catalysts. Magy kem folyoir 68 no.7:283-289 J1 '62.

1. Szegedi Tudományegyetem Szervetlen- és Analitikai-Kémiai Tanszéke.

BATTA, Istvan; SOLYMOSI, Frigyas; SZABO, Zoltan

Investigating the catalytic and electrical properties of copper (II)-oxide. Magyar kem folyoir 68 no.9:401-408 S '62.

1. Szegedi Tudományegyetem Szervetlen és Analitikai kémiai Intézete. 2. "Magyar Kémiai Folyóirat" szerkesztő bizottsági tagja (for Szabo),

SOLYMOSI, Frigyes; KRIX, Nora

Catalysis of solid-phase reactions. Magyar folyoir 68
no.10:454-461 0 '62.

1. Szegedi Tudományegyetem Szervetlen- és Analitikai-Kémiai
Intézete.

SHOL'MOSHI, F. [Solymosi, F.]; REVES, L. [Revesz, L.]

Catalysis of reactions in the solid phase; the thermal decomposition of ammonium perchlorate in the presence of ferric oxide. *Ain. i kat.* 4 no.1:88-96 Ja-F '63. (MIRA 16'3)

1. Institut neorganicheskoy i analiticheskoy khimii pri Universitet g. Seged, Vengriya.
(Ammonium perchlorate) (Iron oxides) (Catalysis)

1963, 117, 118, 119, 120, 121, 122, 123, 124.

and reactions within the peroxy compounds. It. J.
1963, phys. chem. Szeged 9 no. 3/4:107-115 '63.

1, Institute of Inorganic and Analytical Chemistry,
Szechenyi Attila University, Szeged.

CSANYI, Laszlo; BATYAI, Jeno; SOLYMOSI, Frigyes

Induced reactions in the field of peroxy compounds. Pt.4. Magyar
folyoir 69 no.4:158-165 Ap '63.

1. Szegedi Tudományegyetem Szervetlen- és Analitikai-Kémiai Tanszéke;
Rekaciokinetikai Akadémiai Kutató Csoport.

SOLYMOSI, Frigyes, a kemiai tudományok kandidátusa

An account of my study trip to England. Kem tud kozl MTA 22 no.2:
291-296 '64.

1. Chair of Inorganic and Analytic Chemistry, Attila Jozsef
University, Szeged.

BATA, I. [Betts, I.]; SHOL'MOSHI, F. [Solymosi, F.]; SABO, Z.G. [Szabo, Z.G.]

Effect of spinel formation on the catalytic and electric properties
of the nickel oxide - chromium oxide system. *Kim. i kat.* 5 no.5:
842-848 S-O '64. (MIRA 17:12)

1. Institut neorganicheskoy i analiticheskoy khimii universiteta
goroda Seged, Vengriya.

L 63189
ACCESSION NR: AT5021759

HU/2502/64/041/01-/0219/0229

AUTHOR: Batta, Istvan (Doctor)(Szeged); Bansagi, Tamas (Banshagi,T.)(Szeged);
Solymsi, Frigyes (Shol'moshi,F.)(Doctor)(Szeged); Szabo, Zoltan G. (Sabo, Z.G.)
(Doctor)(Szeged)

TITLE: Dependence of the properties of spinels on the conditions of their formation ²⁰ _{BH}

SOURCE: Academia scientiarum hungaricae. Acta chimica, v. 41, no. 1-2, 1964,
219-229

TOPIC TAGS: mineral, x ray diffraction analysis, spectroscopy

ABSTRACT: This article is a text of the authors' paper presented at the XIXth I
International Congress of Pure and Applied Chemistry, held in London, England,
17 Jul 63. The X-ray diffractometric, spectroscopic, and chemical characteristics
of spinels obtained or formed by various means were established and discussed.
Orig. art. has: 14 graphs.

ASSOCIATION: Institute of Inorganic and Analytical Chemistry, A. Jozsef Univer-
sity, Szeged; Reaction Kinetical Research Group, Hungarian Academy of Sciences,
Szeged
Card 1/2

L 63189-65

ACCESSION NR: AT5021759

SUBMITTED: 14Feb64

ENCL: 00

SUB CODE: GC, OP

NR REF SOV: 000

OTHER: 000

JPRS

XCard 2/2 *MLR*

L 16004-06 EWP(m)/T/EWP(t)/ETI IJP(c) JD/NW/JW/JND
ACC NR: AF034713 SOURCE CODE: HU/0005/65/07I/008/0346/0352

AUTHOR: Solymosi, Frigyes, Department of Inorganic and Analytical Chemistry, Jozsef Attila Scientific University (Jozsef Attila Tudományegyetem Szervetlen- és Analitikai Kémiai Tanszéke) Szeged.

"Initiation of the Detonation of Ammonium Perchlorate with Chromium Trioxide - Titanium Dioxide Catalysts"

Budapest, Magyar Kémiai Folyóirat, Vol 71, No 8, Aug 1965, pp 346-352.

TOPIC TAGS: perchlorate, detonation

Abstract: This article is an expanded version of the author's lecture delivered at the 17 Jul 1963 meeting of the International Union of Pure and Applied Chemistry (IUPAC) in London, England. The effects of P-type Cr_2O_3 and N-type TiO_2 on the detonation of NH_4HClO_4 were investigated. The former significantly reduced the detonation temperature; the latter was largely ineffectual. The results of the experiments were described and discussed in detail. The author thanks Chemical Technician Ferenc Takacs for assistance in carrying out of the tests. Orig. art. has: 10 figures and 3 tables. [JPRS]

SUB CODE: 07 / SUBM DATE: 11Jan65 / ORIG REF: 001 / OTH REF: 006

L 9594-66 F33-2/EWT(1)/T/EWP(t)/FCS(k)/EWP(h) I,JP(a)/RPL JD/WK/JQ/JWD/WE
ACC NR: AF600202C SOURCE CODE: HU/0005/65/071/012/0556/0557

58
55
B

AUTHOR: Solyosi, F.; Miklos, R.

ORG: Jozsef Attila University, Department of Inorganic and Analytical Chemistry,
Szede (Jozsef Attila Tudomanyegyetem Szervetlev- es Analitikai-Kemial Tanszeke)

TITLE: Thermal stability of ammonium perchlorate-lithium perchlorate mixtures

SOURCE: Magyar kemial folyoirat, v. 71, no. 12, 1965, 556-557

TOPIC TAGS: ammonium perchlorate, thermal decomposition, chemical explosion,
lithium perchlorate

ABSTRACT: A study has been made of the decomposition and explosion of ammonium perchlorate [AM]-lithium perchlorate [LP] mixtures in solid solution and molten state. The function of LP was to act as an additive which lowers the decomposition temperature, induces melting and makes it possible to study slow decomposition of AP in the molten state. AP and LP form a eutectic at a component ratio of 30.5/69.5 mol%. The slow decomposition of mixtures containing 10 to 80% LP was studied at 200 to 280C. The highest degree of AP decomposition (90 to 95%) was observed at 10% LP. The decomposition degree dropped with increasing LP content. The eutectic and mixtures containing LP in excess did not decompose even at 270C for 24 hr. The activation energy for AP decomposition was 32 kcal, a value in good agreement with that obtained on the basis of an electron transfer mechanism. The decomposition of AP-LP

Card 1/2

L 9594-66

ACC NR: AP6002020

3

mixtures was also studied at above 280C when, depending on temperature and composition, weaker or stronger explosions occurred. Decomposition of AP in the eutectic started at 290C and was followed by a violent detonation within seconds (pure AP explodes at 440C). Orig. art. has: 1 table. [BO]

SUB CODE: 07, 19/ SUBM DATE: 07Jul65/ ORIG REF: 001/ OTH REF: 005/
SOV REF: 001/ ATD PRESS: 4163

ADD CLUE WORD:

Explosive 5, 4455

beh
Card 2/2

L 20577-66 ETC(F)/EWG(M)/EWP(J)/T/ETC(M)-6 DS/WM/JW/JWD/WE/RM

ACC NR: AP6010197

SOURCE CODE: HU/0005/66/000/003/024/029

AUTHOR: Solyosi, Frigyes; Dobo, Klara 1/13ORG: Jozsef Attila University, Department of Inorganic and Analytical Chemistry, Szeged (Jozsef Attila Tudományegyetem, Szervetlen-és Analitikai-Kémiai Tanszék); Reaction Kinetics Research Group of the Academy (Reakciókinetikai Akadémiai Kutató Csoport)TITLE: The effect of impurities on the thermal decomposition and explosion of ammonium perchlorate 1/1

SOURCE: Magyar kémiai folyóirat, no. 3, 1966, 124-129

TOPIC TAGS: ammonium perchlorate, thermal decomposition, chemical explosion, kinetic measurement, decomposition rate, activation energy, catalytic decomposition, electron transfer catalysis, explosion temperature

ABSTRACT: The thermal decomposition of ammonium perchlorate was studied in the presence of low concentrations (below 1%) of different impurities, such as iodide, bromide, silver(I), copper(II) and iron(III) ions. Detailed kinetic measurements were made between 200 and 240C as well as 260 and 330C. In the lower temperature range all the impurities decrease the induction period and increase the rate of decomposition of ammonium perchlorate. The activation energies found for the catalytic decomposition are in good agreement with the values corresponding to a process occurring via an electron transfer mechanism. At above 260C the decomposition of
Card 1/2 2

L 20577-66

ACC NR: AP6010197

contaminated ammonium perchlorate became extremely rapid and led to explosion. This indicates that the presence of impurities may lower the explosion temperature by about 140 to 180C. The effect of the impurities is explained in terms of electron transfer catalysis, and the part played by the character of the impurity is considered. Orig. art. has: 7 figures and 4 tables. [KS]

SUB CODE: 19/ SUBM DATE: 07Jul65/ ORIG REF: 002/ OTH REF: 004/ ATD PRESS: 4223

Card 2/2 PK

S. SIMON, János

Analysis and synthesis of communication networks. Hírtechnika
1965.3:65-69. Mar '65.

1. Chair of Wire Telecommunication Engineering of Budapest
Technical University.

SOLYMOSI, Janos

Usability of electrically heated aluminum annealing salt
tank furnaces and the prevention of explosions. Koh lap
9 no. 2: 92-94 F '54.

SOLYMOSI, Janos

Analysis of linear networks by means of efficiency graphs. Hir
techn. 14 no.5:161-167 0 '63.

1. Budapesti Muszaki Egyetem Vezetekes Hiradastechnikai Tanszek.

SOLYMOSI, Janos, okleveles gepeszmernok

Some problems relative to the efficiency of induction and
resistance-fired furnaces. Elektrotechnika 56 no.11/12:
550-555 N-D'63.

1. Villamosgep- es Kabelgyar osztalyvezetoje, Budapest, X.,
Gyomroi ut 128.

EDER, Sandor, dr.; SOLYMOSI, Jozsef

Radiation protection of the rough structure X-ray investigations
performed in the open air. Munkavedelem 8 no.7/9:44-46 '62.

1. Orszagos Munkaegeszsegugyi Intezet.

SOLYMOSI, S.

✓ 71. Photoelectric instrument for measuring the depth of settled mud. S. Solymsai. *Hidrologiai Közlemény.* Vol. 36, 1950, No. 1, pp. 65-67, 5 figs.

660
For the determination of the quantity of mud settling in unit time from town sewage it is advisable to execute as many measurements as possible in existing installations. Weight and dimensions of the electronic measuring instrument operating by light effect can be greatly reduced and the precision of measurement can also be boosted if the uncertain visual determination of light intensity is substituted by the use of a photo-cell-operated microammeter. Detailed description and illustration are given of the instrument suggested. The instrument appears suitable for the checking of the thickness of the mud layer deposited in single-level settling tanks as for the effectiveness of the discharge or for dredging of mud. The first tests executed with the apparatus have yielded favourable results.