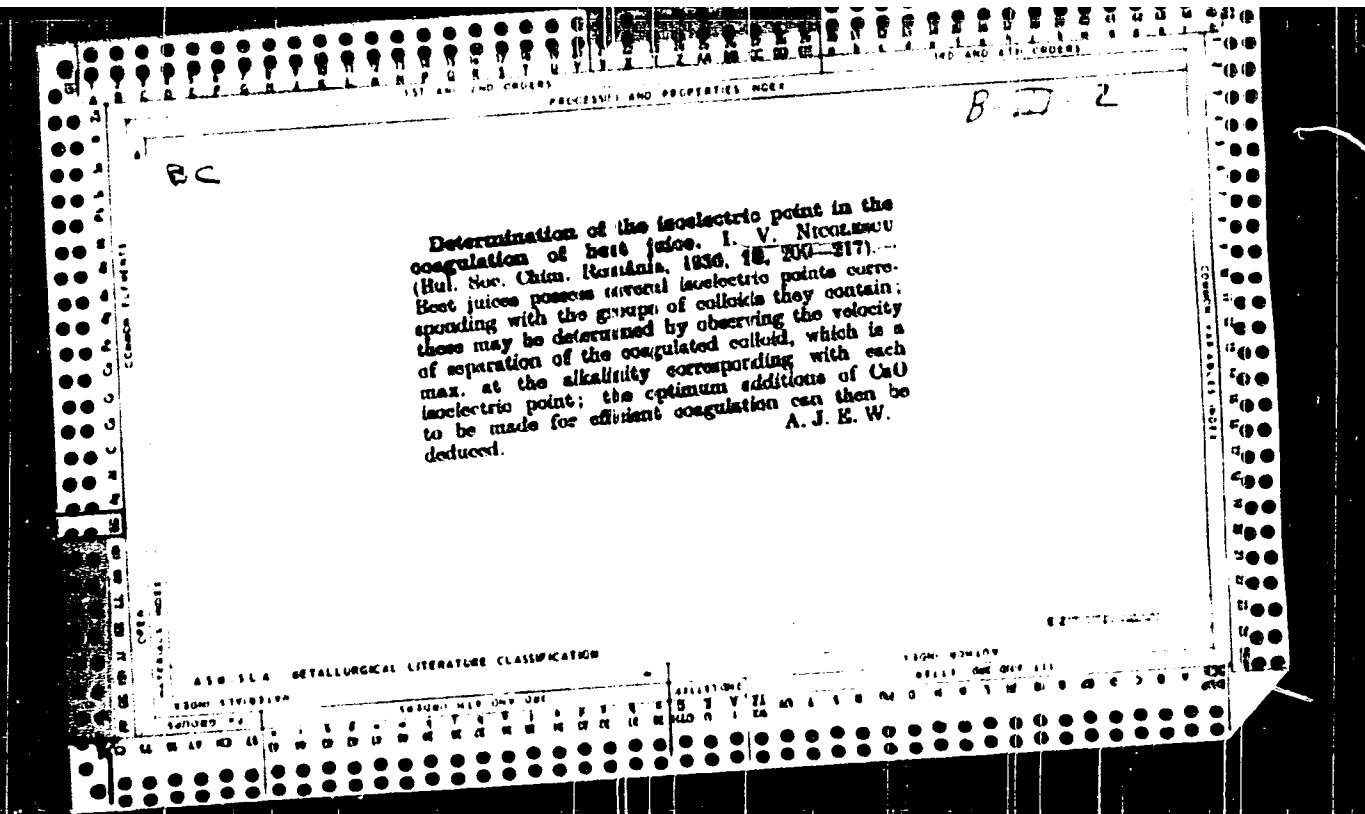


BC

1-3

Azo-dyes. E. A. Ermakov and I. V. Naga-
 lzova (Dok. Sov. Chim. Romains, 1935, 17, 208-
 206; cf. A., 1933, 17(6)).—Arylideneamines couple
 normally with diazonium salts, halogenarylidene-
 amines unusually readily. Benzylidene-diamines give
 vat dyes. Diazotised benzidine and
 $\text{NPh}_2\text{CH}_2\text{C}_6\text{H}_4\text{Cl}_p$ with NaOAc in hot EtOH give
 4-p-chlorobenzylideneaminobenzene-2'-hydroxy-
 diphenyl, m.p. 118°. $\text{e-C}_6\text{H}_4\text{N}_2\text{C}_6\text{H}_4\text{Cl}_p$ gives
 6-p-chlorobenzylideneaminonaphthalene-2'-hydroxy-
 diphenyl, m.p. 173°. NPh_2CHPh with the appropriate
 diazonium salts gives Na 2-(benzylideneaminobenzene-
 azo)naphthalene-4-sulphonate, m.p. 137°, and *o*-benzyl-
 ideneaminobenzene-2-naphthalene, m.p. 194°. Diazot-
 ization of $\text{m-NH}_2\text{C}_6\text{H}_4\text{NCHPh}$ in very dil. HCl
 and coupling gives *m*-benzylideneaminobenzene-2-
 dimethylaniline hydrochloride, m.p. 290°, and *o*-resorcinol,
 m.p. 322°. All the dyes are hydrolysed by HCl to
 NH_2 -compounds. The compounds containing the
 C_6H_5 ring have great stability. R. S. C.



Thermochemical investigation of the adsorption of sucrose on calcium oxide. E. Angelescu, I. S. Nucleescu, and A. Tigau. *Acad. Rep. Populare Romane, Bul. Stiinf. Ser. Mat., Fiz., Chim.* 2, 180-98 (1957). French summary. Previous studies on the rate of sugar from solus with CaO led to the hypothesis that 2 collateral reactions take place: (a) the hydration of the CaO and (b) the combination of sucrose with CaO, forming $C_{12}H_{22}O_{11} \cdot 3CaO$. The increase of temp. which takes place when distd. H₂O and sucrose solus are mixed adiabatically in a Dewar flask with CaO was measured. Although only qual. tests were carried out, a definite parallel between the extnd. yield and heat of reaction was observed: each factor which increases the extn. yield of sucrose on CaO results in a decrease of the total heat of reaction and inversely. In other words the two collateral reactions (a) and (b) are determinants in the adsorption process of sugar on CaO. (Gerhard Aulinger)

NICOLSCU, I.

"The Catalytic addition of Hydrochloric Acid to the Butanebutenes
Fraction of Gases From Oil Cracking. P. 295." BULETIN, STIINTIFIC,
Vol. 3, No. 2-4, Apr./Dec. 1951. Bucuresti, Rumania.

SO: Monthly List of East European Accessions, L.C. Vol. 2, No. 11, Nov. 1953.
Uncl.

NICOLFESCU, I.

"Research on the Adsorption of Hydrochloric Acid to Natural Aluminosilicate Catalysts. Note 1. p.263." BULETIN STIINTIFIC. Vol.3, No.2-4, Nov. 1953. Bucurresti Rumania.

SO: Monthly List of East European Accessions, L.C.Vol. 2, No.11, Nov. 1953
Uncl.

1971, p. 11.

"a hydroconversion catalyst. B. catrola 300 art." Mania de Maria,
Vol. 2, 1971, Bucharest.

NICOLESCU, I.

Catalytic dehydroconversion of kerosens. p. 171
Vol. 2, No. 3/4/, July/Dec. 1954, Bucuresti, Rumania

SOURCE: Monthly List of East European Accessions, (EEAL), L. of C.,
Vol. 5, No. 10, October 1956.

Wiestescu, I.V.

2

The promoting effect of platinum on nickel catalyst in the aromatization of certain paraffinic and cycloparaffinic hydrocarbons. I. V. Nicolescu and A. Popescu. Acad. rep. populare Romania. *Studia Universitatis Cluj*, 3, 135-46 (1975) (French summary). -- Adding small amts. (0.2%) of Pt to Ni-Al₂O₃ (36.0, 10.36, and 5.46% Ni) catalysts increased the yield in aromatizing n-C₁₁H₂₄ (I), methylcyclohexane (II), and a 1:1 mixt. of I and II. At 520° and atax. pressure Ni-Al₂O₃-Pt (5.46% Ni and 0.2% Pt) aromatized 40% of I, 94% of II, and 54% of a mixt. of I and II. Decreasing the Pt-Ni ratio below 0.030 gave lower yields; without Pt, increasing the Ni content invariably led to lower yields. Gerard

Handwritten initials or signature.

NICOLESCU, I. ; MODESTINU, A.

Studies on the catalytic dehydrogenation of certain alkylbenzenes; the activity of catalysts $\text{Cr}_2\text{O}_3 - \text{CuO} - \text{Al}_2\text{O}_3$ in the dehydrogenation of isopropylbenzene into α -methylstyrene. In French. p. 143.
(REVUE DE CHIMIE. RUMANIA. Vol. 1, no. 1, 1956.)

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

Nicolescu, I.V.

RUMANIA/Physical Chemistry - Kinetics. Combustion.
Explosives. Topochemistry. Catalysis

E-9

Abs Jour : Referat Zhur - Khimiya, No 2, 1957, 3861

Author : Nicolescu I.V., Modestinu A., Popescu A.I.

Inst : Academy of Rumanian People's Republic

Title : Catalytic Action of ~~Some~~ ~~Aluminum~~ Silicates in the
Synthesis of Isopropyl Chloride from Cracking Gases

Orig Pub : Commun. Acad. RER, 1956, 6, No 1, 63-70

Abstract : At temperatures of 24-145° and space velocities 17-36,
as study was made of the catalytic activity (in the reac-
tion $C_3H_6 + HCl \rightarrow iso-C_3H_7Cl$) of silica gel, silica gel
impregnated with 15% $FeCl_3$, synthetic magnesium-aluminum
silicate ($Al_2O_3:SiO_2:MgO = 11:80:9$), and bentonite clay
having the composition $SiO_2:Fe_2O_3:Al_2O_3 = 62.88:12.46:$
18.40 (I). Catalytic activity of all the investigated
catalysts decreases with increase of the reaction tem-
perature; most active was found to be I, which at a

Card 1/2

- 147 -

h-25

COUNTRY : Rumania
CATEGORY :

ABS. JOUR. : RZKhim., No. 1959, No. 72650

AUTHOR : Nicolescu, I.V.; Potescu, I.C.; Popa, A.I.*
INST. : Rumanian Academy
TITLE : Research on Catalytic-Cracking Catalysts.
Part II.

ORIG. PUB. : Studii si cercetari stiint. Acad. RPR Fil.
Iasi. Chim., 1957, 8, No 1, 151-162

ABSTRACT : A study of the effect of montmorillonitic structure of natural catalysts and bentonitic clays on their sorption characteristics and catalytic activity. X-ray diffraction studies were made on three samples, with recording of Debye-Scherrer patterns; changes in sorption characteristics, apparent specific gravity, porosity, aromatic index, were studied over temperature range of 200-300°, and of the effect of these changes on catalytic activity. Laboratory experiments were conducted on catalytic cracking of semi-paraffinic petroleum distillate. On the basis of experimental data the authors believe that a close correlation exists between montmorillonitic structure,

CARD: 1/2 • Tacu, C.

65

RUMANIA / Chemical Technology. Chemical Products. Refin- H
ing of Natural Gas and Petroleum. Motor and
Rocket Fuels. Lubricants.

Abs Jour: Ref Zhur-Khimiya, 1958, No 20, 68725.

Author : Nicolescu I. V., Popescu A., Papia Al.

Inst : NOT GIVEN

Title : Complex Catalytic Refining of Gasoline with Simul-
taneous Production of Pure Aromatics, High Octane
Gasoline and Cyclohexane.

Orig Pub: Rev. chim. 1957, 8, No 10, 625-633.

Abstract: A new method of catalytic aromatization of gaso-
line with simultaneous production of benzene, to-
luene, xylenes, high octane gasoline and cyclohexane
is described. Catalysts employed are: Pt-Al₂O₃ and
Ni-SiO₂ with 56% Ni. A complex conversion with the
fullest utilization of the 65-195° naphtha fraction
is thus attained.

Card 1/1

67

RUMANIA / Physical Chemistry Kinetics. Combustion, Explosions. Topochemistry. Catalysis. B

Abs Jour: Ref Zhur-Khiniya, No 11, 1958, 35471

Author : Nicolescu I.V., Pipescu Al.

Inst : Not given

Title : Study of the Mechanism of a Heterogeneous Catalysis. Part I.

Orig Pub: Rev. Chim. 1957, 8 No 11, 688-691

Abstract: Proceeding from conclusions drawn from recent theories, a number of experimental data obtained by other authors upon the investigation of the aromatization of n -Heptane, Cyclohexane and Methyl Cyclohexane on catalysts is considered. The catalysts are: Ni-Al₂O₃ with 5.4-36.6% Ni, and Ni-Al₂O₃Pt with the same quantity of Ni and an addition of 0.2% Pt.

Card 1/1

A. S. 1, 1 v
RUMANIA/Chemical Technology - Chemical Products and Their Application, Part 3. - Industrial Organic Synthesis. H-15

Abs Jour : Ref Zhur - Khimiya, No 14, 1958, 47682
Author : I.V. Niculescu, Alexe Popescu
Inst : "C.J. Parhon" University.
Title : Method of Simultaneous Preparation of Benzene and Cyclohexane at Catalytic Aromatization.
Orig Pub : An. Univ. "C.J. Parhon". Ser. stiint. natur., 1957, No 15, 93-95.
Abstract : Benzene (I) and cyclohexane (II) are obtained at the catalytic aromatization of gasoline fractions (GF) by platforming, at which occasion the forming gases containing from 75 to 85% of H₂ are utilized for the parallel catalytic hydrogenation of pure I or of a

Card 1/2

RUMANIA/Chemical Technology - Chemical Products and Their
Application, Part 3. - Industrial Organic
Synthesis.

H-15

Abs Jour : Ref Zhur - Khimiya, No 14, 1958, L7682

direct GF aromatization product. The experiments were carried out with a GF boiling in the range from 66 to 90° and containing (in %) paraffins - 38, naphthenes - 58, and aromatic compounds - 4; the aromatization product contained (in %) aromatic compounds - 52, naphthenes - 8, and paraffins - 40. The optimum conditions for the industrial hydrogenation of I are: temperature - 160°; catalyst - 56% of Ni and 44% of SiO₂; pressure - 8 to 10 atm.; volumetric rate from 0.5 to 1; molecular ratio of gases to I - 1.5 - 2 : 1; yield of II - 100%. The characteristic of the produced II: $d_{20} = 0.7790$; $n_D = 1.4260$; aniline point - 31.0; boiling point - 80 to 81.5°. At the hydrogenation of I containing fractions, fractions containing about 50% of II are obtained, yield of II - 100%.

Card 2/2

NICOLESCU, I.V.

B-9

ROMANIA/Physical Chemistry - Kinetics. Combustion.
Explosions. Topochemistry. Catalysis.

Abs Jour : Ref Zhur - Khimiya, No 8, 1958, 24254

Author : Niculescu, I.V., Iovu Mircea

Inst : -

Title : Catalytic Reactions of Alkyl Metal Halides. Communication
I. Polymerization of Cyclohexene.

Orig Pub : An. Univ. "G.J. Euzon". Ser. stint. natur., 1957, No 15,
97-101

Abstract : It is shown that halogenides of aluminum alkyl can act as
catalysts in the polymerization of cyclohexene. The follo-
wing catalysts were synthesized: benzyl aluminum chloride
and bromide, butyl aluminum chloride, dichloroethanol alumi-
num and dibromocyclohexane aluminum. With these compounds
which are partially soluble in cyclohexene higher yield
were obtained than with $AlCl_3$. Benzyl aluminum chloride

Card 1/2

92

B-9

RUMANIA/Physical Chemistry - Kinetics, Combustion.
Explosions. Topochemistry. Catalysis.

Abs Jour : Ref Zhur - Khimiya, No 8, 1958, 24254

and bromide were found to have the highest activity.
The reaction product obtained corresponds to the pentamer
of cyclohexene.

Card 2/2

Distr: 4E3d/
4E2c(3)/4E3c

7
 ✓ Physical properties of solid catalysts. 7. A study of the
 electrical conductivity of catalysts used in converting meth-
 ane. I. V. Nikol'skiy, Maximilian Spinzi, Cristiana For-
 den, and Ion Costov. *Rev. chim., Acad. rep. populare*
~~Roumaine 5, No. 1, 165-70 (1958).~~ - No significant differ-
 ences in elec. cond. of a catalyst (NiO 19, MgO 4.5, FeO 31,
 Al₂O₃ 43, and Fe₂O₃ 0.9%) and its support (kaolin 95,
 MgO 30, and MgO 6%) are found at 240°, 320°, 480°, 560°
 and 640° in an atm. of O₂ or H₂ in a 4-ml. microreactor.
 Characteristic values for 10⁴ log 1/R are -8.08, -7.24,
 -6.08, -5.74, and -4.40 for these temps. This indicated
 lack of chemisorption may be due to the nature of the
 catalyst or too short contact times. E. D. Witman

7
3 May
3

Handwritten initials: JEF

NICOLESU, I. AND OTHERS

Electroconductometric analysis of the catalyzer used in methane-conversion process. p. 287.

Academia Republicii Populare Romine. STUDII SI CERCETARI DE CHIMIE.
Bucuresti, Rumania. Vol. 6, no. 2, 1958.

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

Uncl.

COUNTRY : RUMANIA B
 CATEGORY : Physical Chemistry, Kinetics, Combustion.
 ABSTRACT :
 AUTHOR :
 INSTITUTE :
 TITLE :
 CRUC FILE :
 CRUC FILE :

ABSTRACT

Reaction of ethyl acetate with hydrogen peroxide in the presence of various metal catalysts. The reaction rate increases with increasing concentration of catalyst. The reaction is first order with respect to ethyl acetate and first order with respect to hydrogen peroxide. A detailed mechanism is proposed to explain the observed results. The reaction is exothermic and the activation energy is 12.5 kcal/mole.

1771

Distr: 4E3d/4E2c(3)

Catalytic reactions with alkyl aluminum halides. Synthesis of polyphenylethylenes by polycondensation of 1,2-dichloroethane with benzene. L. V. Nicolescu and M. Iovu (Univ. Bucharest, Romania). Ind. Plast. Mod. (Paris) 10, No. 10, 46-7 (1968).—More linear polymers of higher mol. wt., up to 15,000, can be obtained by treating $\text{CH}_2\text{Cl}-\text{CH}_2\text{Cl}$ (I) with C_6H_6 (II) in a dry medium under inert gas using an alkyl Al halide as a catalyst. The catalyst is conveniently made *in situ* by a reaction of I with Al powder activated with NaOH and washed with alc. and Et_2O . The formation of the catalyst is initiated by a few drops of $\text{CH}_2\text{Br}-\text{CH}_2\text{Br}$. About 1 mole of Al is required/100 moles of I. The highest mol. wt. is obtained with a molar ratio of II to I of 1.1/1. As the ratio decreases from 1.2/1 to 1/1.2 the yield of diphenylethane and bis(β -phenylethyl)benzene and the η_{inh} of the polymer decrease. H. L. Williams

6
2 - may
2

J.F.

Country : Rumania H-15
Category: : Chemical Technology. Chemical Products and Their
Applications--Industrial organic synthesis
Iss. Jour. : Referat Jour--Khim., No 11, 1954, 39566
Author : Nicolescu, I. V., Vasilescu, P., Angelescu, E., and
Institut. : Antonescu, F.
Title : C. J. Pardon University
Unsaturated Fatty Acids from Fatty Acids Obtained by
the Oxidation of Paraffins
Orig. Pub. : An Univ 'C. J. Pardon', Ser Stiint Natur, No 10, 47-
6, (1954)
Abstract : The authors have investigated the production of un-
saturated fatty acids by the chlorination of fatty
acids obtained by the oxidation of paraffin, followed
by dehydrochlorination of the chloro-substituted ac-
ids obtained. The starting materials used consist of
liquid synthetic fatty acids with $C_{12}-C_{14}$ (I), bp 95-
150°/12mm, d_4^{20} 0.9100, n_D^{20} 1.4525, iodine number
(IN) 7.5, average molecular weight (MW) 190, and of
solid synthetic fatty acids with $C_{12}-C_{14}$ (II), bp
225-275°/35 mm, IN 5, MW 250, saponification number
240. The chlorination procedure developed for
stearic acid can be carried out both in CCl_4 solution
Card: 1/3

4-63

Country : Rmania
Category :

H-15

Abs. Jour. :

39566

Author :
Instit. :
Title :

Orig. Pub. :

Abstract : and in the absence of a solvent. Optimum conditions for the achievement of a product containing 24-30% Cl are as follows: chlorination time 5-6 hrs, solvent not used, operation of the process in the presence of benzoyl peroxide, reaction temperature 60-70°. Under the above conditions both I and II can be chlorinated: I after 1 hr gives a product containing 18% Cl, n_D^{20} 1.4712, and after 18 hrs, a product containing 25.6% Cl; II after 3 hrs gives a product containing 19% Cl and after 4 hrs, a product containing 29% Cl, n_D^{20} 1.4754. Optimum conditions when $\text{Ca}(\text{OH})_2$ is used as the dehydrochlorinating agent have been found to be as follows: 15%

Card: 2/3

Country : Rumania H-15
Cater. nym :
Pub. Year. : 1968
Author :
Institut. :
Title :
Orig. Ref. :
Abstract : excess of $\text{Co}(\text{OAc})_2$ over the stoichiometric amount, reaction temperature 170-160°, 12-15 atm pressure, reaction time 5 hrs. When the above conditions are used, a mixture of unsaturated acids containing 1-1.5% C1 is obtained, 1% of C₂-C₂, fraction 62, 1% of C₄-C₅, fraction 1.2. The unsaturated fatty acids obtained are used in the production of unsaturated alcohols and of glycolic esters.
T. Sladkova

Card: 3/3

//-64

NICOLESU, I. V.

7

Physical properties of solid catalysts. III. Electroconductor study of the catalyst Pt-Al₂O₃ used in the Platforming process. Microreactor equipment for the determination of electrical conductivity and for the semiconductor character of metallic oxides and catalysts. I. V. Nicolescu, A. Ponceau, M. Spinel, and A. Suceveanu. Rev. Chim., Acad. rep. populare Romane 4, 75-92 (1959) (in French); cf. C.A. 53, 21102b.—A microreactor for the study of elec. cond. of solid catalysts was constructed. Reproducibility was studied by calibrating elec. cond. of NiO and ZnO in air and in a discontinuous H stream, confirming the hypothesis of Heckelsberg, et al. (C.A. 49, 7969f). PtO behaves as a n-type semiconductor in the temp. interval 290-600°. As regards the variation of elec. cond. as a function of temp., Al₂O₃ behaves as a very weak semiconductor with pos. holes at low temp. and as an electronic semiconductor at higher temps. The catalyst Pt on Al₂O₃ (1% Pt) used in Platforming appears to be a complex energetic system that behaves as a very weak conductor with pos. holes.

Frederick C. Nachod

5
good (u/p)

208
11

copy

NIKOLESKU, I.V. [Nicolescu, I.V.]; MODESTINU-NIKOLESKU, A. [Modestinu-
~~Nicolescu, A.~~]

Catalytic dehydrogenation of some alkyl benzenes. IV. Derivation of methylstyrene by dehydrogenation of isopropylbenzene over the catalyst based on ZnO. Rev chimie 4 no.2:199-206 '59. (EEAI 9:7)

1. Akademiy RNR, TSentr Khimicheskikh issledovaniy, Bukharest.
(Catalysts) (Dehydrogenation) (Methylstyrene)
(Alkyl groups) (Zinc oxide) (Cumene)
(Benzene)

NICOLESCU, I.;POPESCU, A.

Physical properties of solid catalyzers. III. Electroconductometric study of the Pt-Al₂O₃, utilized in the process of plating and determining the properties of the semiconductor of PtO. p. 49.

STUDII SI CERCETARI DE CHIMIE. Bucuresti, Rumania.
Vol. 7, no.1,1959.

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

Uncl.

NICOLESCU, I.V.

Distr: 4E2c(j)/4E3d

~~Esterification with ion exchange catalysts. I. V. Nicol-
 escu, A. Suceveanu, and Emilian Angelescu (Chem. re-
 search center, Acad. R.P.R., Bucharest, Romania).
 Acad. rep. populare Romine, Studii cercetari chim. 7, 621-80
 (1969).—The mechanism of esterification (org. acids and
 aliphatic alcs.) in the presence of ion exchange catalysts
 (H^+) was discussed, and the correlation between the chem.
 structure of the acids, the hydrocarbon chain length of the
 alcs., and the nature of the ion exchanger was investigated.
 Expts. involved esterification of adipic acid with *n*-butyl,
n-hexyl, and *n*-octyl alcs., that of phthalic anhydride with
 EtOH and BuOH, and that of AcOH with BuOH. The
 resins compared were Amberlite IR-120, Dower 80, Sulfo-
 carbon N.S. (prepared by sulfonation of Lupeni coal with
 fuming H_2SO_4 contg. 20% SO_3), Sulfo-carbon L (same sulfona-
 tion of Capeni lignite) and Sulfo-carbon S.C. (same sulfonation
 of semi-coke). Best results in all cases (with the exception
 of di-Et phthalate) were obtained with IR-120 (Sulfo-carbon
 N.S. being very close to it). In the case of AcOH, the age-
 ing of Sulfo-carbon N.S. was studied. No decrease in
 catalytic activity was observed after 20 usages.~~
 M. Lapidot

6
 1-BW(BW)
 2-JAJ(NB)(may)
 2

Distr: 4E3d

Complexing process for the catalytic aromatization of gasoline and the preparation of cyclohexane. I. V. Niculescu, A. Popescu, and A. Popa (Univ. Bucharest, Romania). *Rev. inst. frang. pétrole et Ann. combustibles liquides* 14, 1008-15(1959); cf. *CA* 52, 11396a.—Results are given for bench-scale expts. on the aromatization of gasoline by multistage contact with a Platforming catalyst and a H-contg. gas. Benzene was produced from a 65-90° fraction and toluene and xylene from a 90-190° fraction. Pure benzene was sepd. by extn. of the mixt. of aromatic compds. and was hydrogenated to cyclohexane over a 66% Ni on silica catalyst.

5
1-BN(EW)
1-JAT(MB)
1

SECRET

CLASSIFICATION: CONFIDENTIAL

TITLE: Attribution of Arms to the Viet Cong and North Vietnamese in the Province of Binh Dinh, Vietnam Area

DESCRIPTION: This report contains information on the attribution of arms to the Viet Cong and North Vietnamese in the Province of Binh Dinh, Vietnam Area. It is based on a study of the arms and equipment found in the area during the period from 1964 to 1966.

ABSTRACT: This report contains information on the attribution of arms to the Viet Cong and North Vietnamese in the Province of Binh Dinh, Vietnam Area. It is based on a study of the arms and equipment found in the area during the period from 1964 to 1966. The report discusses the types of arms and equipment found, the sources of these arms, and the methods used to attribute them to the Viet Cong and North Vietnamese. It also discusses the impact of these arms on the military operations in the area.

CONFIDENTIAL

CONFIDENTIAL

Alkylation of Aromatic Hydrocarbons With
Cyclohexene in the presence of
(C₂H₅)₂AlBr; C₂H₅AlBr

15071
S0112-4001-10000

In comparison with aluminum chloride, ethylaluminum bromides are more active catalysts, used for alkylation of aromatic hydrocarbons with cyclohexene. Alkylation of benzene, toluene, o-, m-, and p-xylenes with cyclohexene in the presence of the above catalyst yielded the following compounds:

- bp 102-103° (1 mm), n_D²⁰ 1.5225; dicyclohexylbenzene,
- bp 140-141° (1 mm), n_D²⁰ 1.5355; cyclohexyltoluene, bp
- 103-104° (1.5 mm), n_D²⁰ 1.5245; dicyclohexyltoluene,
- bp 154-155° (1 mm), n_D²⁰ 1.5325; cyclohexyl-o-xylene,
- bp 101-102° (1 mm), n_D²⁰ 1.5175; dicyclohexyl-o-xylene,
- bp 154-155° (1 mm), n_D²⁰ 1.5325; cyclohexyl-m-xylene,
- bp 104-105° (1 mm), n_D²⁰ 1.5175; dicyclohexyl-m-xylene,
- bp 103-104° (1 mm), n_D²⁰ 1.5175; cyclohexyl-p-xylene, bp 104-105°

Card 3/4

Alkylation of Aromatic Hydrocarbons With
Cyclonhexene in the Presence of
 $(C_2H_5)_2AlBr \cdot C_6H_5AlBr$

1957
SOV 68-00-1-1-1737

(13.44) (10) 1.0000: monochloroxy-p-xylene, 1.1000
(1.00). The yield of monochloroxy derivatives in
the case of o-, m-, p-xylene and toluene decreases and
the yield of di- and polychloroxy derivatives
increases. There are 2 tables and 5 references.
Soviet, 1 German, 1 U.S. The U.S. reference is:
Beery, T. M., Kell, E. R., J. Am. Chem. Soc., 61,
3142 (1939).

ASSOCIATION: K. Parkon, Bucharest University, Bucharest, R.P.R.
Universitat, Merit, K. Parkon, R.P.R.

SUBMITTED: December 2, 1957

Card 4/4

L 12310-63

EWP(j)/BDS ASD/AFFTC Pc-4 RM

S/081/63/000/005/067/075 60

AUTHOR: Robn, C., Domie, Th., Angelescu, Em., Dragan, El. and Nicolescu, I. V.

TITLE: Effect of epoxy complex di- and triesters of fatty series on the viscosity and quality of alkyd varnishes 5

PERIODICAL: Referativnyy zhurnal, Khimiya, no. 5, 1963, 607, abstract 5T191 (An. Univ. "C. I. Parhon." ser. stiint. natur., 1960, v. 9, no. 26, 175-187)

TEXT: The effect of addition of epoxy sunflower oil (I) and ethylene glycol diisophtalate (II) on the rate of change in viscosity and acid number of varnish resins, obtained from glycerin, phthalic anhydride and linseed (or sunflower) oil was studied. It was shown that replacement of a fraction of the glycerin by an equivalent amount of I or II without a corresponding lowering of content of vegetable oil slows down, and under conditions of a corresponding lowering of vegetable oil content -- increases the rate of reaction. In addition, I brings about a greater increase of reaction rate than II. In both cases, the color of the product is lighter. The resins synthesized by means of I are dried forming coatings, which in pliability, elasticity, shock resistance, water

Card 1/2

L 12310-63

Effect of epoxy complex

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S/08L/63/000/005/067/075

resistance and resistance to 3% solution of NaOH and 3.5% NaCl are comparable to coatings of varnish resins which do not contain I. The former, however, differ from the latter by greater hardness and lesser speed of air drying. The introduction of II resulted in a resin, which has low water resistance, and is incapable of drying in air. By B. Zubov.

[Abstractor's note: Complete translation]

Card 2/2

R/003/60/011/002/002/00-
A125/A026AUTHORS: Nicolescu, I.V.; Nicolescu-Modestinu, A.TITLE: Study of the Selectivity of Catalysts Used in Dehydrogenation Reaction of Isopropylbenzene to Alpha-Methylstyrene

PERIODICAL: Revista de Chimie, 1960, Vol. 11, No. 8, pp. 452 - 458

TEXT: The production of alpha-methylstyrene by catalytic dehydrogenation of isopropyl-benzene is mainly performed in the USSR at the SKMS Synthetic Rubber Combine. The same method will be used in the Combinatul Chimic (Chemical Combine) in Borzești - Onești for production of synthetic rubber. In previous works (Refs. 1 and 2), the authors presented some laboratory results obtained by dehydrogenating isopropylbenzene to alpha-methylstyrene and using the following catalysts: $\text{Cr}_2\text{O}_3\text{-Al}_2\text{O}_3$, $\text{CuO-Al}_2\text{O}_3$, $\text{Cr}_2\text{O}_3\text{-CuO-Al}_2\text{O}_3$, ZnO + promoters. In subject article they present a more general criteria of appreciating the practical value of a catalyst by considering the correlation between the activity, selectivity, selectivity index and the values of apparent activation of the primary and secondary reaction. The catalytic dehydrogenation of isopropylbenzene has been already studied by A.A. Balandin and G.M. Marukian (Ref. 3), and by Nickels and his assistants (Ref. 7).

Card 1/3

R/003/60/011/008/002/005
A125/A026

Study of the Selectivity of Catalysts Used in Dehydrogenation Reaction of Isopropylbenzene to Alpha-Methylstyrene

The industrial catalyst 1707 and the $\text{Cr}_2\text{O}_3\text{-Al}_2\text{O}_3$ catalyst proved to be the most advantageous. The authors briefly refer to the physico-chemical properties of the alpha-methylstyrene monomer. At the catalytic dehydrogenation of isopropylbenzene there are, besides the primary reaction of the formation of alpha-methylstyrene, also a series of secondary reactions producing benzene, toluene, styrene-ethylbenzene, gaseous hydrocarbons, etc (Fig. 1). The dehydrogenation reaction of isopropylbenzene is powerfully endothermic. The quality of catalysts with regard to the development of a chemical process can be as well appreciated by taking into consideration the activity, selectivity, selectivity index and the apparent power of activation. The activity increases with the temperature and vice-versa. The selectivity varies in function of the volumary speed. The temperature reduces the selectivity, but increases the activity. On the basis of Table 8, the authors examined five catalysts. Generally, the active component Cr_2O_3 presents for a chain dehydrogenation a reduced selectivity, because 27 - 48% of the raw material are transformed into secondary products. As compared with the industrial catalyst 1707 (with Fe_2O_3 as active component), a catalyst on the basis of zinc oxide (Zn III) proved to be superior. Zn III produces approximately 51% alpha-methylstyrene

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Card 2/3

R/003/60/011/008/002/003
A125/A026

Study of the Selectivity of Catalysts Used in Dehydrogenation Reaction of Isopropylbenzene to Alpha-Methylstyrene

and only 6.7% secondary products. Compared with the other catalysts of Table 8, Zn III has the lowest activity value, i.e., 58.4, but has the highest values of selectivity and selectivity index, and supplies the best practical results i.e., a high efficiency in the primary product and a minimum of transformation of primary material into secondary products. The value of the apparent activation power is 18,779 kcal/mol, whereas the cracking reaction has an apparent activation power of 56,585 kcal/mol. The appreciation of the practical qualities of catalysts can be extended also to other hetherogene catalytic reactions. But, this appreciation does not always justify the economy of a hetherogene-catalytic process. Sometimes it is interesting to use catalysts which produce at a single passing a smaller efficiency of the primary product, but finally lead to a high efficiency by recirculating the non-transformed reactant. There are 8 tables, 2 figures and 6 references: 3 English, 1 French, 1 Rumanian and 1 Soviet.

ASSOCIATION: Universitatea "C.I. Parhon" București, Laboratorul de cataliză (Catalytic Laboratory of the "C.I. Parhon", University in Bucharest)

Card 3/3

R/003/60/011/011/002/007
A124/A026

AUTHOR: Nicolescu, I.V., Professor

TITLE: Soviet Contributions to the Study on the Mechanisms of Catalytic Reactions of Some Hydrocarbons

PERIODICAL: Revista de Chimie, 1960, Vol. 11, No. 11, pp. 626 - 629

TEXT: Subject article deals with Soviet theories regarding the catalytic transformation of organic substances, especially of various hydrocarbons. A.A. Balandin with his school supports the theory of multiplets, S.Z. Roginskiy, F.F. Volkenstein and I.A. Miasnikov in Moscow, A.N. Terenin and his co-workers in Leningrad, and V.S. Liashenko with his school in Kiev have developed the electronic theory of catalysis. F.F. Volkenstein (Ref. 1) believes that the electronic theory is leading to concepts of proper characteristics, including the existing concepts of the actual theories. A.A. Balandin expressed his opinion in a paper presented at the International Congress on Catalysis in Paris in July 1960 (Ref. 2), according to which modern theories of heterogeneous catalysis are completing each other. The electronic theory could contribute to the extension of the theory of multiplets. Based on this theory the academician A.A. Balandin has worked out the study of the kinetics and mechanics of the hydrogenation process (Ref. 3). The kinetics of hy-

Card 1/3

R/003/60/011/011/002/007
A124/A02

Soviet Contributions to the Study on the Mechanisms of Catalytic Reactions of Some Hydrocarbons

drogenation were thoroughly studied by S.E. Yelovich and G.M. Zhabrova (Ref. 4). A.A. Balandin and N.I. Shuikin (Ref. 5) have studied on nickel catalysts the relative speed of hydrogenolysis of different combinations. The hydrogenolysis of C-C combinations has been discovered by N.D. Zelinskiy, B.A. Kazanskiy and A.F. Plate. Based on B.A. Kazanskiy's experimental studies, A.L. Lieberman and A.F. Plate have accomplished the geometric representation of the process. The kinetics of the heterogeneous process of the dehydrogenation of cycles with six carbon atoms was thoroughly studied. The equation of the dehydrogenation speed

$$v_d = K_d \frac{(C)}{(C) + (B)}$$

in the presence of metal catalysers has been established by A.A. Balandin and N.I. Shuikin for the first time. A.M. Rubinstein, N.I. Shuikin and their assistants (Ref. 6) have established that, as more Pt is dispersed in the carbon, the dehydrogenation synthesis of the cyclohexane agrees with the intensity of X-rays reflected from the (111) faces. A.A. Balandin and M. Isaguleants (Ref. 7) recently studied the dehydrogenation of the cyclohexane (I) and decalin (II) on Ni-Al₂O₃ and

Card 2/3

R/003/60/011/011/002/007
A124/A026

Soviet Contributions to the Study on the Mechanisms of Catalytic Reactions of Some Hydrocarbons

$\text{Cr}_2\text{O}_3\text{-Al}_2\text{O}_3$. I.V. Nicolescu and A. Popescu have confirmed their investigations conducted on the interrelation between the electric properties and catalytic capacity of $\text{Pt-Al}_2\text{O}_3$, $\text{Ni-Al}_2\text{O}_3\text{-Pt}$ and $\text{MoO}_2\text{-Al}_2\text{O}_3$ catalysts. There is the possibility of an interdependence between the electronic theory and the theory of multiplets for the catalytic aromatization of hydrocarbons. There are 7 Soviet references.

Card 3/3

NIKOLESKU, I. V. [Nicolescu, I. V.]; POPESKU, A. [Popescu, A.]

IV. Electric properties of the nickel and platinum catalysts, used in the processes of the aromatization of hydrocarbons. Rev chimie 6 no.1:115-123 '61.

1. Universitet in. N. I. Parkhona, Bukharest, Fakul'tet khimii, Laboratoriya organicheskogo kataliza.

S/081/63/000/001/030/061
B144/B106

AUTHORS: Serban, O., Nicolescu, I. V.
TITLE: Solubilization of alkyl-aromatic hydrocarbons in solutions
of colloidal electrolytes
PERIODICAL: Referativnyy zhurnal. Khimiya, no. 1, 1963, 110, abstract
1B773 (Ser. stinț. natur., v. 10, no. 30, 1961, 141-150
[Rom.; summaries in Russ. and French])

TEXT: The solubilization of cumene and diisopropylene benzene was studied in solutions of some surface-active agents (SAA). The following conclusions were drawn: the solubilization of hydrocarbons increases with increasing concentration of SAA. Solubilization depends on the nature both of the SAA and of the hydrocarbon. Additions influence the solubilization of hydrocarbons, Na_2CO_3 and particularly increases the solubilization. In all cases a change in the solubilization rate was observed in the SAA concentration range from 0.6 to 1.5%. From the SAA studied, the sodium salt of isooctyl toluene sulfonic acid gives the
Card 1/2

Solubilization of alkyl- ...

S/081/63/000/001/030/061
B144/B186

highest solubilization. [Abstracter's note: Complete translation.]

Card 2/2

NICOLESCU, I.V., prof.,dr., laureat al Premiului de Stat; CRUIA, Maria

Elaboration of some criteria for the selection of solid catalysts.
Rev chimie Min petr 13 no.1:9-15 Ja '62.

1. Membru al Comitetului de redactie, "Revista de chimie" (for
Nicolescu)

NICOLESCU, I. V.

Research on the activity and selectivity of the catalysts susceptible for aromatizing and dehydrogenizing hydrocarbons. Rev chimie 7 no. 1: 359-367 '62.

1. Centre de recherches chimiques de l'Academie de la R.P.R. et Faculte de Chimie de l'Universite de Bucarest.

L 41984-65 EMT(m)/EPF(e)/EMP(j) Pc-4/Pr-4 RM

RU/0003/64/015/008/0502/0504

ACCESSION NR: AP5012517

AUTHOR: Nicolescu, I. V.

TITLE: Current and long range problems concerning heterogeneous catalysis

SOURCE: Revista de chimie, v. 15, no. 8, 1964, 502-504

TOPIC TAGS: catalysis, chemical industry

Abstract: A brief summary of the principal chemical processes using catalysts that are currently used in the Rumanian chemical industry, recent theoretical studies relating to the mechanism of heterogeneous catalysis, and the improved efficiency of technological processes caused by proper use of catalysts. All sectors of the chemical industry, especially the nitrogenous products industry, the sulphuric acid branch, the production of synthetic rubber, the processing of crude oil, organic chemistry and the production of synthetic fibers, depend on heterogeneous catalysis. Orig. art. has 1 table.

ASSOCIATION: none

SUBMITTED: 00

NO REF SOV: 000

Card 1/1 LL

ENCL: 00
OTHER: 000

SUB CODE: GC, GO
JPRS

L 30763-66 EWP(j) RM

ACC NR: AP6020250

SOURCE CODE: RU/0003/65/016/11-/0550/0560

AUTHOR: Nicolescu, Ala; Gruia, Maria; Nicolescu, I. V. (Winner of the State Prize; Professor; Doctor)

ORG: Research Center in Organic Chemistry, Academy of the Socialist Republic of Rumania (Centrul de Cercetari in Chimia Organica al Academiei Republicii Socialiste Romania)

TITLE: Active alumina as a support for catalysts

SOURCE: Revista de chimie, v. 16, no. 11-12, 1965, 550-560

TOPIC TAGS: alumina, aluminum hydroxide, aluminum oxide

ABSTRACT: A critical discussion of catalytic aluminas. The authors discuss the structural forms under which aluminum hydroxides and oxides occur and the correlation of form with catalytic activity; surface chemistry and physical properties are also examined. Experimental data is cited to show that catalytic activity can be raised 2 to 10 times by influencing isomerization activity through the introduction of organic surface agents in the precipitation medium. [Based on authors' Eng. abstract] [JPRS]

SUE CODE: 07 / SUBM DATE: none / ORIG REF: 003 / OTH REF: 037

SOV REF: 006

Card 1/1 JS

UDC: 661.862.22:66.097.5

NICOLAESCU, L. AND OTHERS.

Nonsaturated fatty acids extracted from the fatty acids after the oxidation of paraffin. I. p. 57.

ANALELE SERIA STINTELOR NATURII. Bucuresti, Rumania. Vol. 7, no. 18, 1958.

Monthly List of East European Accessions (EEAI), LC, Vol. 8, no. 9, Sept., 1959.

Uncl.

L 64575-65
ACCESSION NR: AP5023474

RJ/0012/64/000/006/1041/1048

AUTHOR: Marcean, N. (Lieutenant Colonel, Veterinary doctor); ^{44, 55} Nicolescu, L. (Engineer); ^{44, 55} Titescu, I. (Veterinary doctor, Lieutenant Colonel)

44, 55
23
B

TITLE: Establishing the energy value of some food concentrates used in feeding the military

^{44, 55} SOURCE: Revista sanitara militara, no. 6, 1964, 1041-1048

TOPIC TAGS: nutrition, nutriology

ABSTRACT: The energy value of eight varieties of food concentrates was studied after storage of one and two years. The caloric value, based on proteins, lipids, and carbohydrates averaged 313 to 417 calories per ration. The percentage of proteins and lipids was considered low. Storage and packaging did not affect the caloric values. A balanced daily intake of 3,600 calories is achieved by 4 concentrated rations plus bread, sugar, and jam. Orig. art. has: 4 tables.

Card 1/2

L 64575-65
ACCESSION NR: AP5023474

ASSOCIATION: none

SUBMITTED: 00

NR REF SOV: 000

ENCL: 00

OTHER: 005

SUB CODE: IS

JPRS

①

ml
Card 2/2

Nicolescu, Lilly-Joanne

Nicolescu, Lilly-Joanne. Sur une extension du critère de compactité d'Arzela. Acad. R. P. Roum. Bul. Şti. Sec. Şti. Mat. Fiz. 7 (1955), 545-552. (Romanian, Russian and French summaries)

1 - F/W

4000

A real-valued function f on $I=[0, 1] \times [0, 1]$ is said to be hyperbolically (or h-) continuous provided for each $(x, y) \in I$ and each $\epsilon > 0$ there exists $\delta > 0$ such that $|f(x, y) - f(x', y) - f(x, y') + f(x', y')| < \epsilon$ for all $(x', y') \in I$ with $|x - x'| < \delta, |y - y'| < \delta$. The space C_H of all such functions is defined by means of the pseudonorm

NICOLESCU, L.

"Some remarks on the modulus of continuity."

p. 247 (Buletin Stiintific. Sectia De Stiinte Matematice Si Fizice)
Vol. 9, no. 2, 1957
Bucharest, Rumania

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

1968, 1.

on direct-second-order differentiability of the second order in Archet's
or Gateaux's sense. In English. p. 217.

REVUE DE MATHÉMATIQUES PURES ET APPLIQUÉES. JOURNAL OF PURE AND APPLIED
MATHEMATICS. (Academia Republicii Populare Romine), Bucuresti, Romania.
Vol. 3, no. 2, 1958.

Monthly List of East European Accessions. Vol. 10, no. 1, January 1966.
UNCL

NICOLESCO, L.

Properties of the Gateaux real, directly differentiable functions of the second order. p. 415.

COMMUNICABLE. Bucurati. Vol. 9, no. 5, May 1960.

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

Uncl.

NICOLESCU, L. J.

On an extension of a Bogel lemma. Rev math pures 5 no.2:451-455
'66. (EAI 10:9)

(Spaces, Generalized) (Groups of points)

NICOLESCU, Lilly-Jeanne

On the integrability of Frechet differentials of an arbitrary order.
Rev math pures 5 no.3/4:625-653 '60. (EEAI 10:5)
(Spaces, Generalized) (Conformal mapping)
(Integrals) (Differential equations)
(Groups, Theory of)

NICOLESCU, Lilly Jeanne

Direct differential of the second order in the Frechet and Gateaux sense in the locally convex spaces. Comunicarile Ar 11 no.12:1431-1435 D '61.

1. Comunicare prezentata de Al Ghika, membru corespondent al Academiei R.P.R.

NICOLESCU, Lilly Jeanne

On the equation with variations, attached to a linear system with mixed partial derivatives of the second order. Comunicarile AR 12 no.7:783-789 SI '62.

1. Comunicare prezentata de Al. Ghika, membru corespondent al Academiei R.P.R.

NICOLESCU, L. J.

On the analyticity of the direct second order differential
in Gateaux's sense. Rev math pures 8 no. 2:305-307 '63.

NICOLESU, L. J.

"Elements of mathematics" by N. Bourbaki. Vols. 2-3:
"General topology." Reviewed by L. J. Nicolescu.
Rev math pures 8 no. 2:326-328 '63.

NICOLESCU, L.J.

On mixed direct differentiation of vector valued functions. Rev math
pures 8 no.4:647-652 '63.

NICOLAESCU, Lilly Jeanne

On a weak mean value theorem. Rev. Mat. Rom. 10 no. 41-42-43
'65.

1. Institute of Mathematics of the Rumanian Academy. Sub-
mitted August 8, 1962.

NIGOLESCU, L.J.

On a theorem of medium. Studii cerc mat 16 no. 2: 987-1005 '66.

TEODORESCU, St., conf.ing.; NICOLESCU, M., ing.

Geometric elements for calculating the jacket evolutes in
spherical pressure tanks. Petrol si gaze 14 no.9:457-465
S'63.

TEODORESCU, St., ing.; NICOLESCU, M., ing.

Strength calculation elements for spherical pressure reservoirs.
Petrol si gaze 14 no.12:629-638 D'63

L 38580-66

SOURCE DOC. RU/0024/66/000/001/0021/0028

ACC NR: AP6027677

AUTHOR: Nicolescu, Maria (Bucharest)

ORG: none

TITLE: First map of Wallachia prepared by a Romanian scientist: the map by Constantin Cantacuzino of 1700

SOURCE: Natura. Seria geografie, 1966, 1, 28

TOPIC TAGS: map, cartography

ABSTRACT: An analysis, from a cartographic and geographic point of view, of the first map worked out by a Romanian scholar. The map of Wallachia of 1700 by C. Cantacuzino was the first to properly locate the area on the globe in terms of geographical coordinates, contains names of mountains, lakes, etc., as well as a complete list of towns, market towns, villages and monasteries as well as other interesting features, and was used extensively by 18th century cartographers in compiling general maps. [Based on author's Eng. abst.] [JPRS: 36,457]

SUB CODE: 08 / SUBM DATE: none / ORIG REF: 013

Card 1/1 *fv*

0917 1176

NICOLESCU, Modestimu

RUMANIA/Physical Chemistry - Kinetics, Combustion, Explosions, Topo-chemistry, Catalysis.

B-9

Abstr Jour: Referat. Zhurnal Khimiya, No 2, 1958, 3904

Author : Nicolaescu, Modestimu.

Inst : Academy of Sciences of Rumania.

Title : Study of Catalytic Dehydrogenation of Some Alkylbenzenes.
I. Activity of Cr_2O_3 - CuO - Al_2O_3 Catalysts at Dehydrogenation Reaction of Isopropylbenzene in α - Methylstyrene.

Orig Pub: Khim. zh. Akad. RNR, 1956, 1, No 1, 149-161.

Abstract: The dehydrogenation of isopropylbenzene in α -methylstyrene was studied in a flow system at atmospheric pressure and 560 to 640° and volume speeds v from 0.20 to 0.60 in presence of mixed catalysts Cr_2O_3 : Al_2O_3 = 11 : 89 (C-I), CuO : Al_2O_3 + 8 : 92 (C-II) and Cr_2O_3 : CuO : Al_2O_3 = 10.55 : 7 : 82.45 (C-III). The optimum yields of 84 to 88.5% were obtained at 560° and $v = 0.4$ or at 600° and $v = 0.6$ in pre-

Card : 1/2

NICOLESCU (M)

RUMANIA / Cosmochemistry. Geochemistry.
Hydrochemistry.

D

Abs Jour : Referat Zhur--Khimiya, No. 11, 1959, 38166

Author : Nicolescu, M.

Inst : Not given

Title : The Fossil Fauna of Gypsum Deposits.

Orig Pub : Natura (Rumania), 10, No. 4, 14-19 (1958) (in
Rumanian with English and Russian summaries)

Abstract : The author gives a detailed characterization of
the fossil fauna of gypsum deposits found in the
pre-Carpatian region [foothills?]. The precipi-
tation of the gypsum took place in lagoons
where the marine waters accumulated living or-
ganisms which died as a result of the high sal-
inity. -- E. Chepizhnaya

Card 1/1

74

NICOLESCU, Mauriciu, dr.

Limestone and its contribution to the water supply of Hunedoara.
Meteorologia hidrol gosp 5 no.4:262-266 '60.

NICOLESCU, Mauriciu

Salty heliothermic lakes. Meteorologia hidrol gosp 7 no.1:52-56
'62.

NICOLESCU, Mauriciu, geolog

New data on the geology and hydrogeology of Techirghiol Lake.
Meteorologia hidrol gosp 7 no.2:101-108 '62.

NICOLESCU, Mauriciu

The geology and hydrology of the Mangalia Lake, Rumania.
Meteorologia hidrol gosp 7 no.4:255-261 '62.

NICOLESCU, M., geolog

The Buzias carbogaseous waters. Meteorologia hidrol
gosp 8 no.3:137-141 '63.

NICOLESCU, Mauriciu, geolog (Bucuresti)

The mineral waters of Tisnad Bai. Natura Geografie 16 no. 1:
50--52 Ja-F '64.

WILSON, Maurice.

Importance of tensions on the water circulation and availability
in the F. (Cuba, East) - (Interpretation) - (Cuba) - (Cuba) - (Cuba)

OL 6554, 11/1/60

200

Nicolesco, Miron. Sur un lemme de M. Pompeiu. Bull. Math. Phys. Ec. Polytech. Bucarest 10 (1938-39), 22-26 (1940).

Consider vectors in Euclidean n -space. Two such vectors are called acute or obtuse according as their scalar product is positive or negative. It is shown that if some n of $n+1$ given pairwise obtuse vectors form a basis, then each coordinate with respect to this basis of the remaining vector is nonpositive. [It may, however, easily be demonstrated that each such coordinate is actually negative.] As a consequence, any nonnull vector is acute with some one of $n+1$ given pairwise obtuse vectors. [From this it follows that any n of $n+1$ given pairwise obtuse vectors form a basis.]

W. Gustin (Bloomington, Ind.).

Source: Mathematical Reviews,

Vol. 10 No. 7

Sam

Nicolase, Miron. Remarque sur le potentiel newtonien.
 Ann. Ecole Polytech. [Bul. Polit. hn. Gh. Asachi,
 Iasi] 1, 256-258 (1946).

Let M be a distribution of mass on a bounded domain D and let the density $\mu(x, y, z)$ of M be continuous in D . Then the potential $V(x, y, z)$ of M satisfies Poisson's equation $\Delta V = -4\pi\mu(x, y, z)$ in D . The purpose of this note is to show the contribution of the derivatives V_{xx} , V_{yy} and V_{zz} to Poisson's equation. Indeed, let Σ_r be a sphere lying in D with center (x, y, z) and radius r and let $V^*(x, y, z)$ be the potential of that part of M that lies outside Σ_r . Then by a modification of a familiar derivation of Poisson's equation [O. D. Kellogg, *Foundations of Potential Theory*, Springer, Berlin, 1929], the author shows that

$$\partial^2 V / \partial x^2 = \partial^2 V^* / \partial x^2 - (4/3)\pi\mu(x, y, z),$$

where $\partial^2 V / \partial x^2 = \lim_{r \rightarrow 0} \partial^2 V^* / \partial x^2$; similar results hold for the other two derivatives. *M. O. Rade* (Ann Arbor, Mich.).

NICOLESKO, MIRON

Nicolesco, Miron. Sur le théorème fondamental de convergence de Pringsheim pour les suites doubles. Bull. Math. Soc. Roumaine Sci. 47, 3-9 (1946).
 Proofs of familiar Pringsheim theorems about the existence of $\lim_{n \rightarrow \infty} s_{mn}$ and such iterated limits as the limit as $n \rightarrow \infty$ of $\limsup_{m \rightarrow \infty} s_{mn}$. R. P. Agnew (Ithaca, N. Y.).

Small

Source: Mathematical Reviews,

Vol. 9 No. 8

N 120/19520, Mircea

Niculescu, Mircea. Sur la notion de nombre naturel. *Bul. Sti. A. 1*, 205-212 (1949). (Romanian and French)

The author objects to the ordinary formulation of natural arithmetic in terms of Peano's postulates and recursive definitions of sum and product on the ground that the commutative law of addition, which is the most natural property of numbers, is so hard to derive. Instead he proposes to base the theory of natural numbers on the theory of cardinal numbers, combined with an inductive definition of the natural numbers much as in the Principia. There are no new results.

H. B. Curry.

230

8/21/50
HBC

Source: Mathematical Reviews,

Vol 13 No 5

Niculescu, Mircea

10/15

Niculescu, Mircea. On additive properties of sets and their applications. Acad. Repub. Pop. Române. Bzl. Sti. A. 1, 719-724 (1949). (Romanian. Russian and French summaries)

Let X be a set and P a property of subsets of X , written as $P(E)$ if E has the property P and as $\bar{P}(E)$ if E fails to have the property P . If $P(E)$ and $P(F)$ imply $P(E \cup F)$, then P is said to be additive. If $P(E)$ and DCE imply $P(D)$, then P is hereditary. Let X be a topological space. A property P such that $P(\text{connected open set})$ whenever $P(\text{boundary of that set})$ is said to be of type D . A point $x \in X$ is singular with respect to P if for every neighborhood U of x , $\bar{P}(U)$. The author asserts that in every separable metric space the set of points in a connected open set Δ which are singular with respect to an hereditary additive property of type D is either void or continuous and has non-void intersection with the boundary of Δ . (The term "continuous" is not defined, or mentioned in the proof.) The proof is wrong, as the author admits.

Source: Mathematical Reviews,

Vol. 13 No. 5

NICOLAESCU, MIROM

of compactness of A
 Române. Bul. Şti. Ser.
 D). (Rozanlan. Rev.
 he sphere with center a
 9). For a function f on
 rov [Nachr. Ges. Wiss.
 or subsets F of L^p (over
 mean approximability
 ng Kolmogorov's result
 author strengthens the
 an extension by Ia.
 79-84 (1932)]. [Re-
 a. (2) Kolmogorov's
 ar. Tulajkov [Nachr.
 (not in the author's
 gorov-Tamarkin cry-
 method can be applied
 a uniformly bounded
 $|f(x) - f(y)| = 0$ uni-
 rmal (i.e., compact in
 Several applications
 tion two: (A) If ϕ
 plation of Hivaloff
 (N.S.) 31, 102-103
 a uniformly bounded
 $\phi(x, y)$, then U is
 ed set of functions on
 $-b) | = 0$

U is normal.
(Princeton, N. J.).

3000
MS

Source: Mathematical Reviews,

Vol 13 No. 4

NICOLESU, MIRON

Nicolescu, Miron. Le problème biharmonique pour un demi-plan. An. Acad. Repub. Pop. Române. Sect. Ști. Mat. Fiz. Chim. Ser. A. 2, 425-442 (1950). (Romanian. French summary)

Let $g(x)$ be continuous and bounded for $-\infty < x < \infty$. Let $f(x)$ be of class C'' with $f(x)$ and $f'(x)$ bounded, for $-\infty < x < \infty$. The author solves the problem of finding all real $u(x, y)$, biharmonic for $y > 0$, such that $u(x, 0+) = f(x)$, $u_x(x, 0+) = g(x)$, by showing that the general solution is the sum of a certain particular solution and the general solution to an associated, more elementary, problem. The question of uniqueness is discussed and solved. M. O. Rade.

SM

Source: Mathematical Reviews,

Vol 13 No. 4

NICOLESCU, MIRON

Niculescu, Miron. Direct solution of a boundary problem for biharmonic functions defined in a hyperspherical domain. Acad. Repub. Pop. Române. Bul. Sti. Ser. Mat. Fiz. Chim. 2, 453-459 (1956). (Romanian. Russian and French summaries)

The author studies the problem of finding biharmonic $u(P)$ inside a hypersphere $S_n(0)$ in n dimensions when the first two inner normal derivatives of u on $S_n(0)$ are given. He finds that if $\partial u / \partial n_1 = \varphi(P)$, $\partial^2 u / \partial n_1^2 = \psi(P)$ on $S_n(0)$, then $\int_{S_n(0)} [\varphi(P) + R\psi(P)] d\sigma_P = 0$. If this last condition holds, then u is given by an integral bearing a strong resemblance to the corresponding solution for the Neumann problem.

M. Reade (Ann Arbor, Mich.).

SMW ~~*[Signature]*~~

Source: Mathematical Reviews,

Vol. 13 No 5

NICOLESU MIRON

Nicolescu, Miron. Extensions de la notion de continuité pour les fonctions de plusieurs variables. Com. Acad. R. P. Române 2, 9-11 (1952). (Romanian, Russian and French summaries)

For $n=1, 2,$ or $3,$ and $1 \leq i \leq n$ the author defines for each function $u(x)$ of n variables $x=(x_1, \dots, x_n)$ an i -dimensional difference. In the familiar notation, which is not that of the author, let Δ_i and ∇_i be the forward and backward differences on the i th variable.

$$\Delta_i u(x) = u(\dots, x_i + \Delta x_i, \dots) - u(\dots, x_i, \dots)$$

and

$$\nabla_i u(x) = u(\dots, x_i - \Delta x_i, \dots) - u(\dots, x_i, \dots)$$

Let $\Delta_{ij} u(x) = \Delta_i \Delta_j u(x)$ ($= \Delta_j \Delta_i u(x)$) and let $\Delta_{ijk} = \Delta_i \Delta_j \Delta_k$; make similar definitions for ∇_{ij} and ∇_{ijk} . Setting $\Delta u(x) = u(x + \Delta x) - u(x)$, the author observes that if $n=2$, then $2\Delta_{12} u(x) = -(\nabla_1 + \nabla_2)u(x + \Delta x) - (\Delta_1 + \Delta_2)u(x)$; and $2\Delta u(x) = -(\nabla_1 + \nabla_2)u(x + \Delta x) + (\Delta_1 + \Delta_2)u(x)$. Also, when $n=3$,

$$3\Delta_{123} u(x) = (\nabla_{12} + \nabla_{23} + \nabla_{31})u(x + \Delta x) - (\Delta_{12} + \Delta_{23} + \Delta_{31})u(x)$$

(3 is misprinted 2 in the paper). Analogy suggests using + instead of - to define $2\Delta^2 u(x)$. The author calls a function u of three variables di(tri)dimensionally continuous at x if $\Delta u(x)$ goes to zero with Δx and observes that

1 - P/W

The author makes no reference to the considerable body (1000)

Nicoloscu, Miron

of literature on differences; he does not mention, for example, that the functions $\Delta_{1, \dots, n} u$ is the interval function used in computing a Lebesgue-Stieltjes measure from u . His notation is so inconvenient that he can not observe, for example, that $2\Delta_{1,2} u(x)$ and $2\Delta^2 u(x)$ are respectively the cases $n=2$ and $n=3$ of

$$-\sum_{i=0}^{n-1} (\Delta_i u(x) + \nabla u(x + \Delta x)).$$

M. M. Day (Urbana, Ill.)

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Nicolescu, Miron

Nicolescu, Miron. Les différentielles polydimensionnelles, ~~des fonctions de plusieurs variables.~~
Com. Acad. R. P. Române 2, 181-184 (1952). (Romanian. Russian and French summaries)

1 - P/W

If u is a function of n variables, $n=2$ or 3 , u is called hyperbolic differentiable at x if there exist $A(x)$ and $\sigma(x, \Delta x)$ such that $\Delta_{x_1 \dots x_n} u(x) = (A + \sigma) \Delta x_1 \cdot \dots \cdot \Delta x_n$ and $\sigma \rightarrow 0$ when $\Delta x \rightarrow 0$. A function u of 3 variables is called bidimensionally differentiable at x if there exist $A_i(x)$ and $\sigma_i(x, \Delta x)$ ($i=1, 2, 3$), such that all $\sigma_i \rightarrow 0$ when $x \rightarrow 0$ and

$$\Delta^2 u(x) = (A_3 + \sigma_3) \Delta x_1 \Delta x_2 + (A_1 + \sigma_1) \Delta x_2 \Delta x_3 + (A_2 + \sigma_2) \Delta x_1 \Delta x_3.$$

Then if u is bidimensionally differentiable at a point x , it is bidimensionally continuous at x , and x is 2-dimensional hyperbolic differentiable there.

M. M. Day (Urbana, Ill.).

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NICOLESU, MIRON

Nicolescu, Miron. La différentielle totale directe du Sect. Sti. Mat. Fiz 3 (1951), 507-516 (1952). (Romanian. Russian and French summaries)

The author considers various differentials, and derivatives of the second order of a real function $u(x, y)$, and he considers some of their mutual properties. We shall quote two typical results. Let

$$\Delta_1 u = u(x + \Delta x, y + \Delta y) - u(x, y + \Delta y) - u(x + \Delta x, y) + u(x, y),$$

$$\Delta_2^* u = u(x + \Delta x, y + \Delta y) - u(x - \Delta x, y + \Delta y) - u(x + \Delta x, y - \Delta y) + u(x - \Delta x, y - \Delta y),$$

$$Du(x, y) = \lim_{\Delta x \rightarrow 0, \Delta y \rightarrow 0} \text{reg} \frac{\Delta_1 u(x, y)}{\Delta x \Delta y},$$

$$D^* u(x, y) = \lim_{\Delta x \rightarrow 0, \Delta y \rightarrow 0} \text{reg} \frac{\Delta_2^* u(x, y)}{4 \Delta x \Delta y},$$

where these two latter limits are "regular limits". The author shows that if the Schwarz symmetric derivatives $\partial^2 u / \partial x^2$, $\partial^2 u / \partial y^2$, and Du are continuous near (x_0, y_0) , then $D^* u(x_0, y_0) = Du(x_0, y_0)$. In addition, if $\partial^2 u / \partial x^2$, $\partial^2 u / \partial y^2$ exist near (x_0, y_0) , and if $\partial^2 (\partial^2 u / \partial x^2) / \partial^2 y^2$ is continuous near (x_0, y_0) then

$$\frac{\partial^2}{\partial x^2} \left(\frac{\partial^2 u}{\partial y^2} \right) = \frac{\partial^2}{\partial y^2} \left(\frac{\partial^2 u}{\partial x^2} \right)$$

at (x_0, y_0) .

M. O. Radea (Grenoble).

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NICOLESU, MIRON

Nicolescu, Miron. Propriétés de décomposition des fonctions de n variables réelles et en particulier des fonctions polyharmoniques. Rev. Univ. "C. I. Parhon" Politehn. București. Ser. Sti. Nat. 3 (1954), no. 4-8, 53-63. (Romanian, Russian and French summaries)
Let D be a bounded Dirichlet domain in euclidean n -space, let $G(P, Q)$ be the Green's function for D , and let the function $\varphi(P)$ be integrable in D . Let σ_n be the measure of the unit sphere in n -space, and define $G^1(P, Q) =$

Math

Real function
1.1

Nicolescu, Miron

where u_0, u_1, \dots, u_{p-1} are the harmonic functions uniquely determined in D by the boundary values of $u, \Delta u, \dots, \Delta^{p-1}u$. Indeed, every function u of class $C^{(2p)}$ in D can be expressed as

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NIGOLESCU, M.

1905. Niculescu, M. Iterated heat equation (in Romanian), Studia de cercetare Matematică 3, 3/4, July-Dec. 1954.
The real object of this article is a study of the solutions to the following equation:

$$\Omega^{(n)}u = [\Delta - (\partial/\partial t)]^{(n)}u = 0$$

where

$$\Omega = \Delta - (\partial/\partial t)$$

as well as the solution of several related boundary problems.
For brevity, author refers to the entire solution of

$$\Omega u = \Delta u - (\partial u/\partial t) = 0$$

as a thermal function, which is continuous in certain known regions, and calls the known solutions to above equation polythermal functions of the p^{th} order.

In the first chapter, it is shown that all polythermal functions of the p^{th} order in the vectorial domain are analytical.

In the last paragraph of chap. 3, author introduces parabolically analytic functions which are defined as all functions $u(x,t)$ in the interval $0 < t < 1/4k$ if they can be written in the form

$$u(x,t) = \sum_{n=0}^{\infty} (t^n/n!) u_n(x,t)$$

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Nikol'scu, M.

Chap. 4 is devoted to boundary problems for the bounded intervals. Author then solves the problem: Find a polythermal function of the second order on the interior of a region D . It is shown that the solution of this problem comes about from the solution of four linear integral equations of the Volterra type. The statement of the problem requires a study of a special bi-thermal function having a certain type of discontinuity on one of the bounding curves of D . Author calls this function "the bi-thermal potential" because of the part it plays in the solution of this problem.

In chap. 5, author demonstrates that if the function u possesses continuous partial derivatives necessary for the function of the differential operator $\Delta^2 u$ and if these derivatives are selectively algebraically increased, then the integral obtained from Poisson integral by a change of variables must be derivable at the point $k = 0$, when the integral is considered a function of k, p .

The final chapter of this paper is devoted primarily to a study of the properties of polythermal functions defined for the interval $0 \leq t \leq 1$. The basic tool throughout this study is a theorem of the mean which satisfies all polythermal functions subjected to certain conditions of regularity as $x \rightarrow \infty$.

The last paragraph of this chapter is concerned with sub-thermal functions (of order 1,2,3) defined in the interval $(0, 1)$. Author indicates the difference between his definitions for sub-thermal functions and those defined by I. G. Petrovski in 1935.

N. Matyewicz, USA

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EDMOND, R.

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NICOLESCU, A.

"Organized manifestations within cadres of Rumanian-Soviet Friendship Month",
p. 519, Issued by the Rumanian Society of Mathematics and Physics, Monthly.
(GASETA MATEMATICA SI FIZICA, SERIA A., Vol. 11, Nov. 1954. Bucuresti, Rumania)

CC: Monthly List of East European Accession, (EEAL), LS, Vol. 4, Nov 5,
May 1955.

NICOLAESCU, N.

"N. Teodorescu's metode vectoriale in Fizica Matematica" (Vectorial Methods in Mathematical Physics); a book review, p. 516, issued by the Rumanian Society of Mathematics and Physics, Monthly. (GASETA MATEMATICA SI FIZICA, SERIA A., Vol. 11, Nov. 1954. Bucuresti, Rumania).

SO: Monthly List of East European Accessions, (1954), L., Vol. 4, No. 5, May, 1954, uncl.

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Nicolescu, Miron. La structure des solutions des équations aux dérivées partielles du type elliptique ou du type parabolique. Magyar Tud. Akad. Mat. Kutató Int. Közl. 1 (1956), 465-479 (1957). (Hungarian and Russian summaries)

In this article, the author summarizes his researches on the polyharmonic equation $\Delta^p u(x, y) \equiv (\partial^2/\partial x^2 + \partial^2/\partial y^2)^p u = 0$ and the related polycaloric equation $(\partial^2/\partial x^2 - \partial/\partial t)^p u(x, t) = 0$. His exposition includes a discussion of the polyharmonic and polycaloric functions as well as a statement of some of the interesting questions that still remain unanswered. Complete details may be found in the author's "Les fonctions polyharmoniques" [Hermann, Paris, 1936] as well as in Comment. Math. Helv. 10 (1937/8), 3-17; Akad. R. P. Romine. Stud. Cerc. Mat. 5 (1954), 243-332; MR 16, 709].

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M. O. Reade (Ann Arbor, Mich.)

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