

HALA, S.; LAMDA, S.

"Composition of brown coal and selfur tar". IV. Paraffins. In German. p. 203

COLLECTION OF CZECHOSLOVAK CHEMICAL COMMUNICATIONS, Praha, Czech.,
Vol. 24, No. 1, Jan. 1959.

Monthly List of East European Accessions (SEAI), LC, Vol. 8, No. 6, Sept. 59
Unclassified.

Country : CZECHOSLOVAKIA
Category: Organic Chemistry. Organic Synthesis

G

Abs Jour: RZhKhim., No 17, 1959, No 60789

Author : Landa, S ; Hala, S.

Inst : -

Title : Adamantane and its Derivatives. III. New Synthesis Method and New Homologues

Orig Pub: Collect. Czechosl. Chem. Commun., 1959, 24, No 1, 93-98

Abstract: See Ref Zhur-Khimiya, 1958, No 24, 81566

Card : 1/1

G-6

COUNTRY : CZECHOSLOVAKIA II
 CATEGORY : Chemical Technology, Chemical Products and Their
 Applications, (Chemical Processing of Natural Gases)
 ABST. JOUR. : RUSSEAN., No. 11, 1969, No. 69140
 AUTHOR : Mandl, S.; Pejak, J.
 INSTITUTE : -
 TITLE : Detection of Adamantane in Crude oils by Means of
 Carboxyl Derivation with Chloroform
 ORIG. PUB. : Chem. Zvesti, 1969, 7, 16-18, 345-350

ABSTRACT : It is found that adamantane (I) (symmetrical tri-
 cyclo-(1, 1, 3, 3)-decane) detected in the Gode-
 vinskaya crude in Czechoslovakia forms with thion-
 chlores a stable crystalline adduct type compound. A
 rapid and sensitive detection method, based on the
 above reaction is proposed for I. It is demon-
 strated that I is present in concentrations $\geq 0.02-0.03\%$
 in several other naphthenic crudes of Czechoslova-
 kia. -- Ya. Satunovskiy.

and Petroleum, Motor and Rocket Fuels, Lubricants.

Card: 1/1

LANDA, Stanislav; HALA, Slavoj; WEISSNER, Otto; STRILEK, Vladislav;
SONSKY, Jan

Composition of lighter portions of Hodonin crude oil. Sbor.pal.vod.
VSCHT 1958:21-43. (ERRAI 9:4)

1. Katedra syntetických pohonných latek, Vysoká škola chemicko-
technologická, Praha.
(Czechoslovakia--Petroleum)

CZECHOSLOVAKIA/Organic Chemistry. Synthetic Organic Chemistry. C-2

Abs Jour: Ref Zhur-Khim., No 24, 1958, 81566.

240°C./745 mm., m.p. -58°C., n_D^{20} 1.4955. The heating of 5 grams of III and 20 grams of C_2H_5Cl with sodium in petroleum ether at -10°C. leads in addition to II and IV to the formation of propylademantan, yield 0.51 grams, b.p. 251°C./748 mm., m.p. -1°C., n_D^{20} 1.4962. The IR spectra of II, IV - VI are given. Communication II: see Ref. Zh. Khimiyu, 1956, 71664.

Card : 3/3

CZECHOSLOVAKIA/Organic Chemistry. Synthetic Organic Chemistry. G-2

Abs Jour: Ref Zhur-Khin., No 24, 1958, 81566.

118.2°C. (from methanol) which (4.4 g) by shaking with sodium (6 days in ether in a welded pipe) forms diadamantyl (IV), yield 1.9 grams, m.p. 296°C. (from benzene - methanol). Upon heating 6.1 gms. of III with 7 grams of sodium in 200 ml of benzene (4 hours at 200°C. in autoclave), phenyladamantan was formed (V), yield 1.7 grams, m.p. 82°C. (from benzene and methanol), which upon hydrogenation over Pt (from PtO₂) in glacial acetic acid formed cyclohexyl adamantan (VI), yield 0.5 grams (from 0.48 grams of V), m.p. 104.5°C. (from methanol). Upon shaking 4.15 grams of III and 20 grams of C₂H₅Br with sodium in ether (10 days), one obtained 0.8 grams of IV and 0.2 grams of ethyladamantan, b.p.

Card : 2/3

CZECHOSLOVAKIA/Organic Chemistry. Synthetic Organic Chemistry. 3-2

Abs Jour: Ref Zhur-Khim., No 24, 1958, 81566.

Author : Landa S., Hala S.

Inst :

Title : Adamantan and Its Derivatives. III. A New Method of Separation, and New Homologs.

Orig Pub: Chem. listy, 1957, 51, No 12, 2325-2329.

Abstract: Adamantan (II) was separated from Godonine naphtha with the help of thiourea (I), (66 kg of the fraction, steam distilled, 7.7 kg of I and 6.2 kg of CH_2CH were mixed for two hours and the adduct formed is washed with hexane, is decomposed with 10 liters of water, steam distilled, cooled to -50°C . and a 224 kg yield of II is obtained, m.p. 270°C .) Promadhanan (III) is obtained from II (R. Zh. Khimiya, 1954, 39437), m.p.

Card : 1/3

HALA, Maria; KAROLYI, Tibor

The quantitative blood picture during labor. Magy. noorv. lap. 21
no.1:50-55 Feb 58.

1. Jarasi kor korhaz szuleszet-nogyogyaszati osztalyanak kozlemenye -
Saby-Ipolysay (CSR) (Osztalyvezeto: Karolyi Tibor dr.)
(LABOR, blood in
quantitative blood picture (Hun))

HALA, M.; TRNEKA, M.

Czechoslovak forming machines at the Czechoslovak Trade Fair. p. 304

STROJIRENSKA VYROBA. (Ministerstvo tezkého strojirenstvi, Ministerstvo presneho strojirenstvi a Ministerstvo automobilovoho prumyslu a zemdel'skych stroju)
Praha, Czechoslovakia. Vol. 7, no. 9, Sept. 1959

Monthly List of East European Accessions (MEAL) LC, Vol. 8, No. 12, Dec. 1959
Uncl.

HALA, F.

Can frame eccentric press. p. 45. (CZECHOSLOVAK HAVY HP 1957, No. 10, 1957, Prague, Czechoslovakia)

SO: Monthly List of East European Accessions (SHEM) LS, Vol. 6, No. 12, Dec 1957. Uncl.

HALA, K.; HOJNY, J.

Blood groups of the H system in pigs. Folia Biol. (Prato)
10 no. 3:239-244 '64.

1. Laboratory of Physiology and Genetics of Animals,
Czechoslovak Academy of Sciences, Litochov(For Hojny) J.
Institute of experimental Biology and Genetics, Czechoslovak
Academy of Sciences, Prague (For Hala).

HALA, K.; HOJNY, J.

A new blood factor of the L system of pigs. Folia biol. (Praha)
9 no.4:275-280 '63.

1. Laboratory of Animal Physiology and Genetics, Czechoslovak
Academy of Sciences, Libechov near Melnik.
(BLOOD GROUPS) (ERYTHROCYTES)
(ANTIGEN-ANTIBODY REACTIONS)

HALA, J.

"Rigidity of shaping machines." p. 263.

STROJIRENSTVI. (Ministerstvo tezkého strojirenstvi, Ministerstvo presného strojirenstvi a Ministerstvo automobilového prumyslu a zemedelských stroju). Praha, Czechoslovakia, Vol. 9, No. 4, Apr. 1959.

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

HALA, J., inz.

Balancing of the springing of locomotives. Zel dop tech 9 no.9:
274-277 '61.

(Railroads) (Locomotives)

HALA, J.; NAVRATIL, O.

"Liquid extraction" by R.E.Treybal. Reviewed by J.Hala,
O.Navratil. Chem listy 58 no.11:1349-1350 N '64.

L 17973-66

ACC NR: AP6009990

ared and evaluated. Changes in the concentration of ligands are evaluated. The author thanks Prof. Dr. L. Sommer for his interest in this work as well as for advice on the compilations in this work. Orig. art. has: 2 figures, 67 formulas, and 7 tables. [JPRS]

SUB CODE: 07 / SUBM DATE: 10Jun63 / ORIG REF: 039 / OTH REF: 178
SOV REF: 055

Card 2/2 *jc*

L 17973-66 EWP(j)/T RM
ACC NR: AP6009990

SOURCE CODE: CZ/0008/65/000/003/0365/0399
47
41
B

AUTHOR: Hala, Jiri

ORG: Department of Analytical Chemistry, Faculty of Natural Sciences, University of J. E. Purkyne, Brno (Katedra analyticky chemie, Prirodovedecka fakulta, Universita J. E. Purkyne); Department of Radiochemistry, Faculty of Theoretical and Physical Chemistry, University of J. E. Purkyne, Brno (Katedra teoreticky a fyzikalni chemie, radiochemicky oddeleni, Prirodovedecka fakulta, Universita J. E. Purkyne)

TITLE: Polarographic determination of stability constants of complexes 1.44.

SOURCE: Chemicky listy, no. 3, 1965, 365-399

TOPIC TAGS: polarographic analysis, stability constant, complex molecule, mercury compound, chemical kinetics, electrochemistry

ABSTRACT: Gradual formation of complexes, DeFord's and Hume's methods, formation of a simple complex, methods of determination stability constants, study of mercury complexes, dissolving of amalgams in complex-forming media, formation of mixed complexes, formation of complexes with several nuclei are described. Equilibrium of complexes in solutions during semireversible electrode reactions is discussed. Determination of stability constants on the basis of half-wave potentials of kinetic currents, and the determination of stability constants from displacement equilibria is described. The study of gradual formation of complexes by Leden's method is discussed. Usual operating methods are comp-

Card 1/2

HALA, J.; OKAC, A.

Polarographic examination of complexes of uranium with propionate, formate and monochloracetate. Coll Cz Chem 27 no.7:1697-1701 J1 '62.

1. Institut für analytische Chemie, Purkyne Universität, Brno.

HALA, J.

Polarographic study of uranium complexes with sulfosalicylic acid. Coll Cz Chem 29 no.4:905-914 Ap '64.

1. Institute of Analytical Chemistry, Purkyne University, Brno.

HALA, Frantisek, 1926.

Development of heavy-duty steam turbines in the Zavody V.I.
Lenina National Enterprise, Uzen. *Energetika* (Z 14 no.9):
434-438, 8 '66.

1. Zavody V.I. Lenina, National Enterprise, Uzen.

BRENIK, Premysl, prof., dr., inz.; KROUPA, J., doc., inz.; HALA, F.; BUDIN, M., inz.; JERIE, J., inz., dr.; BELIK, inz., C.Sc.; KACER, inz.; BUKOVSKY, J., prof.; KUNES, J., inz.; MARCELLI, V., dr., inz.; VILD, B.; EMINGER, Z., Dr.Sc.; SKARECKY, inz.; DRAHY, J., inz.; MASEK, J., inz.; DOLEZAL, inz.; URBANEK, J., inz., C.Sc.; JUZA, dr., inz.; BEQVAR, Josef, prof., inz.; KRAL, V., inz.; BALOS, inz.; KELLAR, J.; POSPISIL, J., inz.

A conference on heavy-duty steam and gas turbines in Plzen. Energetika Cz 11 no.5:259-262 My '61.

1. Vysoka skola strojni a elektrotechnicka, Plzen (for Brenik, Bukovsky and Becvar). 2. Ministerstvo tezkoho strojirenstvi (for Kroupa). 3. Ceskoslovenska akademie ved (for Pospisil). 4. Leninovy zavody, Plzen (for Hala, Marcelli, Belik, Vild, Eminger, Drahy, Masek, Urbanek, Juza, Kral and Dolezal). 5. Prvni brnenska strojirna, Zavody Klementa Gottwalda (for Budin and Balos). 6. Statni vyzkumny ustav tepelne technicky (for Jerie, Kacer and Skarecky). 7. Glen korespondent Ceskoslovenske akademie ved (for Jerie and Juza).

2.11.1965 CD-240

ACC NR: AT6009357

SOURCE CODE: CZ/0075/65/000/011/0001/0001

AUTHOR: Kovar, Vitezslav (Engineer); Horak, Oldrich (Engineer);
Katousek, Jiri (Engineer; Candidate of Sciences); Hala, Slavomir
(Brno)

ORG: none

TITLE: Production of phosgene from carbon tetrachloride. CZ Pat. No.
PV 6709-62, Class 42

SOURCE: Vynalezy, no. 11, 1965, 21

TOPIC TAGS: phosgene, carbon compound, vaporization

ABSTRACT: An Author Certificate has been issued for a low-concentration phosgene-producing unit. It includes a drying tower with a two-branch outlet pipe. One branch is connected, via a flowmeter, to a vaporizer containing carbon tetrachloride; the vaporizer, in turn, is connected to an electrically heated retort where the phosgene is produced from the vapors of carbon tetrachloride and air oxygen. The other branch is connected, via another flowmeter, to a mixer, which in turn, is connected to the phosgene producing retort. [KP]

SUB CODE: 07

SUBM DATE: 29Nov62/

Card 1/1 *js*

CZECHOSLOVAKIA

HALA, E.

Institute of Chemical Process Fundamentals, Czechoslovak Academy of
Sciences, Prague-Suchbátol

Prague, Collection of Czechoslovak Chemical Communications, No 2, Feb
1966, pp 908-914

"Liquid-vapor equilibrium. Part 36: System of unlimited number of
components."

HALA, E.

"Nonequilibrium thermodynamics. A phenomenological theory of irreversible processes in fluid systems" by D.D. Fitts. Reviewed by E. Hala. Chem listy 57 no.4:407 Ap '63.

HALA, E.; BOUBLIK, T.

liquid-vapour equilibrium in systems of electrolytic components.
Pt. 3. Coll. Cz Chem 29 no.10:2412-2418. 1962.

1. Institute of Physical Chemistry, Czechoslovak Academy of
Sciences, Prague.

BOUBLIK, T.; HALA, E.

"Statistical mechanics" by Norman Davidson. Reviewed by
T. Boublik, E. Hala. Chem listy 57 no.4:403-404 Ap '63.

CZECHOSLOVAKIA

HALA, E.

Institute of Physical Chemistry of the Czechoslovak Academy
of Sciences, Prague

Prague, Collection of Czechoslovak Chemical Communications,
No 7, 1963, pp 1780-1789

"Liquid-Vapour Equilibrium in Systems of Electrolytic
Components. I. Excess Free Energy of Dilution and the
Mean Rational Activity Coefficients of Ions."

HALA, E.

Modification of the dependence of the equilibrium phase composition. Coll Cz Chem 27 no.5:1323 My '62.

1. Institute of Physical Chemistry, Czechoslovak Academy of Sciences, Prague.

MARAN, Bohuslav, akademik, laureat statni ceny; RAUT, Vl., inz.;
SVORCOVA, S., MUDr.; TUSL, M., MUDr., C.Sc.; RABA, Jan.;
MATERNA, Jan, inz.; KLIMECEK, Rostislav; BETTELHEIM, Jan, inz.;
HALA, Eduard, doc., inz., dr.; UHER, L., inz.; KORDIK, E.;
ERDOS, Emerich, doc., inz., dr.; VOSOLSOBE, Jan, doc., inz., dr.;
NADENIK, O., inz.; HRUDKA, J.; HOSTALEK, Zdenek, inz., dr.;
RADL, K., inz.; PEKANEK, Vl., MUDr.; BLISTAN, J., inz.; STORCH, O.
inz.

A national conference on protection against chemical fumes
from electric heat plants; a summary of reports. Energetika Cz
11 no.2:109-111 F '61.

Z/009/61/000/007/003/004
E112/E135

Contribution to the purification and analysis of isoprene. II.
for the study of the economics of industrial isoprene recovery for
the production of synthetic rubber.

There are 1 figure (diagram of Gillespie apparatus), 2 tables
(results of analyses) and 9 references: 6 Czech, 2 English and
1 French. The English language references read as follows:
Ref.2: D.T.C. Gillespie, Ind.Eng.Chem. A.E., 18, 575 (1946).
Ref.8: L.H. Horsley, Azeotropic data. Washington, 1954, No.7837.

ASSOCIATION: Ústav fyzikální chemie Československé akademie věd,
Praha
(Institute of Physical Chemistry, Czechoslovak AS,
Prague)

SUBMITTED: November 14, 1960

Card 5/6

Z/009/61/000/007/003/004
E112/E135

Contribution to the purification and analysis of isoprene. II.

$$y_1 = \frac{a_{13} \frac{x_1}{x_3}}{1 + a_{13} \frac{x_1}{x_3} + a_{23} \frac{x_2}{x_3}} \quad (6)$$

$$y_2 = \frac{a_{13} (x_2/x_3)}{1 + a_{13} \frac{x_1}{x_3} + a_{23} \frac{x_2}{x_3}} \quad (7)$$

$$y_3 = 1 - y_1 - y_2 \quad (8)$$

The authors conclude from Eqs. (1) to (5) that binary or ternary azeotropes are absent from the system isoprene : 2-methylbutene-1 and 2-methylbutene-2, although this is in disagreement with the finding of M. Lecat (Ref.7; Ann. Soc. Sci. Bruxelles, 63, 58 (1949)). The validity of the findings of the Czechoslovak authors was confirmed by practical distillation results, which will be utilized

Card 4/ 6

Z/009/61/000/007/003/004
E112/E135

Contribution to the purification and analysis of isoprene. II.

$$a_{23} = \frac{y_2 x_3}{x_2 y_3} = \frac{1 + 0.180 x_3}{1 - 0.083 x_2} \quad (3)$$

where: x_1, x_2, x_3 are molar fractions of components 1, 2 and 3 in the liquid phase; y_1, y_2, y_3 are molar fractions of components 1, 2 and 3 in the vapour phase; and a_{12}, a_{13}, a_{23} the relative volatilities of the subscript components. Ternary systems follow the following equations:

$$a_{13} = \frac{y_1 x_3}{x_1 y_3} = \frac{1 + 0.410 x_3 + 0.102 x_2}{1 - 0.291 x_1 - 0.083 x_2} \quad (4)$$

$$a_{23} = \frac{y_2 x_3}{x_2 y_3} = \frac{1 + 0.180 x_3 - 0.093 x_1}{1 - 0.083 x_2 - 0.291 x_1} \quad (5)$$

The composition of the gaseous phase in equilibrium can be computed from the composition of the liquid phase by equations:

Card 3/ 6

Z/009/61/000/007/003/004
E112/E135

Contribution to the purification and analysis of isoprene. II.

E -- equilibrium chamber, CH -- condenser, K, P - sample chambers, R -- disengagement chamber, V -- boiler). In operation, sample chambers K, P and boiler V are filled with a measured quantity of the hydrocarbon mixture and the boiling rate adjusted so as to maintain the steady pumping of liquid and vapour through the Cottrell tube. After allowing sufficient time of operation to ensure steady conditions within the apparatus, samples of the boiling liquid and condensed vapour are withdrawn from chambers K and P by means of a cooled syringe and collected in glass ampoules for analysis. Analytical data are tabulated which enable the calculation of the correlation between relative volatility and composition of the liquid phase. The equation for a binary system is as follows:

$$a_{12} = \frac{y_1 x_2}{x_1 y_2} = \frac{1 + 0.102 x_2}{1 - 0.093 x_1} \quad (1)$$

$$a_{13} = \frac{y_1 x_3}{x_1 y_3} = \frac{1 + 0.410 x_3}{1 - 0.291 x_1} \quad (2)$$

Card 2/6

Z/009/61/000/007/003/004
E112/E135

AUTHORS: Dolejšek, Z., Grubner, O., Hala, E., Hanuš, V., and
Kossler, I.

TITLE: Contribution to the purification and analysis of
isoprene. II.

PERIODICAL: Chemický průmysl, 1961, No.7, pp. 361-363

TEXT: The production of polyisoprene requires the use of a monomer of highest purity. Distillation methods are suggested for the isolation of isoprene; it is stated that recovery processes will be successful if based on a thorough knowledge of vapor-liquid equilibrium data of the main components of technical isoprene. The present paper describes the determination of equilibrium data for mixtures of 2-methylbutene-1 (component 1), isoprene (component 2) and 2-methylbutene-2 (component 3). The above components were first purified and their mixtures then studied in a modified vapor-liquid equilibrium still, developed originally by D.T.C. Gillespie (Ref.2: Ind.Eng.Chem. A.E., 18, 575 (1946)). A diagram of the apparatus is shown in Fig.1 and the experimental procedure is described. (A - inlet tube, C - Cottrell pump, ✓)
Card 1/6

Physical Chemistry, Vol. 1

CZECH/4385

cal kinetics, and electrochemistry. No personalities are mentioned. There are no references.

TABLE OF CONTENTS:

I. Introduction	13
II. Fundamentals of Thermodynamics	
1. Field of classical thermodynamics	17
2. Basic concepts, definitions, symbols	17
2.1. The system	18
2.2. State and properties of a system	18
2.3. The thermodynamic process and thermodynamic equilibrium	19
2.4. Symbols	20
3. Variables of state and equation of state	21
3.1. Temperature	22
3.2. Pressure	22
3.3. Volume	24
3.4. Composition	25
3.5. Equation of state	25
Card 2/20	26

PHASE I BOOK EXPLOITATION

CZECH/4385

Hála, Eduard, and Arnošt Reiser

Fysikální chemie, I (Physical Chemistry, Vol. 1) Prague, Naklad. Československé Akademie věd, 1960. 354 p. 5,000 copies printed.

Ed.: Jarmila Klejnová.

PURPOSE: This textbook is intended for chemical engineering and chemistry students in institutions of higher education, and in technical and special schools.

COVERAGE: This is a textbook on physical chemistry. The author explains in the introduction that a synthetic presentation of physical chemistry in a textbook would have to begin with the elementary corpuscles, atoms and molecules, then advance to combinations of molecules which form macroscopic systems. This would involve dealing with complex problems in mathematics and quantum mechanics at the very outset of the presentation. Rather than doing that, the author has selected an easier way following the historical development of physical chemistry. Thus Volume I deals with the fundamentals of thermodynamics, the science of the states of matter, and physical and chemical equilibria. Volume II of his work is to be devoted to the structure of atoms, statistical theory, chemi-

Card 1/20

507/11-33-11-10/41
Equilibrium Liquid - Vapor. Direct Algebraic Expression of the State of
Equilibrium of the Phases in Multi-component Systems

for three-component systems is illustrated from data of the binary mixture of the components by the example of n-heptane-methyl-cyclohexane toluene (Tables 5-8). With equation (1) it is possible to express the mutual dependence of the equilibrium composition of liquid and gaseous phases of real systems with any desired number of components and in any desired accuracy. The practical value of this equation is the fact that the experimental data needed for the characterization of the system are limited. The majority of the constants (in the equation for the two indices) can be determined from the experimental data of binary systems. Equation (1) may also be used for systems in which both phases are not ideal. There are 8 tables and 7 references.

ASSOCIATION: Vysshaya khimiko-tekhnologicheskaya shkola, Praga. Chekhoslovakiya
(Higher School of Chemical Technology, Prague, Czechoslovakia) ✓

Card 2/2

SOV/76-33-11-10/47

5(4)

AUTHOR:

Hála, Eduard

TITLE:

Equilibrium Liquid - Vapor. Direct Algebraic Expression of the State of Equilibrium of the Phases in Multi-component Systems

PERIODICAL:

Zhurnal fizicheskoy khimii, 1959, Vol 33, Nr 11, pp 2435-2441 (USSR)

ABSTRACT:

Equation (1) is written down for the mutual dependence of the equilibrium composition of the phases in real systems in the presence of any quantity of component parts. The application of equation (1) reduced to 2 components shows the measuring results of the equilibrium liquid - vapor in the system styrene - ethyl benzene at 50 torr (Table 1), and that this system behaves as an ideal system. The applicability of equation (1) for real systems was illustrated by the example of the systems benzene - cyclohexane (Table 2) and nitrogen - oxygen (Table 3) by comparison with the data of Scatchard (Ref 2) and Dodge (Ref 3), respectively. The application of equation (1) in the form of an equation having three indices for two-component systems is illustrated on the system acetic acid - ethyl benzene (Table 4), and the application of the form for 2 indices of the equation (1).

Card 1/2

HALA, E.; FRIED, V.; PICK, J.

"Vapor-liquid equilibrium." XIX. Phase equilibria in the system n-propanol-water-n-propyl acetate. In English. p. 1589.

COLLECTION OF CZECHOSLOVAK CHEMICAL COMMUNICATIONS, Praha, Czech.,
Vol 24, no. 5, May 1959

Monthly List of East European Accessions (EEAI), LC, Vol. 8, No. 6, Sept. 59
Unclassified

HALA, E.

COUNTRY : Czechoslovakia 3-11
 CATEGORY : Physical Chemistry. Theory of Acids and
 Bases.
 ABST. JOUR. : RECHIM., No. 23 1959, No. 31491
 AUTHOR : Fried, V.; Hala, E.; Pick, J.
 INST. : Not given.
 TITLE : Viscosity of the Nonelectrolytic Solutions.
 ORIG. PUB. : Collect. Czechoslov. Chem. Commun., 1959,
 24, #2, 400-404.
 ABSTRACT : See RECHIM, 1959, #12, 41572.

AKID: 1/1

CZECH/8-52-11-1/30

Mutual Dependence of Equilibrium Phase Compositions in
Multicomponent Systems

conclusions it is stated that the proposed expressions can be used satisfactorily for expressing the mutual dependence of the equilibrium compositions of phases in systems with any number of components and any degree of approximation. Obviously, the higher the required accuracy the larger will be the number of constants of the used expressions (series). The practical importance of the here given expression is that it reduces the number of experiments which are required for characterizing fully a system. Most of the constants, and in 2-index systems all the constants, can be derived from binary data. A considerable advantage of the proposed method is that it can also be applied for systems for which both phases are real.

There are 4 tables and 4 references, all of which are English.

ASSOCIATION: Katedra fyzikální chemie, Vysoká škola chemicko-technologická, Praha (Chair of Physical Chemistry, Technical University for Chemical Technology, Prague)

SUBMITTED: January 16, 1958

Card 3/3

CZECH/8-52-11-1/30

Mutual Dependence of Equilibrium Phase Compositions in
Multicomponent Systems

y_i and y_j denote the molar fractions of the components i and j in a single phase,
 x_i and x_j denote the molar fractions of the same components in the other phase,
 a_{ik} and a_{jk} denote the constants which are characteristic for a given system.

The practical application of this expression was illustrated by concrete examples. In this paper the expression is extended (see Eq 3) to be suitable for determining the mutual dependence of equilibrium compositions of phases in real systems with any number of components. The author gives a practical example of using the derived expression for real polycomponent systems. In Tables I-IV the measured values are given (literary data, Refs 2-4) of the equilibrium compositions of the liquid and gaseous phases in the system n-heptane(1)-methylcyclohexane(2)-toluene(3) and these are compared with values calculated by means of the expressions given in the paper. In the

Card2/3

AUTHOR: Hála, Eduard CZECH/8-52-11-1/30
 TITLE: Mutual Dependence of Equilibrium Phase Compositions in
 Multicomponent Systems (Vzájemná závislost rovnovážných
 složení fází ve vícesložkových systémech)
 Part II. System with Three or More Components
 (II. Systém o třech a více složkách)
 PERIODICAL: Chemické Listy, 1958, Vol 52, Nr 11, pp 2029-2034
 (Czechoslovakia)

ABSTRACT: In the first part of this paper (Chemické Listy,
 Vol 51, 1957, pp 406 etc.) the following expression
 was proposed for expressing the equilibrium phase
 compositions in a binary form:

$$\alpha_{ij} = \frac{y_1}{x_1} \frac{x_j}{y_j} = \frac{\sum_{k=0}^m a_{ik} x_j^k}{\sum_{k=0}^n a_{jk} x_i^k} \quad (1)$$

Card 1/3 where α_{ij} denotes the separation factor,

CZECHOSLOVAKIA / Physical Chemistry. Thermodynamics. B
Thermochemistry. Equilibria. Phase
Changes. Physico-chemical Analysis.

Abs Jour : Ref Zhur - Khimiya, No 12, 1959, No. 41572

a mixture of acetone and ethanol. Three constants were required for the system CH₃OH-dichloroethane. A relationship between the excess viscosity and excess free enthalpy, ΔG^E : $-\ln \eta^E = \Delta G^E / 2.45 RT$, was deduced from Eyring's Theory. It is presumed that analogous methods may be applied to 3-component systems.
-- O. Knessl

Card 3/3

CZECHOSLOVAKIA / Physical Chemistry. Thermodynamics. B
 Thermochemistry. Equilibris. Phase
 Changes. Physico-chemical Analysis.

Abs Jour : Ref Zhur - Khimiya, No 12, 1959, No. 41572

of the above expression may be expressed
 by the following type of equation:
 $\lg \eta^E = X_1 X_2 \sqrt{b + c(X_1 - X_2) + d(X_1 - X_2)^2} + \dots$
 where b, c and d are constants which can
 be determined from the experimental data.
 The number of necessary constants may be
 found from a plot of $\lg \eta^E$ vs $X_1 X_2$. When
 the number of constants is equal to zero,
 the system behaves ideally. From cited
 examples, the system CCl_4 -benzene is an
 ideal one, while the benzene-cyclohexane
 system may be described by means of one
 constant. Two constants were utilized for

Card 2/3

CZECHOSLOVAKIA / Physical Chemistry. Thermodynamics. Thermochemistry. Equilibris. Phase Changes. Physico-chemical Analysis. B

Abs Jour : Ref Zhur - Khimiya, No 12, 1959, No. 41572
 Author : Fried, Vojtech; Hala, Eduard; Pick, Jiri
 Inst : Not given
 Title : Viscosity of Nonelectrolytic Solutions
 Orig Pub : Chem. listy, 1958, 52, No 6, 1007-1010

Abstract : An equation describing the solution's viscosity for nonelectrolytes has been proposed: $\lg \eta^E(\text{cm}) = X_1 \lg \eta_1 + X_2 \lg \eta_2 + \dots$
 $\lg \eta^E$, where $\eta^E(\text{cm})$ is the mixture's viscosity, η_i is the component's viscosity while η^E is the excess viscosity and X_i is the molecular fraction. The last term

Card 1/3

Country : Czechoslovakia B-8
Category= : Thermodynamics. Thermochemistry. Equilibria.
Physico-Chemical Analysis. Phase Transitions.
Abs, Jour. : Ref Zhur-Khimiya, No 6, 1959 18436
Author :
Institut. :
Title :

Orig. Pub. :

Abstract : system; ternary constant was determined from data on liquid-vapor equilibrium of ternary system in the region where the influence of the term of Van Laar equation containing this constant is greatest (region wherein concentrations of two components are about equal and concentration of third component is low). A rapid method is described for calculating the activity coefficient in ternary system. Communication XVIII see RZhKhim, 1957, 53896. -- O. Knessl.

Card: 2/2

B-11

Country : Czechoslovakia B-8
 Category : Thermodynamics. Thermochemistry. Equilibria.
 Physico-Chemical Analysis. Phase Transitions.
 Abs. Jour. : Ref Zhur-Khimiya, No 6, 1959 18436
 Author : Pick, J.; Hala, E.; Fried, V.
 Institut. : *HIGHER CHEM-TECH SCHOOL PRAGUE*
 Title : Liquid-Vapor Equilibrium. XIX. Phase Equilibria
 in the System n-Propyl Alcohol - Water -
 n-Propyl Acetate.
 Orig Pub. : Chem. listy, 1958, 52, No 4, 561-566

Abstract : Ebulliometric studies of binodal curve at normal boiling temperature and of correlation between normal boiling temperature and composition of homogenous liquid phase, in the case of the demixing system n-propyl alcohol (I) - water (II) - n-propyl acetate (III). Liquid - vapor equilibrium in I - III system was studied using a flow apparatus; results were correlated according to empiric equation of relative volatility. Equilibrium in II - III system was calculated using data on mutual solubility at normal boiling temperature. For I - II system literature data were used. From all these data were calculated the constants of Van Laar equations of third order for ternary

Card: 1/2

Country : Poland
 Category :

49054

Abs. Jour :

Author :
 Institut. :
 Title :

Orig. Pub. :

Abstract : Among of that equations in the first and second
 kind system, respectively, and a_{1k} and a_{2k} are
 constants. From the above equations the follow-
 ing expression is obtained for the distribution
 coefficient:

$$X_{12} = X_1/B_2 = a_{1k} x_1 / a_{2k} z_1 = \frac{\sum_{k=0}^n a_{1k} x_1^k / \sum_{k=0}^n a_{2k} z_1^k}{a_{2k} z_1^k}$$

whence

$$X_{12} = 1 - \frac{\sum_{k=0}^n a_{1k} x_1^k / \sum_{k=0}^n a_{2k} z_1^k}{\sum_{k=0}^n a_{2k} z_1^k}$$

where $a_{1k} = a_{1k}^1 / a_{1k}^0$ and $a_{2k} = a_{2k}^1 / a_{2k}^0$. Examples
 of the application of the proposed equations to
 the calculation of several real systems are given.

Card: 2/3

Country : Poland
Category :

Doc. Jour. :

Author : Bara, S.
Instit. : Warsaw

Title : Relationship between the rate of evaporation and the rate of condensation of vapors

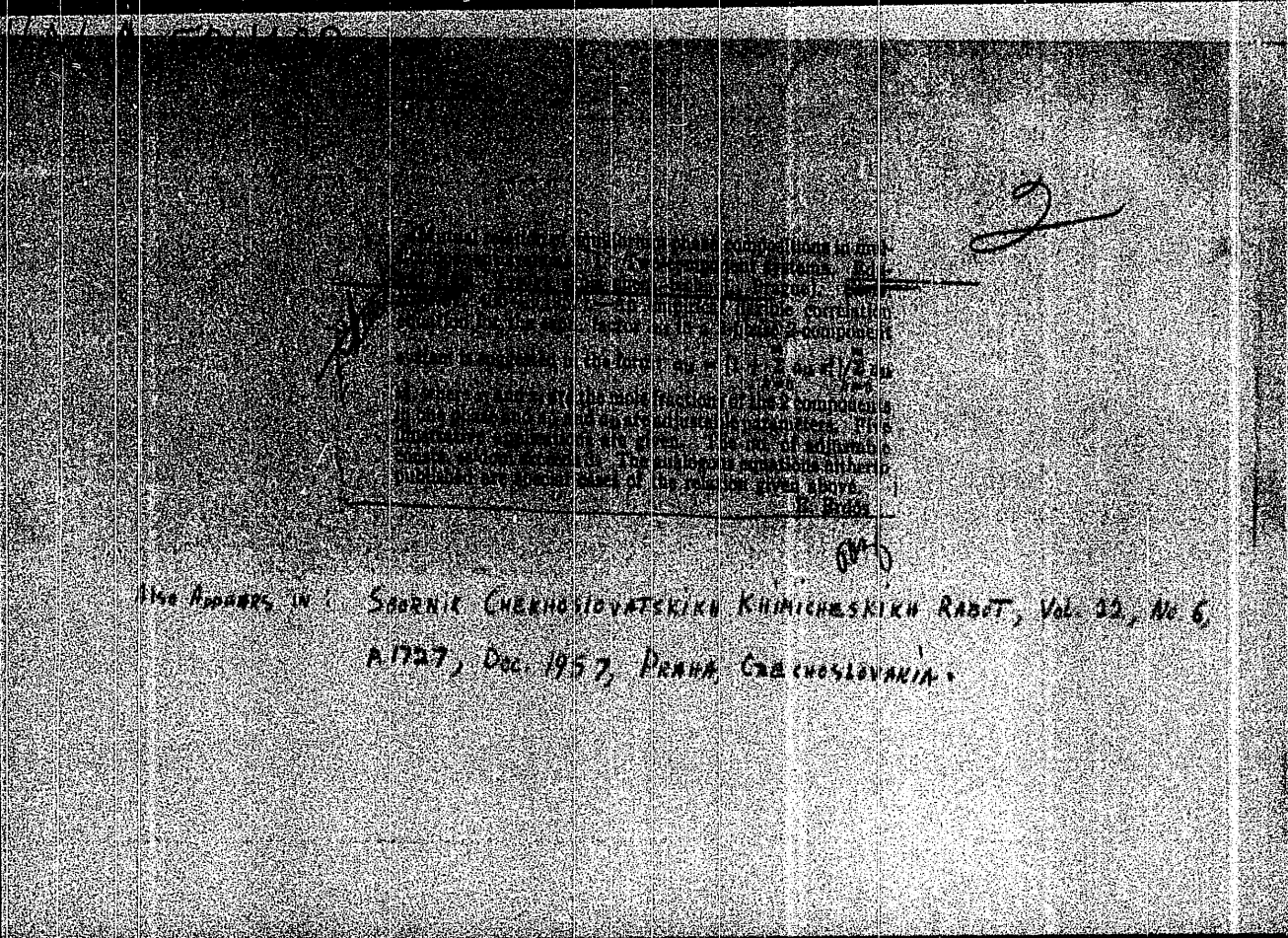
Orig. Pub. : Journal of Chemical Physics, 1961, 35, 1, 1-10

Abstract : Relations are reported between the rate of evaporation and the rate of condensation of vapors. The rate of evaporation is measured by the vapor pressure of the substance, and the rate of condensation is measured by the rate of change of the vapor pressure.

$$\frac{dP}{dt} = \sum_{i=1}^n R_i \exp(-E_i/RT) - \sum_{i=1}^n M_i \exp(-E_i/RT)$$

$$\frac{dP}{dt} = \sum_{i=1}^n R_i \exp(-E_i/RT) - \sum_{i=1}^n M_i \exp(-E_i/RT)$$

where d is the distribution coefficient of the substance and R is the rate of evaporation, x and y are the mole frac-



Also appears in: Sbornik chechoslovatskikh khimicheskikh rabot, Vol. 32, No. 6,
p. 1727, Dec. 1957, Praha, Czechoslovakia.

Handwritten: Hala, Fried
 CZECHOSLOVAKIA/Thermodynamics. Thermochemistry. Equilibria. Physics- E-8
 Chemical Analysis. Phase Transitions.

Abs Jour : Ref Zhur - Khimiya, No 8, 1957, 26107

Author : Eduard Hala, Vojtech Fried, Jiri Pick, Otokar Vilim
 Title : Equilibrium Liquid - Vapor. XIV. Activity Factors and Physical
 Properties of Pure Components.

Orig Pub : Chem listy, 1956, 50, No 3, 343-348

Abstract : The authors proposed a new method of computation of the dependence of the activity factor on the composition of the liquid mixture. This method always permits to carry out the computation for a complete group of substances on the basis of the known behavior of standard binary systems and parachors of given components. Following relations were deduced basing on certain assumptions: $A_{ik}^{0.5} = A_{ji}^{0.5} - K N_i (N_j - N_k) / (N_i N_k)$ and $A_{ki}^{0.5} = A_{ji}^{0.5} - K' (N_j - N_k) / N_i$, where A_{ij} , A_{ik} , A_{ji} and A_{ki} are constants of Van Laar equations of the 3rd order for binary systems ij and ik, and K and K' are constants which it is necessary to determine for the given group of binary mixtures. The magnitudes of N_i , N_j and N_k are given by the relation $N_i = (0.377 \sqrt{P_i} + 11.0)^{0.425}$, where $\sqrt{P_i}$ is the parachor of the i-th component. See RZhKhim, 1956, 77532 for the report XIII.

Card : 1/1

Hala, E.

6

✓ Vapor pressure of ethylene glycol monomethyl and mono-ethyl ethers. J. Pick, V. Friedl, E. Hala, and C. Vitan.
Collection Czechoslov. Chem. Commun. 200-1(1955) (in German). - See C.A.B. 50, 6364.

new 4

RM

HENRI EDUARD

6

~~Classification: CONFIDENTIAL - This document is for the use of the intelligence community only. It is not to be disseminated outside the intelligence community.~~

EM

↑

HALA, E.

- CZECHOSLOVAKIA/ Physical Chemistry - Thermodynamics. B-8
 Thermochemistry. Equilibrium. Physicochemical Analysis.
 Phase Transitions.
- Abs Jour : Referat Zhur - Khimiya, No 3, 1957, 7446
- Author : Pick, J., Fried, V., Hala, E., and Vilin, O.
- Title : Vapor Pressure of Ethylene Glycol Monomethyl and
 Monoethyl Ethers
- Orig Pub : Chem. listy, 1955, Vol 49, No 11, 1720-1721 (published in
 Czech); Sb. chekhosl. Khim. rabot, 1956, Vol 21, No 1,
 260-261 (published in German with a Russian summary)
- Abstract : The dynamic method (RENKhin, 1955, 13590) was used in mea-
 suring the vapor pressure (P) of ethylene glycol monome-
 thyl (I) and monoethyl (II) ether between 63 and 134°. The results are presented in a table. The constants for
 the interpolation equation have been determined as fol-
 lows: for I $\log P = 7.7085 - 1711.2/(t + 230)$; for II
 $\log P = 7.8191 - 1801.9/(t + 230)$

Card 1/1

- 81 -

HÁLA, E.

7

Liquid-vapor equilibria. XIII. Phase equilibria in the system water-butanol-butyl acetate. Jifi Pick, Vojtěch Fried, Eduard Hála, and Otakar Vilim (Vysoká škola chem.-technická, Brno). Chem. Listy 49, 1112-16 (1955); cf. C.A. 49, 706d. The liquid-liquid equil. in the ternary system $H_2O-BuOH-AcOBu$ was detd. by the synthetic method; the temp. dependence of the equil. curve was obtained by graphic correlation. The tie-lines were detd. analytically. The vapor-liquid equil. in the homogeneous region of the ternary system was raised, by the 3-suffix van Laar equation; the ternary consts. were evaluated from 2 exptl. points detd. analytically. B. Erdős

[Handwritten initials]

HALA, E

CZECH

✓ Packings for laboratory fractionating columns made from glass textile. R. Hala, O. Vilim, J. Piek, and V. Friedl (Vysoká škola chemická, Prague). Chem. Listy 49, 359-60 (1954).—Three types of packings are described: (a) By the use of a helical screw from glass textile tube, a HETP of 1.8-2.5 cm. has been obtained. (b) In using "heligid" type of packing from steel wire spiral, better contact with the walls and higher efficiency (HETP = 1.4 cm.) has been achieved by inserting suitably made disks from glass textile. (c) The efficiency of current packing is increased three-fold, if sept. by appropriately perforated glass textile disks. R. Erdos

62

5(4)

PHASE I BOOK EXPLOITATION

CZECH/2501

Hála, Eduard, Jirí Píck, Vojtěch Fried, and Otakar Vilím

Rovnovaha kapalina--para (Liquid--Vapor Equilibrium) Praha, Nakladatelství
Československé Akademie Věd, 1955. 321 p. (Series: Československá Akademie věd.
Studie a prameny. Sekce chemická, sv. 10) Errata slip inserted. 38,600 copies
printed.

Scientific Ed.: Jan Pinkava, Doctor, Engineer; Resp. Ed.: Jaroslav Vácha,
Doctor.

Full English translation under the title Vapor-Liquid Equilibrium
[Translator: G. Standart] published in 1958 by Pergamon Press Ltd.
Library of Congress call number: TP156 .E65R613.

Card 1/1

UIS/gmp
11-10-59

HALA, EDUARD

Liquid-vapor equilibria. XI. The system styrene-ethylbenzene-acetic acid at 60°. Otakar Vilim, Eduard Hala, Jiří Pick, and Vojtěch Friedl. *Vysoká škola chemická, Prague, Czech. J. Chem. Listy* 48, 989-993 (1954); cf. *C.A.* 48, 8218d. -- The equil. compos. in the 3 binary systems and in the ternary system were detd. by means of a flow app. The data were correlated by means of the four-suffix Margules equation and corrected for the assocn. of the HOAc in the vapor phase. A triangular equil. compn. plot is given.

XII. Fractional steam distillation of the system *o*-nitroethylbenzene-*p*-nitroethylbenzene. Otakar Vilim, Eduard Hala, Vojtěch Friedl, and Jiří Pick. *Ibid.* 1109-13. -- The vapor pressures of the pure *o*-nitroethylbenzene (I) and *p*-nitroethylbenzene (II) were detd. from 80° to 150° and expressed by the Calluguet-Davis equation (*C.A.* 20, 686); the consts. are: I: $A = 7.8068$; $B = 2280.0$; II: $A = 7.9623$; $B = 2117.0$. The vapor-liquid equil. compn. in the I-II system at 100 mm. Hg and in the I-II-H₂O system at 760 mm. Hg were detd. by means of a flow app. The I-II system behaves ideally. The measurement of a packed-column efficiency shows that the height equiv. to the theoretical plate is independent of the presence of an immiscible liquid (H₂O). B. Erdős

MS 6Z

HALA, E.

Vapor pressures of butyl α -hydroxyisobutyrate and di-
 isobutyl ether. V. D. B. P. P. P. H. H. H. and O. Villen
 (1954) *Ind. Chem. (London)* **7**, 48
 (1954) from ebullimetric measurements the temp.
 dependence of vapor pressure of butyl α -hydroxyisobutyrate
 (B) and of diisobutyl ether (D) was computed in the form: $\log p = A -$
 $B/(C + t)$, where for B, $A = 7.6470$, $B = 4931.0$ and
 for D, $A = 7.4859$, $B = 4721.5$, both in the range
 20-760 mm. Hg. The physical constants found were: B, b.p.
 135.0°, d_4^{20} 0.9505, n_D^{20} 1.411; D, b.p. 142.2°, d_4^{20}
 0.7054, n_D^{20} 1.3990. B. H. D. B.

6
0

Halas, Edward

Liquid-vapor equilibria. I. The vapor-liquid and liquid-liquid equilibria at low pressures of the C_2H_6 - C_2H_4 - C_2H_2 system. *J. Chem. Eng. Data*, 1964, 9, 107-110. *Chem. Eng. Data*, 1964, 9, 107-110.

The isothermal equilibrium compositions of the vapor and liquid phases at 55° in the 3 binary systems were computed from the dependences of vapor pressure on temp. and compn. The relative volatilities in the ternary system were calculated by the modified two-suffix Scatchard equation [C. A. J. 30, 858] from the constants of binary systems.

B. B. Dole

86

HE

MALA, EDUARD

CZECH

Liquid-vapor equilibria. VIII. A new flow equilibrium still for the determination of liquid-vapor equilibria. Otakar Vilim, Eduard Hala, Valtěch Bríd, and Ilii Pick. *Collection Czechoslov. Chem. Commun.* 19, 1330-4(1954)(in German).—See C.A. 48, 4301d. E. J. C.

MA 31

HLR, E.

CZECH

V. Liquid-vapor equilibria. V. Limiting values of the relative volatilities in two-component systems at high pressures. Eduard Hala, Vojtěch Fried, Jih Fick, and Otakar Vilim. *Chem. Abstr. (U.S.S.R. transl.) Collection Czechoslov. Chem. Commun.* 19: 410-411 (1954) (in German). **VI. Calculation of liquid-vapor equilibria in two-component systems from isobaric $p-x$ curves.** Eduard Hala, Jih Fick, Vojtěch Fried, and Otakar Vilim. *Ibid.* 417-27. **VII. Calculation of liquid-vapor equilibria in two-component systems from isothermal $p-x$ curves.** Eduard Hala, Vojtěch Fried, Jih Fick, and Otakar Vilim. *Ibid.* 417-27. — See C.A. 48; 4301a2c. E. I. C.

HALA, E.; FRIED, V.; PICK, J.; VILIM, O.

Equilibrium in the system liquid -- vapor. Part.4. General equation for the dependence between activity coefficients and the composition of the liquid phase. Sbor.Cekh.khim.rab. 19 no.1:16-23 F '54. (MLRA 7:6)

1. Kafedra fizicheskoy khimii, Prazhskogo Khimicheskogo Instituta.
(Phase rule and equilibrium) (Activity coefficients)

HALA, E.

CZECH

Phase equilibrium in the system water-lactic acid-ether at 10, 15, 20, and 25°. Robert Holub and Eduard Hala, *Chem. Průmysl* 4(29), 941-4(1951). The phase equilibria of the system were measured at all concns. The results are listed. As a general observation, the mutual soly. of the components at temps. given does not change appreciably; only in the aq. phase some increase in soly. with decreasing temp. was noted. The distribution coeff. of the lactic acid in the ethereal and aq. phase increases rather rapidly with decreasing temp. L. A. Helwich.

EDUARD HÁLA

cumene mixts. agree with the published data. With the
 cumene-PhOH system thermodynamically consistent data
 ($\log(\gamma_1/\gamma_2)$ vs. mole fraction curve) were obtained. A
 modification of the Williams manostat (C.A. 41, 4683c) for
 higher pressures with precision up to 0.01 mm. Hg is de-
 scribed. IX. The system butanol-butyl methacrylate-
 butyl α -hydroxyisobutyrate at low pressures. JH Piek,
 Vojtěch Fried, Eduard Hála, and Otakar Vilim. *Ibid.*
 1760-7.—In the pressure range of 20-60 mm. Hg, the b.ps.
 of the pure compn. and their binary mixts. were detd. and
 expressed by the Calingert-Davis equation. From these
 data the compn. of the vapor phase at 60 mm. Hg in the 3
 binary systems were calcd. The compn. dependence of
 the activity coeffs. in the ternary system was calcd. by
 means of the van Laar equation and expressed graphically.
 The phys. consts. are: Bu methacrylate $n_D^{20} = 1.4241$,
 $d_4^{20} = 0.8951$; Bu α -hydroxyisobutyrate $n_D^{20} = 1.4175$,
 $d_4^{20} = 0.8608$, b.p. = 185.00°. E. Brdón

2/2

HALA, Eduard

Handwritten: Hala E

Chemical Abst.
 Vol. 48 No. 8
 Apr. 25, 1954
 General and Physical Chemistry

Liquid-vapor equilibria. IV. General equation relating the ratio of the activity coefficients to the composition of the liquid phase. Eduard Hala, Vojtěch Fried, Jiří Pick, and Otakar Vilim. *Trans. J. Chem. Phys. (Czech.) Chem. Listy* 47, 1274-80 (1953); cf. preceding abstr. Expressions for the ratio of activity coeffs. in binary and ternary systems are derived from the Wohl and suffix empirical equation. By means of various simplifying assumptions these expressions are reduced to the equations of Scatchard-Hammer, Margules-Redlich-Kister, and to a sym. equation. V. Limiting values of the relative volatilities in two-component systems at high pressures. *Ibid.* 1281-4. A rapid method is given for computing the limiting values of relative volatilities at high pressures from isothermal total-pressure data. Generalized compressibility factors of gases and expansion factors of liquids can be used. The method reproduces the limiting volatilities of the system N_2-O_2 up to 25 atm. with a max. error of 3%. VI. Calculation of liquid-vapor equilibria in two-component systems from isobaric $p-x$ curves. Eduard Hala, Jiří Pick, Vojtěch Fried, and Otakar Vilim. *Ibid.* 1417-22. A differential equation for the relative volatilities is derived from thermodynamics. This equation can be solved numerically or graphically under various assumptions if the temp. dependence of the vapor pressures of the pure components and the b.p.-vs.-mole-fraction curve of the binary mixt. are known. For the system CCl_4-Me_2CO , calculated results agree with exptl. data. VII. Calculation of liquid-vapor equilibria in two-component systems from isothermal $p-x$ curves. Eduard Hala, Vojtěch Fried, Jiří Pick, and Otakar Vilim. *Ibid.* 1423-7. An analogous expression for the relative volatilities is derived as in part VI, applicable to isothermal total pressure dependence on compn. of the liquid phase. Generalized compressibility factor of gases and expansion factor of liquids can be used. Application of the method to the system $CHCl_3-EtOH$ gives very good results. VIII. A new flow equilibrium still for the determination of liquid-vapor equilibria. Otakar Vilim, Eduard Hala, Vojtěch Fried, and Jiří Pick. *Ibid.* 1663-7. A new app. for the medium- and low-pressure ranges is described. One detn. takes 10-15 min. and requires 50-100 ul. of sample. Results obtained on $H_2O-AcOH$ and Me_2CO .

CH
6

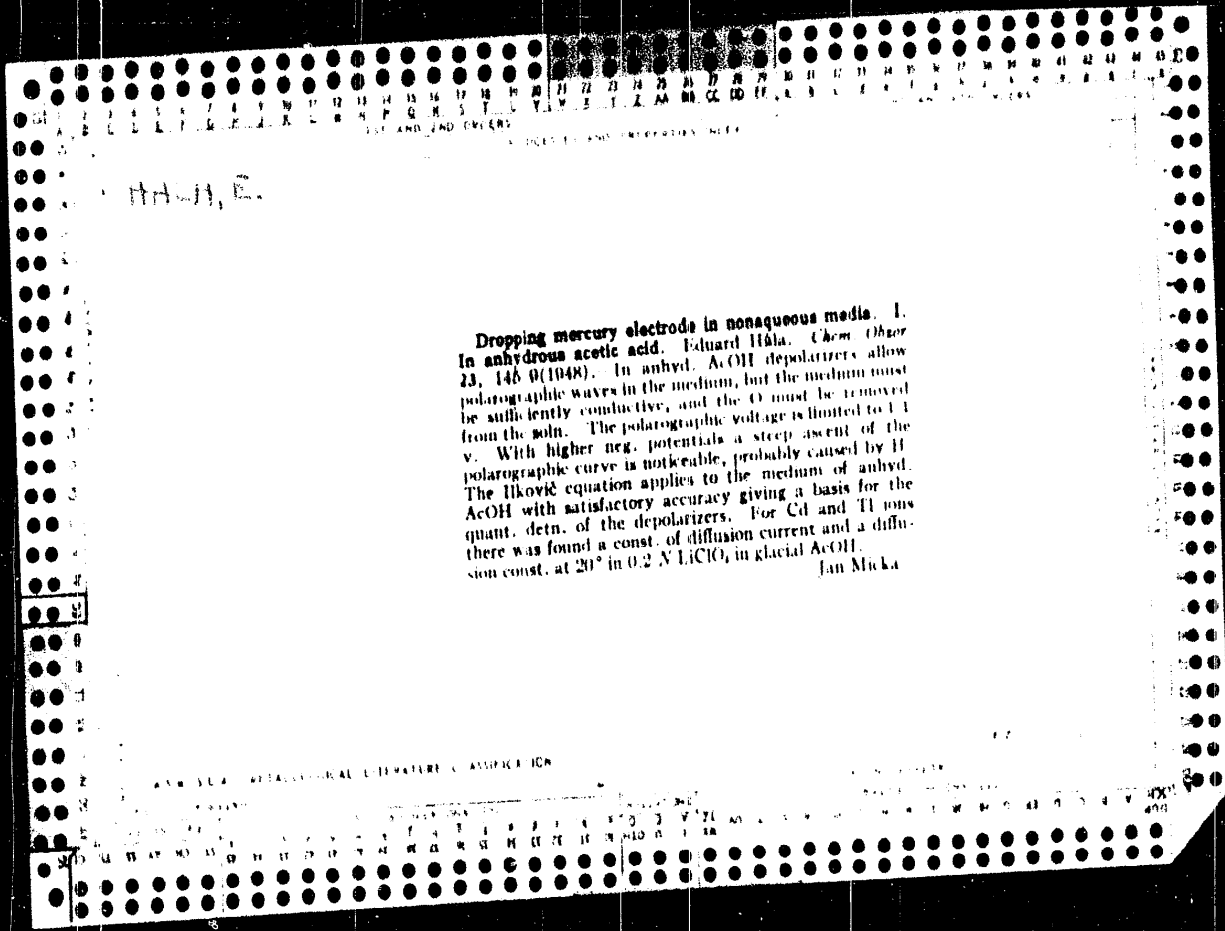
3

HALA, EDUARD

Chemical Abst.
Vol. 48 No. 8
Apr. 25, 1954
General and Physical Chemistry

⑤
8
/Liquid-vapor equilibrium. III. Thermodynamics of nonelectrolyte solutions. Eduard Hala, Otakar Vilim, Jifi Pick, and Vojtech Fried. Vysoka skola chemi. Pragu. Crech. J. Chem. Listy 47, 1101-12 (1953); cf. ibid. 641.—A review with math. considerations and 36 references. M. Hudlicky—

APR 10/18/54



HALL, E.

Dropping mercury electrode in nonaqueous media. I. In anhydrous acetic acid. Eduard Hala. *Chem. Abstr.* 23, 146 0(1048). In anhyd. AcOH depolarizers allow polarographic waves in the medium, but the medium must be sufficiently conductive, and the O must be removed from the soln. The polarographic voltage is limited to 1.1 v. With higher neg. potentials a steep ascent of the polarographic curve is noticeable, probably caused by H. The Ilkovic equation applies to the medium of anhyd. AcOH with satisfactory accuracy giving a basis for the quant. detn. of the depolarizers. For Cd and Tl ions there was found a const. of diffusion current and a diffusion const. at 20° in 0.2 N LiClO₄ in glacial AcOH.

Jan Miska

1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

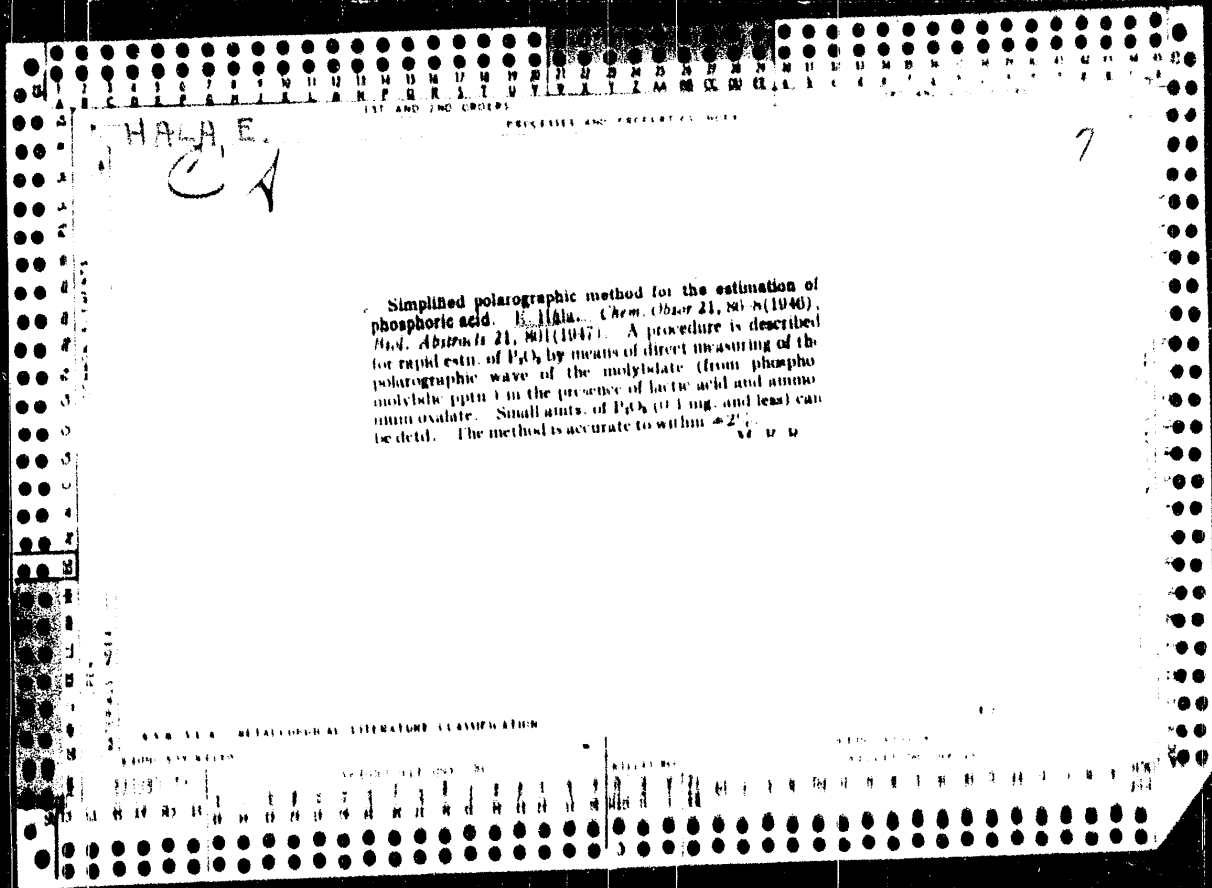
28

The action of sulfur dioxide on the viscosity of sugar solutions. E. Hala. *Textile Cakes*, 63, 1945-1947.
 H. prepl. viscosity curves from detins. made upon solns. of sucrose, refined sugar, raw sugar, cleared juices, and various liquors found in the sugar factory in cones ranging from 55 to 76° Brix and over the temp. range 20-90°. To the curves were added values detd. by others. When NaHSO₃ or Na₂SO₃·7H₂O were added to the solns., it was found that the viscosity values were scattered on both sides of the previous curves. H. concludes that SO₂ does not affect the viscosity of sugar solns. The desirable influence of SO₂ in the ripening and in the crystal. of sugar is due to a specific action and cannot be attributed to the changes in the viscosity of the sugar solns. F. Marash.

ASB-51A METALLURGICAL LITERATURE CLASSIFICATION

E-277-0000-0000

3RD AND 4TH ORDERS



HALA, Bohuslav

The 4th International Congress on Phonetics in Helsinki. Vestnik
CSAV 71 no.1:138-140 '62.

HLA, HROMELV.

Hlas, rec, sluch; zakadni vecl z fonetiky a logopedie.
3. prepracovane vyd. Praha, Statni pedagogicke nakl., 1955. 251 s. (Pedagogicka
pritomnost, sv. 26) (Voice, language, hearing; basic phonetics and logopedics.
3d rev. ed. illus., indexes.)

Source: East European Accessions List (EEL), LC, Vol. 5, No. 3, March 1956.

SARVAN, M.; ZEC, N.; VASIC, D.; MAJSTOROVIC, M.; BOGDANOV, B.; HAKSTOK, V.

Medicine. Bul sc Youg 7 no.3:67-68 Je '62.

1. Medicinski fakultet, Sarajevo.



MARSA, J.; HAKOVA, D.; ULLRYCH, J.

Role of a clinician in antiepidemic work. Cas. lek. cesk. 92 no.15:406-
408 10 Apr 1953. (CJML 24:4)

1. Of KUNZ, Ceske Budejovice.

HAKLAR, Laszlo; SZALAI, Kalman, dr.

Preparing budgets, budgetary and construction industry accounts by means of punched card systems and electronic calculating machines. *Építés szemle* 8 no. 5:148-150 '64.

1. Group Head, Calculation Technique and Program of Mechanization Enterprise, Ministry of Construction, Budapest (for Haklar).
2. Division Chief, Department of Finance, Ministry of Construction, Budapest (for Szalai).

HALACKA, K.; HAKL, J.; VYMETAL, F.

Effect of massive doses of DDT on human adipose tissue. Cesk. hyg. 10 no.3:188-192 My '65.

1. Katedra hygieny a epidemiologie lekarske fakulty University J.E. Purkyne, Brno. 2. K.Halacka's address: Brno, tr.Obrancu miru 10.

HALACKA, Karel; HAKL, Jiri

On the effect of chronically administered small doses of
DDT to rats. Scr. med. fac. med. Brunensis 36 no.4:169-179
'63.

1. Katedra hygieny a epidemiologie lekarske fakulty university
JEP v Brne Vedouci prof. MUDr. RNDr. Karel Halacka Katedra
chemie lekarske fakulty university JEP v Brne Vedouci prof.
MUDr. Oktavian Wagner.

(DDT) (ADIPOSE TISSUE) (BRAIN)
(PHARMACOLOGY)

L 34723-66

ACC NR: AP6025212

SOURCE CODE: CZ/0008/66/000/002/0259/0261

AUTHOR: Hakl, Jiri

ORG: Institute for Medical Chemistry, J. Ev. Purkyne University, Brno (Ustav
lekarske chemie, Universita J. E. Purkyne)

TITLE: Polarography of steroids in a silica gel suspension with a vertical dropping electrode and a dropping electrode according to Smoler

SOURCE: Chemické listy, no. 2, 1966, 259-261

TOPIC TAGS: polarographic analysis, silica gel, chromatography, corticosteroid

ABSTRACT: In some cases when chromatography on a thin layer of silica gel is used in connection with polarography it is better not to remove the gel from the mixture but proceed with the elutriation of the chromatographed substance directly in the polarograph vessel. The best way to eliminate the influence of silica gel upon the shape of the polarographic curve is to use a bent capillary according to Smoler. Use of an apparatus designed by the author for the analysis of corticosteroids is described. The importance of proper evaluation of the polarographic curve is stressed. Orig. art. has: 2 figures. [JPRS: 35,397]

SUB CODE: 07, 06 / SUBM DATE: 09Apr65 / ORIG REF: 002

L5

Cord 1/1

09/6 0577

VYSTYD, Milos; HAKL, J.

Effect of the temperature of pouring on the properties of
80Ni-20CrTiAl fireproof alloy. Slevarenství 13 no.4:137-
139 Ap '65.

1. State Research Institute of Material and Technology, Prague
(for Vystyd). 2. Zavody J.Svermy, Prague-Jinonice (for Hakl)

HAKL, Fr., inz.

Remote-control equipment. Nova technika no.9:411-412 S '60.

ACCESSION NR: AP4017185

show that a change in position of the primary radiator is reflected identically in both principal planes. From the characteristics measured it is evident that when the position of the primary radiator changes, the focus does not appear as a point but rather as an area (in this particular case 10 cm long) in which the radiator can be placed at will without a significant effect on the characteristics. "In conclusion, we would like to thank Prof. Dr. G. Klages and Dr. E. Sinkowski for their help." Orig. art. has: 12 figures and 7 formulas.

ASSOCIATION: Ustredni vyzkumne fyzikalni laboratore - mikrovlenna laborator,
Cairo, UAR (Central Physical Research Laboratory - Microwave Laboratory)

SUBMITTED: 07Feb63

DATE ACQ: 23Mar64

ENCL: 00

SUB CODE: SP, CO

NO REF SOV: 000

OTHER: 003

2/2

Card

BR

ACCESSION NR: AP4017185

Z/0039/64/025/003/0117/0121

AUTHOR: Hanna, F. F.; Haldm, I. K.

TITLE: Theoretical and experimental investigation of the radiation patterns of microwave antennas

SOURCE: Slaboproudy obzor, v. 25, no. 3, 1964, 117-121

TOPIC TAGS: microwave antenna, microwave propagation, Huygens principle, funnel radiator, rectangular orifice, circular orifice, amplitude distribution, radiator, primary radiator, parabolic mirror

ABSTRACT: The primary purpose of this article was to establish by means of the Huygens principle, the theoretical radiation characteristics of circular and rectangular orifices, compare them with actually measured characteristics, and explain the differences. The second purpose was to select, based on the above, an antenna suitable for the study of microwave transmission in free space. The rectangular and circular orifices were studied at various amplitudes. As a radiator, the authors first used a parabolical mirror with a focal length of 10 cm and a diameter of 66 cm. The primary radiator was a wedge-shaped funnel 3.78 x 6.85 cm. Measurements were taken at 25m. Subsequently, the effect of the distance of the funnel from the mirror was evaluated. The measurements

Card 1/2

HAKIEL, ...

... ..

Production

Final

1523. Systematic production control in the field as a basis for rational exploitation of crude. C. Hakiel. *Nafta (Krakow)*, 1952, 8, 209-12, 241-3. - Exploitation of reservoirs falls historically into 3 phases: (1) spontaneous and inexperienced blind production responding rapidly to market requirements; (2) the phase is marked by introduction of production measurement and control, and consequently discovery of certain reservoir laws, only 10 to 20% of crude available is yielded; (3) the phase is thoroughly scientific, yielding 30 to 80% of deposits. The present Polish state of affairs falls at the transition from (2) to (3). To facilitate this, full production control is required, but since no expensive equipment can be afforded, simple flow rate, pressure, and temp measurements must be made, gas recycled, and gas to liq ratio maintained between 200 and 400 cu. m/tonne.

Once this is accomplished, steps must be taken to enter into the third phase by provision of scientifically trained staff and laboratory facilities.

M. S.

Handwritten initials and scribbles.

HAKENBERG, Maciej

New data on Middle Cretaceous formations at Sobkow and Staniewice in the southwestern border region of the Gory Swietokrzyskie Mountains. Przegl geol 10 no.9:462-465 S '62.

1. Zaklad Nauk Geologicznych, Polska Akademia Nauk, Warszawa.

HAKCHIBERG, H.

The utilization of aerial and field photogrammetry for mapping the Quaternary in the Piec Stawow Valley in the Polish Tatra Mountains. P.90

Warszaw, Poland. PRZEGLAD GEOLOGICZNY. Wydawnictwo geologiczne.
Vol.7, no.2, Feb.1959

Monthly List of East European Accessions Index, (L21) L. Vol. , no.6
June 1959
Uncl.

HAKENBERG, M.

TECHNOLOGY

PERIODICAL: PRIZHLAD GEOLOGICHESKY. Vol. 6, no. 3, Mar. 1953.

HAKENBERG, M. Remarks on the application of aerial photography for geologic research in the Soviet Union. p. 134.

Monthly List of East European Accessions (EEAA) Vol. 3, no. 4
APRIL 1959, Unclass.

HAFENBERG, M.

"Notes on the possibility of using some aerial photographs for the construction of geological cross sections by the stereoscopic photogrammetric method." p. 451

KWARTALNIK GEOLOGICZNY, (Instytut Geologiczny) Warszawa, Poland. Vol. 2, No. 2, 1968

Monthly List of East European Accessions (MEAI) LC, Vol. 8, No. 6, June 1969
Uncl.

HAKEN, Oldrich

Automobile transportation in February 1948 and today. Siln
doprava 13 no.2:1 F '65.

HAKEN, C
GAKEN, O.

"Luxe-B"-type Skoda-706 RTO motorbus. Avt. transp. 37 no.9:58
S '59. (MIRA 12:12)
(Czechoslovakia--Motorbuses)

~~BAKER, G.~~ (Haken, G.)

Experience in operating motorbus passenger trailers in
Czechoslovakia. Avt.transp. 35 no.7:38-39 J1 '57. (HWA 10:6)

2. Direktor avtobusnogo parka v Prage.
(Motorbus trailers)

NAKAI, O.

Increasing the economy in the operation of motor vehicles, p. 514.
(SVET MOTORU, Vol. 11, No. 17, Aug 1957, Praha, Czechoslovakia)

00: Monthly List of East European Accessions (LEAE) 3, Vol. 6, no. 10, Dec 1957. Incl.

HAKEN, J.

"Production of chemicals for laboratories."

p. 512 (Chemie, Vol. 10, no. 6, June 1958, Praha, Czechoslovakia)

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

HAKEN, J.

Progress of the fluidization techniques in industrial practice.

P. 604 (Chemie) Vol. 9, No. 4, Aug. 1957, Czechoslovakia

SO: MONTHLY INDEX OF EAST EUROPEAN ACCESSIONS (MEAI) LC. - VOL. 7, NO. 1, JAN. 1958

HAKEN, Josef

Prevadzkovy chemik pre tazku anorganicku chemiu. (Operational Chemist for Heavy Inorganic Chemical Production. a textbook. Tr. from the Czech. illus., notes, tables) Bratislava, SVTL, 1957. 303 p.

Bibliograficky katalog, CSR, Slovenske knihy, Vol. VIII. 1957. No. 9. p. 274.

HAKEN, Drahomir, 'na. CSc.

International conference on the soil processes in drained
peat bogs. Vest ust zemedel 12 no.1:12-14 '65.

1. Research Institute of Land Improvement, Prague.

HAKEN, Drahomir, inz. CSc.

Effectiveness of liquid and semiliquid manure in different intensities of pasture use. Rost výroba 10 no.10:1063-1076 0 '64.

1. Research Institute of Land Improvement, Prague.

HAKEN, Drahomir, inz. CSc.

Use of green manuring in establishing temporary clover-grass pastures. Rost vyroba 10 no. 3:305-316 Mr '64.

1. Research Institute of Soil Improvement, Prague.

HAKEN, Drahomir, inž., C.Sc.

Liquid manuring and its effect on the pasture. Věstník vysoké zemědělské školy, no.11:514-515 1962.

1. Vyzkumný ústav meliorací, Praha.