

CHERKASHCHENKO, L.M.

USSR/Human and Animal Physiology - (Normal and Pathological). T-12  
Nervous System. Higher Nervous Activity. Behavior.

Abs Jour : Ref Zhur - Biol., No 11, 1958, 51310

Author : Cherkashchenko, L.M.

Inst : L'vov University.

Title : Certain Iones of Heavy Metals Affecting Conditioned Defen-  
sive Reflexes.

Orig Pub : Dopovidi ta povidomleniya. L'vivs'k. un-t, 1957, vip. 7,  
ch. 3, 102-103.

Abstract : Conditioned defensive reflexes (CR) were created in 2 dogs  
in response to  $M_{120}$  and a 1,200 sound of a whistle, as  
well as differentiations (D) in response to  $M_{60}$  and a 600  
sound of a whistle, according to the method of V.P. Proto-  
popov. After oral or subcutaneous administration of 1-2  
ml of a 1 percent  $CdCl_2$  solution, the latent period

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USSR/Human and Animal Physiology (Normal and Pathological) T-12  
Nervous System. Higher Nervous Activity. Behavior.

Abs Jour : Ref Zhur - Biol., No 11, 1958, 51310

increased, and the magnitude of CR decreased, a fact which was observed on the 2nd day also. Incomplete D became absolute. After 1-2 ml of a 2 percent solution of cysteine was administered, normal magnitude and latent period of CR were reestablished, and D was disinhibited. The author interpretes the described phenomena by the blocking of SH-groups of protein bodies by Cd salts and the increase of their action by cysteine. -- M.I. Lisina.

Card 2/2

CHERKASHCHENKO, M. I.

Role of murine rodents in the nutrition of the eared owl (*Asio otus*  
L.) *Nauk. zap. Nauk-pryrod. muz. AN URSS* 8:120-123 '60.

(MIRA 13:11)

(Ternopol Province--Owls) (Field mice) (Birds--Food)

PASTERNAK, S.I., kand. geol.-miner. nauk, otv. red.; ZDUN, V.I.,  
doktor biol. nauk, red.; MALINOVSKIY, K.A.  
[Malynovs'kyi, K.A.], kand. biol. nauk, red.; CHERKASHCHENKO,  
M.I., kand. geol. nauk, red.; TISHCHENKO, M.N. [Tyshchenko,  
M.N.], red.; ANDRIYCHUK, M.D. [Andriichuk, M.D.], red.;  
MATVIYCHUK, O.O. [Matviichuk, O.O.], tekhn. red.

[Present and past fauna in the western provinces of the  
Ukraine] Suchasna ta mynula fauna zakhidnykh oblastei Ukrainy.  
Kyiv, Vyd-vo AN URSR, 1963. 92 p. (MIRA 17:2)

1. Akademiya nauk USSR, Kiev. Naukovo-pryrodoznavchyi muzej.

PASTERNAK, S.I., kand. geol.-miner. nauk, otv. red.; ZDUN, V.I.,  
doktor biol. nauk, red.; MALINOVSKIY, K.A. [Malynovs'kyi,  
K.A.], kand. biol. nauk, red.; CHERKASHCHENKO, M.I., red.;  
TISHCHENKO, M.N. [Tyshchenko, M.N.], red.; MATYASHEVSKAYA,  
T.I. [Matiashevs'ka, T.I.], red. izd-va; REKES, M.A., tekhn.  
red.

[Ecology and taxonomy of plants of the Carpathian Mountains  
and adjacent regions] Ekologiya ta systematyka roslyn Karpat  
i prylehlykh teritorii. Kyiv, Vyd-vo AN URSR, 1963. 92 p.  
(MIRA 17:3)

1. Akademiya nauk URSR, Kiev. Naukovo-pryrodoznavchyi muzei,  
Lvov.

PASTERNAK, S.I., doktor geol.-min. nauk, otv. red.; ZDUN, V.I.,  
doktor biol. nauk, red.; CHERKASHCHENKO, M.I., kand. biol.  
nauk, red.; MALINOVSKIY, K.A. [Malynovs'kyi, K.A.], kand.  
biol. nauk, red.; TISHCHENKO, M.N. [Tyshchenko, M.N.], red.

[Animal world of the western regions of the Ukraine] Tvarynnyi  
svit zakhidnykh raioniv Ukrainy. Kyiv, Vyd-vo "Naukova dumka,"  
1964. 82 p. (MIRA 17:4)

1. Akademiya nauk URSR, Kiev. Naukovo pryrodoznavchyi muzey,  
L'vov.

CHERKASHCHENKO, N. I.

24162 CHERKASHCHENKO, N. I. Ekonomicheskoye znachenije ptits polezashchiykh polos Mariupol' kogo lesnichestva. Nauch. zapiski (Cherkas. Gos. Ped. IM-T) VYP. 2, 1948, S. 39-71. - Bibliogr: S. 71.

SC: Letopis, No. 32, 1949.

CHERKASHCHENKO, N.I. [Cherkashchenko, M.I.]

Materials on the infestation of birds of the upper Dniester  
Valley by ectoparasites. Nauk. zap. Nauk.-pyrod. muz.  
AN URSR 9:69-75 '61. (MIRA 15:2)  
(Dniester Valley--Parasites--Birds)



CHERKASHCHENKO, N.I. [Cherkashchenko, M.I.]; STRAUTMAN, F.I.

Principles for working out a program for the investigation  
of vertebrates at permanent field stations of the Carpathian  
highlands. Nauk. zap. Nauk.-pryrod. muz. AN URSS 9:92-  
103 '61. (MIRA 15:2)  
(Carpathian Mountain Region--Vertebrates)

CHEKASHCHENKO, N.I. [Cherkashchenko, M.I.]

Abundance, daily activity and food of birds nesting in the  
upper Dniester Valley. Nauk. zap. Nauk.-pryrod. muz. AN URSSR  
10:112-121 . '62. (MIRA 16:8)

MAYOROV, S.N. Primalni uchastiye: NAZAROVA, Zh., student; STEPANOVA, T.F., student; KUZNETSOVA, G.P., student; KALININA, S.A., student; SAKHNEKO, A.M.; student; CHERKASHCHENKO, V.I., student.

Content of vitamin C in onions of the Romanovskii and Msterskii varieties. Vop. pit. 22 no.1:89-90 Ja-F'63

(MIRA 16:11)

1. Iz kafedry khimii (zav. - dotsent S.N. Mayorov) Kostromskogo pedagogicheskogo instituta i iz kafedry khimii Cherkasskogo pedagogicheskogo instituta.

\*

SHUMANOVA, A.; SOKOLOV, B.S.; CHERKASHENINA, Ye.F.; GARSKOVA,  
A.I.; CHULKOV, M.P.; BORISENOK, V.G.; RAIMOVA, S.S.; KULIK,  
O.A.; UDALOVA, L.I.; KAZACHKOV, S.S., *otv. red.*; ZHDANOVA,  
L.P., *red.*

[Agroclimatic manual on Omsk Province] Agroklimaticheskii  
spravochnik po Omskoi oblasti. Leningrad, Gidrometeoizdat,  
1959. 227 p. (MIRA 17:7)

1. Russia (1923- U.S.S.R.) Glavnoye upravleniye gidrometeo-  
rologicheskoy sluzhby. Omskoye upravleniye. 2. Gidrometeoro-  
logicheskaya observatoriya Omskogo upravleniya gidrometeorologicheskoy  
sluzhby (for all except Kazachkov, Zhdanova).

CHERKASHENINOV, V., nauchnyy sotrudnik; PETROSYANTS, E., nauchnyy sotrudnik

Tests were successful. Mast. ugl. 8 no.6:3 Je '59.  
(MIRA 12:10)

1. Institut gornogo dela AN SSSR.  
(Coal mining machinery--Testing)

SAKHAROVSKIY, N.A., inzh.; CHEKASHENINOV, V.I., inzh.

Mining operations in the construction of gas reservoirs [from  
"Gas" no.10, 1961; "Oil and Gas Journal," no.18, 1958, no.18,  
1959]. Shakht. stroi. 6 no.3:26-28 Mr '62. (MIRA 15:3)  
(United States--Gas, Natural--Storage) (Mining engineering)

SAKHAROVSKIY, N.A.; ~~CHERKASHENINOV, V.I.~~

Preparation for prospecting and the filling-up of underground storage wells with liquefied petroleum gas. Gaz.prom. no.5:51-52 '63.

(MIRA 16:6)

(United States--Liquefied petroleum gas--Storage)

AKSENOV, V.V.; MIRONOV, N.T.; PETROSYANTS, E.V.; CHERKASHENINOV, V.I.

Results of the mine testing of M52 powered supports as part of an  
A2 stoping unit. fiz. mekh. svois., dav. i razr. gor. porod. no.2:  
175-185 1983. (MIRA 17:1)



SAKHAROVSKIY, N.A.; CHERKASHENINOV, V.I.; GOLUBEV, V.L.

Foreign technology. Gaz. prom. 8 no.8:49-51 '63.

(MIRA 17:11)

ORG: none  
 SOURCE CODE: UR/001  
 TITLE: A sealing device for the subsurface mining storage of  
 products. Class 81, No. 180521 [announced by All-Union  
 Institute of Gasprom SSSR for Subsurface Gasification  
 Issledovatel'skiy institut podzemnykh gazifikatsii  
 SOURCE: Izobreteniya, promyshlennyye  
 TOPIC TAGS: underground  
 storage, storage  
 STRAT:

L 07355-67

ACC NRI AP6012178

(A)

SOURCE CODE: UR/OL /66/000/007/0118/0113

AUTHORS: Bekker, D. I.; Mazurov, V. A.; Cherkasheninov, V. T.

23

ORG: none

TITLE: A sealing device for the subsurface mining storage of gas and petroleum products. Class 81, No. 180521 [announced by All-Union Scientific Research Institute of Gasprom SSSR for Subsurface Gassification of Coal [Vsesoyuznyy nauchno-issledovatel'skiy institut podzemnoy gazifikatsii ugley Gazproma SSSR]]

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 7, 1966, 118

TOPIC TAGS: underground facility, gas pressure, natural gas, petroleum product, fuel storage, storage tank

ABSTRACT: This Author Certificate presents a sealing device for the subsurface mining storage of gas and petroleum products. To utilize the pressure of the gas product for additional strengthening of the structure, the latter is made in the form of a spherical or cylindrical shell (see Fig. 1). The structure is provided with a tension mechanism and bears against a strengthening insert placed on the

UDC: 622.56.002.54:622.692.24

L. 07355-67  
ACC NR: AP6012178

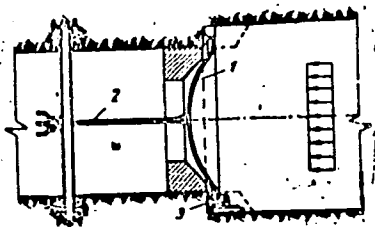


Fig. 1. 1 - shell; 2 - tension mechanism; 3 - strengthening insert

protrusions in the walls of the storage tank. Orig. art. has: 1 figure.

SUB CODE: 13/      SUBM DATE: 31Aug64

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1ST AND 2ND ORDERS PROCESSES AND PROPERTIES INDEX

114

CHERKASHENINOVA, A. E.  
ca

Permeability of frog skin to copper sulfate in various concentrations. A. E. Cherkashenina (State Med. Inst., Ashkhabad): *Sov. Zh. Biol. Med.* 24, 222-4 (1947).—Permeability of frog skin (alive or killed by heat or by  $CHCl_3$ ) to  $CuSO_4$  was detd. between 0.05-5.0 mg. % concns. The results are given graphically. Live skin has a much higher permeability, especially with low concns. In dead skin, dil. solns. gave lower penetrability. G. M. Kosolapoff

ASS. I. I. A METALLURGICAL LITERATURE CLASSIFICATION

1ST AND 2ND ORDERS PROCESSES AND PROPERTIES INDEX

YEMANAKOV, P., inzh. (g.Chita); CHERKASHIN, A., inzh. (g.Chita)

Pneumohydraulic stand for dismounting and assembling freight  
cars. Zhel.dor.transp. 36 no.6:79 Je '55. (MIRA 12:4)  
(Railroads--Freight cars--Maintenance and repair)  
(Hydraulic machinery)

OSTROY, G.B.; CHERKASHIN, A.F.

Behavior of the lower layer of permafrost as a criterion in prospecting for structures in the northeastern part of the West Siberian Plain. Geol. i geofiz. 10:62-68 '60. (MIRA 14:2)

1. Institut geologii i geofiziki Sibirskogo otdeleniya AN S.S.R.,  
Novosibirsk.  
(West Siberian Plain—Petroleum geology) (Frozen ground)

CHERKASHIN, A. I.

PHASE I BOOK EXPLOITATION SOV/4001

Leningradskiy elektrotekhnicheskiy institut svyazi im. M.A. Bonch-Bruyevicha

Sbornik studencheskikh nauchnykh rabot, vyp. 1 (Collection of Student Scientific Projects, Nr 1) Leningrad, 1959. 87 p. 500 copies printed.

Additional Sponsoring Agency: USSR. Ministerstvo svyazi.

Resp. Ed.: I.G. Klyatskin, Professor, Doctor of Technical Sciences;  
Resp. Secretary: O.N. Sapronov, Engineer; Tech. Ed.: V.V. Gal'chinskaya;  
Editorial Board: I.G. Klyatskin (Resp. Ed.) Professor, Doctor of Technical Sciences, O.N. Sapronov, (Resp. Secretary) Engineer, M.P. Dolukhanov, Professor, B.F. Zhuravskiy, Student, A.A. Gol'din, Engineer, Z.I. Prokopovich, Engineer, Kh. I. Cherne, Docent, V.V. Razumovskiy, Docent, I.M. Metter, Docent, S.M. Neyman, Docent, B.I. Tikhonov, Engineer, I.N. Fomichev, I.K. Bobrovskaya, Docent, and D.N. Shapiro, Docent.

PURPOSE: This collection of articles was published in order to ac-  
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Collection of Student (Cont.)

SOV/4001

quaint the public with the work of students of the Leningrad Communications' Institute imeni M.A. Bonch-Bruyevich. The articles may also be useful to communication technicians.

COVERAGE: The papers presented at the 1958 conference of the Scientific Student Society of the Institute concerned such new problems as electronic automatic telephone exchanges, electronic computers, colored television, and electronic telegraph. This collection contains 12 articles which were selected from the 90 papers submitted at the conference. No personalities are mentioned. References accompany most of the articles.

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Card 3/4		

MOROZOV, S.N., student IV kursa; CHERKASHIN, A.I., student IV kursa

Design of experimental transistorized networks for automatic  
telephone exchanges. Sbor.stud.nauch.rab.LEIS no.1:18-23  
'59. (MIRA 13:4)

1. Leningradskiy elektrotekhnicheskiy institut svyazi im. prof.  
M.A.Bonch-Bruyevicha.  
(Telephone, Automatic)

18(5), 25(1)

SOV/128-59- 5-12/35

AUTHOR: Shcherbina, V.A. and Cherkashin, A.I., Engineers

TITLE: Drying Sand in Air Flow

PERIODICAL: Liteynoye Proizvodstvo, 1959, Nr 5, pp 24 (USSR)

ABSTRACT: The author gives a description of the disadvantages of the sand drying machine SOGB-4. A new drying furnace operating with hot air and the transport of sand is described. The invention was made by Professor Ak-senovyy in 1943. The principle (Fig. 1) is based on the opposite flow system, carrying the sand from the bottom to the top (15 - 17 sec.), gas of 200-250° flowing opposite. The dust is removed and the sand is collected in a holder. Fig. (2) shows a scheme with the dimensions. By this furnace, 15 tons of sand are dried per hour. The furnace needs a space of 100 sq.m. Its cost amounts to approximately 60,000 rubels. There are 2 diagrams.

Card 1/1

GETMANETS, V.V.; TSYBANEV, Ye.G.; CHERKASHIN, A.P.

Grooving the rolls of the roughing stand of continuous wire rod mills.  
Metallurg 10 no.10:26-28 0 '65. (MIRA 18:10)

1. Krivorozhskiy metallurgicheskiy zavod.

SHAROV, M.A.; BURUNOV, V.Ye.; DIVINSKIY, A.A.; KHARCHENKO, N.P.;  
CHERKASHIN, A.S.; CHULKOV, A.F.; KOSOROTOV, B.V., red.

[DT-75 tractor] Traktor DT-75. Moskva, Kolos, 1965. 258 p.  
(MIRA 18:7)

SHIMULIS, V.I.; GRYAZNOV, V.M.; CHERKASHIN, A. Ye.

Kinetics of the high-temperature isomerization of allylbenzene  
on platinum films. *Kin. i kat.* 1 no. 3:401-407 S-O '60.  
(MIRA 13:11)

1. Khimicheskiy fakul'tet Moskovskogo gosudarstvennogo  
universiteta.  
(Benzene) (Isomerization) (Platinum)

SHIMULIS, V.I.; GRAYAZNOV, V.M.; CHEKASHIN, A.Ye.

Kinetics of the isomerization of allylbenzene in the presence of  
incandescent platinum, palladium, and tungsten wires. *Kin. i kat.* 2  
no.1:127-134 Ja-F '61. (MIRA 14:3)

1. Moskovskiy gosudarstvennyy universitet imeni M.V. Lomonosova,  
Khimicheskiy fakul'tet.  
(Benzene) (Catalysts)(Isomerization)



CHERKASHIN, B.; DARICHEV, Yu.; BALAKERSKIY, A.; IVLEV, N., boatsman,  
udarnik kommunisticheskogo truda

Our suggestions. Mor.flot 23 no.2:19 F '63. (MIRA 16:2)

1. Predsedatel' sudovogo komiteta parokhoda "Novorossiysk" (for Cherkashin).
2. Sekretar' partiynoy organizatsii parokhoda "Novorossiysk" (for Darichev).  
(Merchant seamen--Legal status, laws, etc.)

S/137/62/000/008/034/065  
A006/A101

AUTHORS: Cherkashin, E. E., Gladishevskiy, E. I., Kripyakevich, P. I.,  
Tesyuk, M. Yu.

TITLE: The physico-chemical investigation of the Ce-Cu-Al and the Ce-Mn-Al  
systems

PERIODICAL: Referativnyy zhurnal, Metallurgiya, no. 8, 1962, 24 - 25, abstract  
8I160 ("Dopovidi ta povidoml. L'vivs'k un-t", 1961, no. 9, part 2,  
58 - 59; Ukrainian)

TEXT: X-ray and microscopic analyses were used to study the Ce-Cu-Al and  
Ce-Mn-Al systems at a content of 50 - 100 at. % Al. In the Ce-Cu-Al system 4.3%  
(1.87 at. %) and 1.5% (0.64 at. %) Cu respectively are dissolved in Al at 500  
and 400°C. Ce solubility in a solid solution Al (Cu) is insignificant (< 0.1%).  
At 400°C the Al-base solid solution ( $\omega$ -phase) is in equilibrium with binary  
(CuAl<sub>2</sub> and CeAl<sub>4</sub>) and ternary (T<sub>1</sub> and T<sub>2</sub>) compounds. Compound T<sub>1</sub> has a homo-  
geneous range, including compound CeCu<sub>4</sub>Al<sub>8</sub>, and a tetragonal lattice of the  
ThMn<sub>12</sub> type with constant a = 8.85 kX, c = 5.19 kX; c/a = 0.586; it is in



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The physico-chemical investigation of...

S/137/62/000/008/034/065  
A006/A101

equilibrium with  $\text{CuAl}_2$ ,  $\omega$  and  $T_2$ . Compound  $T_2$  has a homogeneous range, including  $\text{CeCuAl}_3$ , and is in equilibrium with  $\text{CeAl}_4$ ,  $\text{CeAl}_2$ ,  $\omega$  and  $T_1$ . In the Ce-Mn-Al system Ce is not dissolved or only very slightly dissolved in Al (Mn) solid solution. At 600 and 500°C, 1.2% (0.59 at. %) and 0.5% (0.25 at. %) Mn respectively are dissolved in Al. At 500°C, the Al base solid solution ( $\omega$ -phase) is in equilibrium with  $\text{MnAl}_6$ ,  $\text{CeAl}_4$  and  $T_1$ . Compound  $T_1$  has a homogeneous range including compound  $\text{CeMn}_4\text{Al}_8$  and is in equilibrium with  $\omega$ ,  $\text{CeAl}_2$ ,  $\text{CeAl}_4$ , and compounds of Mn with Al and  $T_2$ . The structure of compound  $T_1$  is tetragonal of the  $\text{ThMn}_{12}$  type with constant  $a = 9.01 \text{ kX}$ ,  $c = 5.15 \text{ kX}$ ;  $c/a = 0.573$ . The homogeneous range of the  $T_2$  compound includes compound  $\text{Ce}_5\text{MnAl}_{14}$ . Compound  $T_2$  is in equilibrium with  $T_1$ ,  $\text{CeAl}_2$  and  $\text{CeAl}_4$ . ✓

Z. Rogachevskaya

[Abstracter's note: Complete translation]

Card 2/2

CHERKASHIN, F.

A school is participant in the Agricultural Exhibition. Prof.-tekh.  
obr. 11 no.4:31 J1 '54. (MLRA 7:9)

(Moscow--Agricultural exhibitions) (Agricultural exhibitions--Moscow)  
(Mogilev--Technical education) (Technical education--Mogilev)

*CHERKASHIN, F.*

AUTHOR: Cherkashin, F.

27-11-4/31

TITLE: In Persistent Labor (V upornom trude)

PERIODICAL: Professional'no - Tekhnicheskoye Obrazovaniye, 1957, # 11,  
p 5 (USSR)

ABSTRACT: More than 19,200 production-instructional groups have responded to the appeal of the Leningrad students of Labor Reserve Schools to assume increased productional obligations on the occasion of the 40th Anniversary of the October Revolution. The ensuing competition was directed toward an improvement in practical training, and the fulfilment and overfulfilment of productional plans. The article names a number of the Labor Reserve Oblast' Administrations which have carried out the plan within 9 months. It points to the Moscow Technical School # 6 as having manufactured 283 lathes of the T-65 type instead of the 250 planned, and mentions a number of students who were successful in individual competitions. Another outstanding school is the Leningrad Technical School # 1 for which the "Elektrosila" Plant is the basic enterprise. This school is greatly valued by the plant's Director Mozalevskiy. Technical School # 15 at Gorlovka Stalino Oblast', also has a good reputation.

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Mentioned are also the successes of the Agricultural Mechani-

In Persistent Labor

27-11-4/31

zation School # 1 at Melekess, Ul'yanov Oblast', and the Agricultural Mechanization School # 19 in the Mogilev Oblast'.

AVAILABLE: Library of Congress

Card 2/2

CHERKASHIN, F.

~~Competition in the foreground. Prof.-tekh. obr. 14 no.1:~~  
28 Ja '57.

(MLRA 10:2)

(Astrakhan--Technical education)

"

CHERKASHIN F.

In persistent work. Prof.-tekh.obr.14 no.11:5 N '57. (MIRA 10:12)  
(Technical education) (Socialist competition)



**CHEKASHIN, F.**

Labor reserves help to carry out technical education in schools.  
Politekh. obuch. no.6:91 Je '58. (MIRA 11:6)  
(Technical education)

AUTHOR: Cherkashin, F. SOV-27-58-9-20/28

TITLE: Daily Bulletin Board Newspaper (Yezhednevnyaya stennaya gazeta)

PERIODICAL: Professional'no-tekhnicheskoye obrazovaniye, 1958, Nr 9, p 27 (USSR)

ABSTRACT: The Komsomol organization of the Tekhnicheskoye uchilishche Nr 1 g. Angarska (The Technical School Nr 1 of the Town of Angarsk) resolved to publish a daily bulletin board newspaper. This newspaper, in which various problems are discussed, became very popular in a short time. The author elaborates on the advantages of such a publication.

1. Newspapers--USSR

Card 1/1

22 (1)

SOV/27-59-3-16/37

AUTHOR: Cherkashin, F.

TITLE: A High Award (Vysokoye zvaniye)

PERIODICAL: Professional'no-tekhnicheskoye obrazovaniye, 1959, Nr 3,  
pp 17 - 18 (USSR)

ABSTRACT: The competition for the right to carry the title of a Group of Communist Labor is under way in the educational institutions of the Labor Reserves. At the Chelyabinskoye remeslennoye uchilishche No 19 (Chelyabinsk Trade School Nr 19) it was the training and production group No 13 (turners of second year training) which was awarded this title by the Railroad Raykom of the Komsomol and the Bureau of the Chelyabinsk Gorkom VLKSM. This group was previously given the Red Challenge Banner of the regular workmen of the Chelyabinsk traktorny zavod (Chelyabinsk Tractor Plant). The author describes in detail the activity and achievements of this group, which resulted in the honorary title.

Card 1/1

CHERKASHIN, F.

Notes on education. Prof.-tekh.obr. 17 no.6:24-26 Je '60.  
(MIRA 13:7)  
(Children--Management)      (Technical education)

CHERKASHIN, F.

Soviet quality means excellence. Prof.-tekh. obr. 18 no. 3:18-20 Mr  
'61. (MIRA 14:4)

(Vocational education) (Education, Cooperative)

CHERKASHIN, F.

Heading for the beacon lights. Prof.-tekh. obr. 18 no.9:16-18  
S '61. (MIRA 14:11)  
(Plast—Farm mechanization—Study and teaching)

CHERKASHIN, F.

Communist Youth League on a great march. Prof.-tekh.obr. 19  
no.4:8.9 Ap '62. (MIRA 15:4)  
(Communist Youth League)  
(Farm mechanization--Study and teaching)

CHERKASHIN, E.

Basis of the moral education of the younger generation. Prof.-  
telkhn.obr. 19 no.11:21-22 N 162. (MIRA 16:2)  
(Moral education)



CHERKASHIN, F.

Under the sign of public survey. Prof.-tekh. obr. 21 no.10:  
5 0 '64. (MIRA 17:11)

FILARETOV, G.A.; STAFYEYEV, V.I.; CHERKASHIN, G.A.; LUR'YE, M.S.; BUENOV, Yu.Z.;  
ASNINA, Zh.S.

Study of the negative impedance of  $Al_2O_3$ -- metal contacts.

Radiotekh. i elektron. 11 no. 2:298-301 F '66  
(MIRA 19:2)

CHEKASHIN, I.

The assumed obligations with be fulfilled. Pozh.delo 7 no.7:  
2 JI '61. (MIRA 16:11)

1. Nachal'nik Upravleniya pozharney okhrany Muzhik'skoy ASSR.

**CHERYASHIN, I.P. (Khar'kov)**

Mechanized braking of railroad cars in hump yards. Zhel.dor.transp.  
38 no.10:75-76 0 '56. (MLRA 9:11)

1. Glavayy inshener Yuzhnoy dorogi.  
(Railroads--Hump yards)

STEFANOV, N.Ya. kandidat tekhnicheskikh nauk (Khar'kov); OLESHKO, G.I.,  
kandidat tekhnicheskikh nauk (Khar'kov); CHERKASHIN, I.P. (Khar'kov)

Increasing the average daily run of locomotives is the basis  
for improving operational work. Zel.dor.transp. 39 no.4:13-16  
Ap '57. (MLRA 10:5)

1. Glavnyy inzhener Yuzhnoy dorogi (for Cherkashin)  
(Locomotives)

*Chernobyl*

VOROB'YEV, S.A., kand.tekhn.nauk, otv.red.; KONOVALOV, A.I., inzh., red.;  
MAKARENKO, V.P., inzh., red.; MIKHEYEV, M.V., inzh., red.; NOVIKOVA,  
N.T., inzh., red.; PIKHTOVNIKOV, R.V., prof., red.; PODLOZHENOV,  
P.M., inzh., red.; SEMKO, M.F., prof., red.; TOROPOV, A.I., inzh.,  
red.; TSERKOVNYY, I.M., inzh., red.; CHERKASHIN, I.P., inzh., red.;  
SHEVCHENKO, M.G., tekhn.red.; LIMANOVA, M.I., tekhn.red.

[Mechanization and automation of production processes; proceedings  
of the city technical conference] Mekhanizatsiia i avtomatizatsiia  
proizvodstvennykh protsessov; sbornik materialov gorodskoi tekhnicheskoi konferentsii. Khar'kov, Khar'kovskoe knizhnoe izd-vo,  
1959. 295 p. (MIRA 13:1)

1. Kommunisticheskaya partiya Ukrainy. Khar'kovskiy gorodskoy komitet. 2. Nachal'nik Ukrainskoy proyektno-konstruktorskoy kontory "Prommekhanizatsiya". (for TSerkovnyy).  
(Automation) (Technological innovations)

L 27521-66 EWT(1)/EWT(m)/EWP(t) IJP(c) JD/HW/JG/JH

ACC NR: AP6007508

SOURCE CODE: UR/0109/66/011/002/0298/0301

AUTHOR: Filaretov, G. A.; Stafeyev, V. I.; Cherkashin, G. A.; Lur'ye, M. S.,  
Bubnov, Yu. Z.; Asnina, Zh. S.

ORG: none

TITLE: Investigation of the negative resistance of  $Al_2O_3$ -metal contacts

SOURCE: Radiotekhnika i elektronika, v. 11, no. 2, 1966, 298-301

TOPIC TAGS: semiconductor, semiconductor device, semiconductor research

ABSTRACT: The N-type negative-resistance region of  $Al_2O_3$ -Me contacts was investigated by measuring current-voltage characteristics of film-type contacts in which the thickness of the dielectric varied from 100 to 500 Å. The  $Al_2O_3$  layer was formed by oxidizing Al films obtained on glass by vaporization in vacuum. The upper electrode was formed by vacuum-spraying Cu, Sn, In, Au, Ni, Al. Measurements were conducted in air and in vacuum. With In, Al, Sn electrodes, the negative resistance was observed with both polarities of the applied voltage; with the Al electrode, the negative resistance could be detected only in vacuum. With Cu, Ni,

Card 1/2

UDC: 621.382.27.001.5

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L 27521-66

ACC NR: AP6007508

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Au electrodes, the negative resistance was observed only in the forward branch of the current-voltage characteristic. In all cases, the maximum current decreased and the negative resistance increased with the increasing layer thickness. Qualitatively, the I-V function could be explained by the Schottky emission law. Electron capture by multicharge centers is assumed to be responsible for the mechanism of the negative resistance. Orig. art. has: 5 figures.

SUB CODE: 09, 20 / SUBM DATE: 16Nov64 / ORIG REF: 002 / OTH REF: 001

Card 2/2 BNC



CHERKASHIN, M. I.

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Contact catalytic transformations of phenols. I. Trans-  
formations of 3,4-xylene on a nickel-alumina catalyst in a  
 stream of hydrogen. N. I. Shulkin, E. A. Viktorya, and  
 M. I. Cherkashin. Vestnik Akad. Nauk, 11, No. 6, Ser.  
 III, Moskva i Leningrad, Nauk No. 4, 67-69(1950).--When 3,4-  
 xylenol (I) was heated in H<sub>2</sub> at atm. pressure with an Al<sub>2</sub>O<sub>3</sub>-  
 Ni (20% Ni) catalyst in a Mo glass reactor, the catalysis  
 products (in 92-93% yield based on the original I) at 160°,  
 200°, and 250°, resp., were: NaOH-sol. matter (residual  
 I), 19.9, 4.9, 35.4%; nonphenolic, 70.3, 82.2, 58.2%;  
 water, 2.4, 12.9, 8.4%. The compn. of the nonphenolic  
 portion was, resp.: methylcyclohexane, 2.0, 4.3, 6.2%;  
 toluene, trace, 0.5, 2.4%; mixed *cis*- and *trans*-1,2-di-  
 methylcyclohexane (II), 38.2, 75.4 (62% of theoretical),  
 54%; *o*-xylene, 3.0, 19.8, 37.4%; 3,4-dimethylcyclohex-  
 anol, 48.8%, none, none; 3,4-dimethylcyclohexanone, 10%,  
 none, none. In this catalysis I is hydrogenated, dealkyl-  
 ated, and dehydrated in several steps, ultimately yielding  
 II. Heating the II isomers on this catalyst at 300° gave  
*o*-xylene. The I was prepd. by carefully fusing 160 g.  
 powd. Na 3,4-dimethylbenzenesulfonate with 300 g. NaOH  
 contg. 30 ml. water at 315-207° for 2 hr. This was cooled,

ground, placed in aq. HCl, and the I was extracted with ether extd.;  
 after evap. the ether, I was distilled. Malcolm Anderson

CM

Chae KASHIN, M.I.

Selective demethylation of alkanes on Raney-type nickel-  
aluminum catalysts

1 2 6

*CHEKUNASHIN, M. I.*

27      27\*

✓ Specific peculiarities of Raney type nickel-aluminum catalyst in hydrogenolysis of the pentamethylcyclopentane. N. I. Shubin and M. I. Cherkashin (N. I. Zhdanov Inst. Org. Chem., Moscow). *Izv. Akad. Nauk SSSR Ser. Khim. Nauk* 1959, 1260-8. Hydrogenolysis of Raney type catalyst was examined with specimens of 1-butyl-1-cyclopentane (I), 1-isobutylcyclopentane (II), and isoamylcyclopentane (III). The reaction was carried out at 200° at atm. pressure. I gave 4.2% 2-methylhexane, 12.1% 3-methylheptane, and 16.6% 4-methylheptane with 22% butylcyclopentane. II gave 9.7% 2,5-dimethylheptane, 20.4% 2,5-dimethyloctane, and 30.6% isoamylcyclopentane. III undergoes similar changes under these conditions. The results are explainable by appropriate disposition of the cyclopentane ring on the catalyst surface. M. K.

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Distr: 4E1j/4E2c(j)/4E3d

CHERKASHIN, M. I., Cand Chem Sci -- (diss) "Study in the field of catalytic transformations of carbohydrates <sup>Compounds</sup> of C<sub>10</sub> composition." Mos, Pub House Acad Sci USSR<sup>7</sup>, 1958. 14 pp (Acad Sci USSR, Inst of Organic Chemistry im N. D. Zelinskiy), 120 copies (KL, 16-58, 117)

-21-

AUTHORS: Shuykin, N. I., Cherkashin, M. I.

62-58-3-25/30

TITLE: On the Catalytic Transformation of Dialkylsubstituents of Cyclohexane Under Hydrogen Pressure (O kataliticheskikh prevrashcheniyakh dialkilzameshchennykh tsiklogeksana pod davleniyem vodoroda)

PERIODICAL: Izvestiya Akademii Nauk SSSR, Otdeleniye Khimicheskikh Nauk, 1958, Nr 3, pp. 373-374 (USSR)

ABSTRACT: In 5 previous works the authors already reported on the investigation of the transformation of the hydrocarbons of the hexamethylene series under hydrogen pressure. In the present work they describe their investigation of the conversions of 1-methyl-4-n-propylcyclohexane. The basic directions of the course of reaction are shown as well as the influence of the carriers on the character of the transformation. The following statements were arrived at: 1-methyl-4-n-propylcyclohexane at 450° C and at 20 atm. excess pressure of hydrogen (in the presence of 0,5% Pt-Al<sub>2</sub>O<sub>3</sub>) converts to p-methyl-n-propylbenzene, toluene, p-, o- and m-acids. This is also the case in the mixture of methylethylbenzenes. On these conditions pure Al<sub>2</sub>O<sub>3</sub>

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On the Catalytic Transformation of Dialkylsubstituents of Cyclohexane Under Hydrogen Pressure 62-58-3-25/30

can also cause reactions of dehydrogenation and dealkylation. Platinized dioxide of zirconium can initiate only a reaction of the dehydrogenation of the hexamethylene cycle. For the first time 1-methyl-4-n-propylcyclohexane in cis- and transform were obtained. There are 3 tables and 6 references, 2 of which are Soviet.

ASSOCIATION: Institut organicheskoy khimii im. N. D. Zelinskogo Akademii nauk SSSR (Institute for Organic Chemistry imeni N. D. Zelinskiy, AS USSR)

SUBMITTED: October 28, 1957

Card 2/2

62-58-5-15/27

AUTHORS: Shuykin, N. I., Cherkashin, M. I., Gayvoronskaya, G. K.

TITLE: Catalytic Isomerization of the Dicyclopentyl Under Hydrogen Pressure (Kataliticheskaya izomerizatsiya ditsiklopentila pod davleniyem vodoroda)

PERIODICAL: Izvestiya Akademii Nauk SSSR, Otdeleniye Khimicheskikh Nauk, 1958, Nr 5, pp. 626 - 628 (USSR)

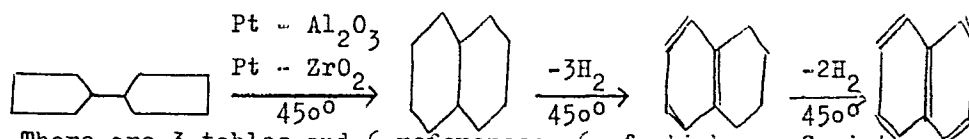
ABSTRACT: The investigation of catalytic conversions of bicyclic systems lead to the determination of important rules. Zelinskiy and Tits (Reference 1) observed already the extension of the ring-system of dicyclopentyl in decalin under the action of hydriotic acid on cyclopentylcyclopentanol. One of the authors of this report found (Reference 2) that 1,2-cyclopentylcyclopentanol under the action of zinc-chloride, synthesizes  $\Delta^9,10$ -octalin. Turova-Polyak (Reference 3) obtained the same results with concentrated phosphoric acid. He also achieved the synthesis of trans-decalin on the action of  $AlCl_3$  on dicyclopentyl.

Card 1/2      Eventova (Reference 4) found that dicyclopentyl can be hydro-

Catalytic Isomerization of the Dicyclopentyl Under  
Hydrogen Pressure

62-58-5-15/27

genized at 310 to 320°C in the presence of platinized coal. A composed mixture of hydrocarbons is formed in this connection. In the present work the authors investigated the behavior of dicyclopentyl on platine-catalysts at increased temperatures and under hydrogen pressure. It was found in this connection that dicyclopentyl suffers an isomerization in decalin with subsequent dehydration in tetralin and naphthalene:



There are 3 tables and 6 references, 6 of which are Soviet.

ASSOCIATION: Institut organicheskoy khimii im. N. D. Zelinskogo Akademii nauk SSSR (Institute for Organic Chemistry imeni N. D. Zelinskiy AS USSR)

SUBMITTED: December 6, 1957

Card 2/2

1. Cyclic compounds--Isomerism 2. Cyclic compounds--Catalysis  
 3. Catalysts--Materials 4. Catalysts--Performance 5. Hydrogen--Applications  
 6. Pressure--Applications



SOV/62-58-8-16/22

AUTHORS: Shuykin, N. I., Cherkashin, M. I., Yakovlev, I. P.

TITLE: The Hydrolysis of Dicyclopentyl on a Skeleton Nickel-Aluminium Catalyst (Gidrogenoliz ditsiklopentila na skeletnom Ni - Al - katalizatore)

PERIODICAL: Izvestiya Akademii nauk SSSR, Otdeleniye khimicheskikh nauk, 1958, Nr 8, pp. 1008-1010 (USSR)

ABSTRACT: In the present short report the authors described their investigation of the reaction of the hydrolysis of dicyclopentyl on a skeleton nickel-aluminium catalyst at atmospheric pressure and at 200°. On these conditions the hydrolysis of only a five-membered ring with a simultaneous formation of products of the simple rupture of the C - C bonds of the five-membered ring as well as of alkyl cyclopentanes with a shortened side chain takes place. The scheme of the mechanism of the dicyclopentyl hydrolysis was devised and suggested by the authors. There are 1 table and 8 references, 6 of which are Soviet.

Card 1/2

The Hydrolysis of Dicyclopentyl on a Skeleton Nickel-Aluminium Catalyst

SOV/62-58-8-16/22

ASSOCIATION: Institut organicheskoy khimii im. N. D. Zelinskogo Akademii  
nauk SSSR (Institute of Organic Chemistry imeni N. D. Zelinskiy,  
AS USSR)

SUBMITTED: March 5, 1958

Card 2/2

5(3)

007/62-59-1-30/38

AUTHORS: Shuykin, N. I., Cherkashin, E. I.

TITLE: Hydrogenolysis of Hydrocarbons of the Pentamethylene Series on the Ni-Al Skeleton Catalyst (Gidrogenoliz uglevodorodov pentametenovogo ryada na skeletnom Ni-Al katalizatore)

PERIODICAL: Izvestiya Akademii nauk SSSR. Otdeleniye khimicheskikh nauk, 1959, Nr 1, pp 168 - 170 (USSR)

ABSTRACT: In the preceding paper (Ref 1) the authors have shown that pentamethylene hydrocarbons in the presence of a Ni-Al skeleton catalyst undergo hydrogenolysis. In addition to the products of a simple opening of C-C bonds of the 5-membered cycle, hydrocarbons with shortened carbon chain are formed there. In the present paper cyclopentane, methyl cyclopentane and ethyl cyclopentane were investigated in this direction. It was found that the above lowest homologs of cyclopentane are subject to the same laws. It was stated that alkanes with shortened chain are formed at the expense of the carbon atoms contained in the pentamethylene cycle. It was demonstrated that cyclopentane is

Card 1/2

Hydrogenolysis of Hydrocarbons of the Pentamethylene  
Series on the Ni-Al Skeleton Catalyst

SOV/62-59-1-30/38

opened by 51.5% at a single flow at 200°. Under equal conditions, methyl cyclopentane and ethyl cyclopentane are opened accordingly by 43 and 40%. Under these conditions, the isoalkanes formed are partly hydrogenated into gaseous hydrocarbons in a destructive way. There are 3 tables and 1 Soviet reference.

ASSOCIATION: Institut organicheskoy khimii im. N. D. Zelinskogo Akademii nauk SSSR (Institute of Organic Chemistry imeni N. D. Zelinskiy of the Academy of Sciences, USSR)

SUBMITTED: June 12, 1958

Card 2/2

5(3)

AUTHORS:

Shuykin, N. I., Cherkashin, M. I.

SOV/62-59-3-18/37

TITLE:

Catalytic Transformations of 1-Methyl-4-isopropylcyclohexane in Conditions of High Temperature and Hydrogen Pressure (kataliticheskiye prevrashcheniya 1-metil-4-izopropiltsiklogeksana v usloviyakh povyshennykh temperatury i davleniya vodoroda)

PERIODICAL:

Izvestiya Akademii nauk SSSR. Otdeleniye khimicheskikh nauk, 1959, Nr 3, pp 507-510 (USSR)

ABSTRACT:

It was proved (Ref 1) with respect to the effect of alkyl groups in the cyclohexane ring that methylcyclohexane is dehydrogenated in a higher degree than cyclohexane and ethylcyclohexane. In this connection the action of two substituents on the behavior of the cyclohexane ring under platforming conditions was investigated here. 1-methyl-4-isopropylcyclohexane was investigated in an apparatus with continuous flow at 450° and a pressure of 20 atmospheres in the presence of 0.5 % Pt on Al<sub>2</sub>O<sub>3</sub> and 0.5 % Pt on ZrO<sub>2</sub>. The properties of catalyzates and the gas composition are given in table 1. The composition of the catalyzates according to fractions are presented in tables 2 and 3. From these tables it may be seen that during

Card 1/3

Catalytic Transformations of 1-Methyl-4-isopropyl- SOV/62-59-3-18/37  
cyclohexane in Conditions of High Temperature and Hydrogen Pressure

the transformations of 1-methyl-4-isopropylcyclohexane on platinum-aluminum oxide the principal reactions are the dehydrogenation and dealkylation. The principal mass of the catalyzate consisted of toluene, 1-methyl-4-isopropylbenzene, and a mixture of dimethylethylbenzenes. The naphthene-paraffin portion contained also methylcyclohexane, 1,3-dimethylcyclopentane and a certain amount of unchanged 1-methyl-4-isopropylcyclohexane. On platinum-circonium oxide the principal reaction was the dehydrogenation of 1-methyl-4-isopropylcyclohexane into 1-methyl-4-isopropylbenzene. The formation of toluene and methylcyclohexane was negligible. It was worthy of note that naphthalene was found in the catalyzates. The occurrence of a considerable quantity of methylcyclohexane (5 %) and toluene (25 %) in the catalyzate obtained on Pt-Al<sub>2</sub>O<sub>3</sub> permits the assumption that the dealkylation of the initial product 1-methyl-4-isopropylcyclohexane takes place prior to its aromatization. Only an insignificant compression of the methylcyclohexane ring takes place there,

Card 2/3

Catalytic Transformations of 1-Methyl-4-isopropyl- SOV/62-59-3-18/37  
cyclohexane in Conditions of High Temperature and Hydrogen Pressure

1,3-dimethylcyclopentane being formed. There are 3 tables  
and 3 references, 2 of which are Soviet.

ASSOCIATION: Institut organicheskoy khimii im. N. D. Zelinskogo Akademii  
nauk SSSR (Institute of Organic Chemistry imeni N. D. Zelin-  
skiy of the Academy of Sciences, USSR)

SUBMITTED: July 6, 1957

Card 3/3

BERLIN, A.A.; BLYUMENFEL'D, L.A.; CHERKASHIN, M.I.; KALMANSON, A.E.;  
SEL'SKAYA, O.G.

Polymers with conjugated bonds in the macromolecular chains. Part 2:  
Paramagnetism and certain other properties of polyarylvinylenes.  
Vysokom. soed. 1 no.9:1361-1363 S '59. (MIRA 13:3)

1. Laboratoriya anizotropnykh struktur AN SSSR.  
(Polymers) (Vinylene compounds)



BERLIN, A.A.; CHERKASHIN, M.I.; SEL'SKAYA, O.G.; LIMANOV, V.Ye.

Polymers with conjugated bonds in the chains of the macromolecules. Part 5: Synthesis and certain properties of polyarylvinylenes. Vysokom.soed. 1 no.12:1817-1820 D '59.  
(MIRA 13:5)

1. Institut khimicheskoy fiziki AN SSSR,  
(Vinylene compounds) (Polymers)

5(3).

AUTHORS:

Shuykin, N. I., Cherkashin, M. I.

SOV/79-29-7-26/83

TITLE:

On the Demethylation Reaction in the Hydrogenolysis of the Five-membered Cyclanes and n.-Alkanes on the Skeleton-Ni-Al-catalyst (O reaktsii demetilirovaniya pri gidrogenolize pyatichlennykh tsiklanov i n.-alkanov na skeletnom Ni-Al-katalizatore)

PERIODICAL:

Zhurnal obshchey khimii, 1959, Vol 29, Nr 7, pp 2225-2230 (USSR)

ABSTRACT:

In earlier experiments made by several research workers (Refs 1-6) various methods with different nickel catalysts were applied to the hydrogenolysis of the C-C bonds of the five-membered cycle. These investigations showed that the catalytic properties of nickel catalysts are due to the nature of the carrier used. Thus, e.g. nickel on aluminum oxide (Refs 3, 5) exhibited a specific effect neither in five-membered cyclanes nor in alkanes of different structure, whereas nickel on deactivated kieselguhr demethylates isoalkanes selectively (Ref 6). It was therefore of interest to examine the effect of the skeleton nickel-aluminum catalyst frequently used in laboratories and industries also with respect to the

Card 1/2

On the Demethylation Reaction in the Hydrogenolysis of the Five-membered Cyclanes and n.-Alkanes on the Skeleton-Ni-Al-catalyst SOV/79-29-7-26/83

hydrogenolysis of the C-C bonds of pentamethylene hydrocarbons and alkanes. This hydrogenolysis takes place under rather easy conditions and is accompanied by partial molecule simplification. Further experiments with this catalyst showed that at 200° and normal pressure it is capable of demethylating n.-alkanes. It was found that under the above conditions the molecule of dicyclopentyl is hydrogenolyzed only on one pentamethylene ring; in this connection also cyclanes with shortened chain are formed in addition to isoamyl cyclopentanes. There are 3 tables and 7 references, 6 of which are Soviet.

ASSOCIATION: Institut organicheskoy khimii Akademii nauk SSSR (Institute of Organic Chemistry of the Academy of Sciences, USSR)

SUBMITTED: June 9, 1958

Card 2/2

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10/16  
X/1/10-1-1/1

AUTHORS: Shuykin, N. I., Chekashin, M. I.

TITLE: Catalytic Conversion of p-cymene over Platinum Alloys Under Hydrogen Pressure

PERIODICAL: Izvestiya Akademii nauk SSSR, Otdeleniye Khimicheskikh nauk, 1960, No 1, pp 90-93 (USSR)

ABSTRACT: The major part of the catalysis products of p-cymene consist of toluene, xylenes, methyl-ethylbenzenes, and dimethylethylbenzenes. p-cymene undergoes dealkylation more easily than 1-methyl-4-isopropylcyclohexane. The yield of the dealkylation products in the case of p-cymene at 450 and 520° is 40 and 64%, respectively, and in the case of 1-methyl-4-isopropylcyclohexane, only ~10 and ~50%. The chemical conversion of 1-methyl-4-isopropylbenzene occurs in the following manner:

Chem 1/5



Catalytic Conversions of p-Cymene Over  
Platinized Alumina Under Hydrogen Pressure

78070  
SOV/62-60-1-16/37

There are 9 references, 6 Soviet, 3 U.S. The 3 U.S. references are: Haensel, V., Donaldson, G. R., Industr. and Engng. Chem., 42, 582 (1950); Pitts, P. M., Connor, J. E., Leum, L. M., Industr. and Engng. Chem., 47, 770 (1955); Szwarc, M., Chem. Rev., 47, 171 (1950).

ASSOCIATION: N. D. Zelinskiy Institute of Organic Chemistry of the Academy of Sciences of the USSR (Institut organicheskoy khimii imeni N. D. Zelinskogo Akademii nauk SSSR)

SUBMITTED: June 6, 1950

Card 3/3



BERLIN, A.A.; VAYNSHTEYN, E.F.; CHERKASHIN, M.I.; MOSHKOVSKIY, Yu.Sh.

Polymers with a conjugate bond system in macromolecular chains. Part  
32: Preparation and properties of 1-polyhexyne. Vysokom.soed. 5 no.9:  
1354-1359 S '63. (MIRA 17:1)

1. Institut khimicheskoy fiziki AN SSSR.



ACCESSION NR: AP4019019

S/0062/64/000/002/0388/0389

AUTHOR: Cherkashin, M. I.; Aseyev, Yu. G.

TITLE: Polymerization of phenylacetylene over CuO

SOURCE: AN SSSR. Izv. Seriya khimicheskaya, no. 2, 1964, 388-389

TOPIC TAGS: phenylacetylene polymerization, cupric oxide catalyst, cuprene, Ziegler Natta catalyst, CuO, phenyl acetylene

ABSTRACT: The purpose of this work was to find a catalyst other than Ziegler's to achieve polymerization of phenylacetylene and to obtain a linear product with conjugate bonds. It is known that acetylene polymerized over CuO forms cuprene which probably has a three-dimensional structure, is insoluble in organic solvents. The authors undertook the polymerization of phenylacetylene in gaseous form over CuO at 250-350C. They found that phenylacetylene is readily polymerized at 250-350C over CuO (just as it does over  $(C_2H_5)_3Al \cdot TiCl_3$  at 20-70C) forming polymers with a molecular weight of 5-7000. Polymers so prepared are not oxidized by the oxygen of the air and form adducts with maleic anhydride. The IR spectra of all phenylacetylene polymers are identical and fundamentally coincide with those of

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ACCESSION NR: AP4019019

polystyrene. Some changes in the spectrum point to the fact that the line of  $1376\text{ cm}^{-1}$  in polystyrene should be assigned to the combined oscillation in connection with the  $\text{CH}_2$  group. Orig. art. has: 1 figure, no formulas, 1 table.

ASSOCIATION: Institut khimicheskoy fiziki AN SSSR (Institute of Chemical Physics, A.N. SSSR)

SUBMITTED: 15Aug63

DATE ACQ: 27Mar64

ENCL: 00

SUB CODE: QC

NO REF SOV: 002

OTHER: 003

Card 2/2

ACCESSION NR: AP4025013

S/0062/64/000/003/0568/0569

AUTHORS: Berlin, A. A.; Cherkashin, M. I.

TITLE: Paramagnetism of polymers with pi-conjugated systems

SOURCE: AN SSSR. Izv. Seriya khimicheskaya, no. 3, 1964, 568-569

TOPIC TAGS: polymer, acetylenic polymer, pi conjugated system, paramagnetism, diamagnetism, EPR signal, phenylacetylene polymer, iodo-phenylacetylene polymer, tert. butylacetylene polymer, pentyne polymer, hexyne polymer, hydrogenation, bromination, oxygen addition, double radical, ion radical

ABSTRACT: The paramagnetism of acetylenic polymers was investigated in an effort to explain the phenomenon. Phenylacetylene, beta-iodophenylacetylene and t-butylacetylene (molecular weights 5000-7000) obtained on the Ziegler-Natta catalyst ( $(C_2H_5)_3 Al.TiCl_3$  and  $(C_2H_5)_3 AlTiCl_4$  at -20 to 70C) show a narrow singlet with  $10^{16}$  to  $10^{18}$  paramagnetic particles per gram, while pentyne-1 and hexyne-1 polymers obtained under analogous conditions (molecular weights 40,000-

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ACCESSION NR: AP4025013

80,000) are diamagnetic. Partial hydrogenation of polyphenylacetylene on Ni-Al catalyst causes a transition from paramagnetism to diamagnetism; bromination decreases the EPR signal by one order. The hydrogenated polyphenylacetylene will add oxygen on standing in air, while the original paramagnetic polyphenylacetylene is stable with respect to oxygen even at 250-300C. Bromination apparently occurs either at the paramagnetic centers or at double bonds in individual molecules causing delocalization of the pi-electrons. It is proposed that in systems containing pi-conjugations, the EPR signal is associated with the presence of a fraction of high molecular weight homologs existing in the form of double radicals or ion radicals. Orig. art. has: 00

ASSOCIATION: Institut khimicheskoy fiziki, AN SSSR (Institute of Chemical Physics, AN SSSR)

SUBMITTED: 23Aug63

DATE ACQ: 17Apr64

ENCL: 00

SUB CODE: PH, CH

NR REF SOV: 009

OTHER: 000

2/2

Card

L 10375-65 EWT(1)/EPA(s)-2/ENG(k)/EWT(in)/EPF(c)/EWP(j)/T Pc-4/Pr-4/Pt-10/  
Pz-6 IJP(c)/ASD(a)-3/ESD(dp)/AFWL/ESD(t)/RAEIA(t) AT/RM

ACCESSION NR: AP4047200

S/0190/64/006/010/1773/1777

AUTHOR: Berlin, A. A.; Cherkashin, M. I.; Aseyev, Yu. G.; Sheherba-  
Sheherbakova, I. M.

TITLE: Polymers with a conjugated system. Polymerization<sup>n</sup> of phenylacetylene over triethylaluminum-titanium trichloride catalyst<sup>B</sup>

SOURCE: Vyssokomolekulyarnyye soyedineniya, v. 6, no. 10, 1964, 1773-1777

TOPIC TAGS: polyphenylacetylene, organic semiconductor,<sup>15</sup> semiconducting polymer, phenylacetylene, catalytic polymerization

ABSTRACT: A study was made of the catalytic polymerization of phenylacetylene (PA) in the presence of the  $(C_2H_5)_3Al \cdot TiCl_3$  complex and the properties of the catalytic polymer were compared with those of the thermal polymerization product. PA polymerized relatively readily at 20-70°C; at an Al/Ti molar ratio of 1, yellow-orange polymers were formed (paramagnetic center concentration, about  $10^{17}$  spin/g) which have a higher average molecular weight ( $M_n = 5000$ ) than in the case of thermal-initiated or radiation-induced polymerization ( $M_n = 800-1200$ ). Low-molecular-weight products were also formed which

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contained 1,3,5-triphenylbenzene, whereas no noticeable amounts of 1,3,5-derivatives of benzene were produced in thermal polymerization. Both catalytic and thermal PA polymers were resistant to the effect of atmospheric oxygen up to 300-400C. Neither readily undergoes electrophilic addition (bromination), hydrogenation, or adduct formation with maleic anhydride. In bromination, substitution prevails over addition, indicating the "aromatic character" of the polymers. IR spectra of both types of polymers are identical, essentially conform to the spectrum of polystyrene, and do not show the presence of 1,4-substituted phenyl rings in the backbone. Orig. art. has: 4 tables.

ASSOCIATION: Institut khimicheskoy fiziki AN SSSR (Institute of Chemical Physics, AN SSSR).

SUBMITTED: 23Nov63

ATD PRESS: 3119

ENCL: 00

SUB CODE: SS, OC

NO REF SOV: 005

OTHER: 002

Card 2/2

BERLIN, A.A.; CHIRKASHIN, M.I.; KIMENGA, I.I.

Polymerization of  $\beta$ -iodophenylacetylene. Izv. AN SSSR. Ser. khim.  
no.10:1875-1877 '85. (MIRA 18:10)

1. Institut khimicheskoy fiziki AN SSSR.

L 8151-66 EWT(m)/EWP(j)/T RM

ACC NR: AP5027690

SOURCE CODE: UR/0062/65/000/010/1875/1877

AUTHOR: Berlin, A. A.<sup>44,5</sup>; Cherkashin, M. I.<sup>44,5</sup>; Kisilitsa, P. P.<sup>44,5</sup>ORG: Institute of Chemical Physics, Academy of Sciences SSSR <sup>44,5</sup> 48  
(Institut khimicheskoy fiziki Akademii nauk SSSR)TITLE: Polymerization <sup>1.44,5</sup> of beta-iodophenylacetylene 7 47SOURCE: AN SSSR. Izvestiya. Seriya khimicheskaya, no. 10, 1965, B  
1875-1877TOPIC TAGS: polymerization, catalytic polymerization, polymer,  
linear polymer, polymerization catalyst

ABSTRACT: The thermal and catalytic polymerization of beta-iodophenylacetylene were investigated to study the effect of different substituents on the polymerization of acetylenic compounds. Thermal polymerization at 150 C and catalytic polymerization with triethylaluminum-titanium chloride complexes (optimum 70 C, using  $(C_2H_5)_3Al \cdot TiCl_3$  with Al:Ti = 1:1) gave polymers which were stable to atmospheric oxidation at room temperature but which oxidized at 450-500 C, splitting out iodine and forming three-dimensional structures. Diels-Alder reactions, bromination and IR spectral data helped establish that the first stage of this reaction is polymerization at the triple bond to form

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UDC: 542.952+547.362

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ACC NR: AP5027690

paramagnetic linear polymers<sup>15</sup> having a mean molecular weight up to 2100 and a specific conductance at 300 K of  $10^{-11}$  ohm<sup>-1</sup> cm<sup>-1</sup>. Orig. art. has: 2 tables.

SUB CODE: OC/ SUBM DATE: 29Jan65/ ORIG REF: 001/ OTH REF: 004

jw

Card 2/2

ACC NR: AP7004065 SOURCE CODE: UR/0190/67/009/001/0045/0051

AUTHOR: Berlin, A.A.; Cherkashin, M.I.; Kisilitsa, P.P.; Kushnerev, M.Ya.

ORG: Institute of Chemical Physics, AN SSSR (Institut khimicheskoy fiziki AN SSSR)

TITLE: Study of structural changes in electrical and physical properties of polyphenylacetylene in the course of heat treatment

SOURCE: Vysokomolekulyarnyye soyedineniya, v. 9, no. 1, 1967, 45-51

TOPIC TAGS: pyrolysis, polymer heat effect, polymer structure, electric property, crystallography, phenyl compound, acetylene, conjugated polymer

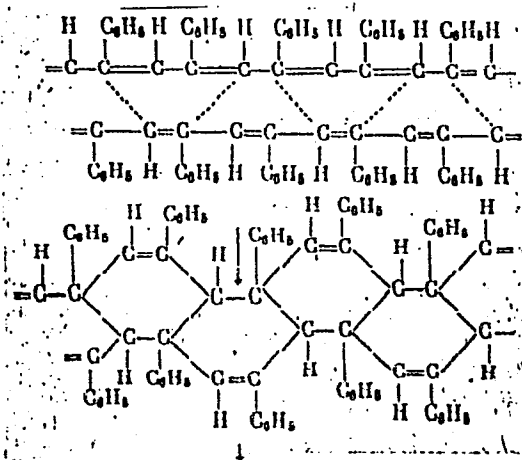
ABSTRACT: A study has been made of the effect of heat treatment at 300—700C in an inert medium on the morphology, chemical structure, electrical properties, and paramagnetic properties of polyphenylacetylene. The electrical measurements were carried out for pressed pellet specimens at 20—400C. It was shown that heat treatment causes substantial changes in electrical, paramagnetic, and crystallographic properties. As the heat treatment temperature (HTT) increases from 330 to 700C, crystallinity and conductivity increase (from  $10^{-15}$  to  $10^{-2}$  mh/cm), activation energy for conduction decreases (from 1.50 ev at HTT = 400C to 0.19 ev at

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UDC: 678.01:53/54+678.76

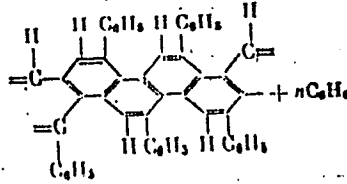
ACC NR: AP7004065

HTT = 700C), and unpaired spin concentration goes through a maximum at 600C. In the 600—700C HTT range, there is a transition from a cubic or pseudocubic lattice to a tetragonal lattice; this transition is accompanied by a sharp change in electrical conductivity (from  $10^{-7}$  to  $10^{-2}$  mho/cm) and paramagnetism. Changes in IR spectra with increasing HTT suggested that three-dimensional network structure formation takes place:



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ACC NR: AP7004065



To determine the effect that the three-dimensional network formation and crystallinity in polyphenylacetylene have on conductivity, the properties of the phenylacetylene—p-diethylbenzene copolymer and the polyphenylacetylene—p-diethylbenzene block copolymer which has a three-dimensional network structure were studied. The crystalline structure was crystalline for the copolymer and amorphous for the block copolymer but both had conductivity of the order of only  $10^{-16}$  mho/cm. This indicates that crystallinity and a three-dimensional network structure are not sufficient conditions for a high conductivity in conjugated polymers. [SM]

SUB CODE: 11, 20/ SUBM DATE: 30Oct65/ ORIG REF: 004/ OTH RFF: 003  
ATD PRESS: 5114

Card 3/3

BALABANOV, Ye.I.; BERLIN, A.A.; PARINI, V.P.; TAL'RCZE, V.L.; FRANKOVICH,  
Ye.L.; CHERKASHIN, M.L.

Electric conductivity of polymers with conjugated bonds. Dokl. AN  
SSSR 134 no.5:1123-1126 O '60. (MIRA 13:10)

1. Institut khimicheskoy fiziki Akademii nauk SSSR. Predstavleno  
akademikom V.N.Kondrat'yevym.  
(Polymers--Electric properties)

ONUFRIYEV, Timofey Grigor'yevich, dots.; SHATNEV, Boris Nikolayevich, dots.; IVAN'KO, Timofey Yakovlevich, inzh.; GEROL'SKAYA, Lyudmila Sergeyevna, dots.; SARYCHEVA, Nina Petrovna, dots.; KOSTYAYEV, Sergey Petrovich, inzh.[deceased]; YEGOROV, L.P., dots., retsenzent; ZAYCHENKO, I.R., dots., retsenzent; BYALYNITSKIY, V.A., inzh., retsenzent; CHERKASHIN, N.A., inzh., retsenzent; DYNER, I.I., inzh., retsenzent; PAUL', V.P., inzh., red.; NEKLEPAYEVA, Z.A., inzh., red.; MEDVEDEVA, M.A., tekhn. red.

[Buildings in railroad transportation] Zdania na zheleznodorozh-  
nom transporte. Moskva, Transzheldorizdat, 1962. 408 p. (MIRA 15:6)  
(Railroads--Buildings and structures)

L 7806-66

ACC NR: AP5022959

SOURCE CODE: UR/0256/65/000/006/0027/0031

AUTHOR: Cherkashin, N. F. (Colonel)

ORG: None

TITLE: Another speciality for each member of the rocket forces

SOURCE: Vestnik protivovozdushnoy oborony, no. 6, 1965, 27-31

TOPIC TAGS: military personnel, military training, guided missile personnel

ABSTRACT: Starting from a typical example of a rocket unit which, due to overspecialization, was not capable of operating a certain complex weapon due to the illness of one of its members, the author argues for cross-specialization of the rocket force personnel so that the team members can perform various functions and become interchangeable. The author discusses ways and means to make this "directive from above" become reality on the army "grass root" level. The article ends with the example of senior lieutenant, first class specialist Volkov, who, after carefully studying the operation of the imitator and of the associated equipment, was able to improve the pattern of passive radiointerferences and make them approximate the actual pattern closely. Orig. art. has: 1 figure.

SUB CODE: MS / SUBM DATE: none

36  
B

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ACC NR: A16033314 (N) SOURCE CODE: UR/0000/66/000/000/0105/0108

AUTHOR: Vdovichenko, L. A. (L'vov); Cherkashin, O. F. (L'vov)

ORG: none

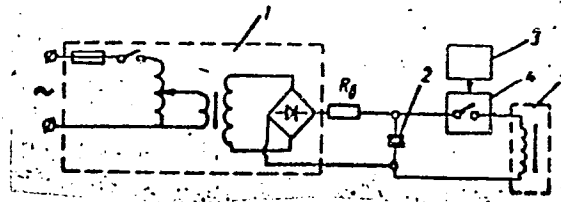
TITLE: Electrodynamic generator for hydroacoustic pulses

SOURCE: AN UkrSSR. Voprosy prikladnoy akustiki i vibratsionnoy tekhniki (Principles of applied acoustics and vibration technology), Kiev, Naukova dumka, 1966, 105-108

TOPIC TAGS: acoustic signal, pulse generator, electroacoustics, acoustic equipment, sound transmitter, hydraulic device

ABSTRACT: The generator described (Fig. 1) offers much better stability of pulse sequences than can be obtained from the explosive or spark methods. Compared with

Fig. 1. Diagram of generator. 1 - Power supply, 2 - capacitor bank, 3 - switching unit, 4 - power contactor, 5 - sealed coil, 5 - aluminum membrane.



magnetostriction radiators, it is simpler in construction, more reliable, and can be more readily adapted for the generation of large power. The operation is

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ACC NR: AT6033314

based on discharging a large capacitor through a coil which is inductively coupled to a nonmagnetic electrically conducting membrane. The hydroacoustic pulse is produced as a result of interaction between the current and the coil and the eddy currents in the membrane. The article is devoted to the analysis of the equivalent circuit and the transients in such a generator, a determination of the critical mode when the interaction between the membrane and the coil is maximal, and plots of the membrane displacement against the applied voltage and against the gap between the coil and the membrane. The results show that to increase the interaction it is necessary to increase to maximum the coupling between the coil and the membrane, but the use of a magnetic core to improve the coupling is not advantageous. Orig. art. has: 3 figures and 13 formulas.

SUB CODE: 09/20// SUBM DATE: 19May66/ ORIG REF: 001/ OTH REF: 002

Card 2/2

CHERKASHIN, P.F. (g.Kyzyl, Tuvinskaya avtonomnaya oblast')

At the hot springs of Tuva. Zdorov'ie 2 no.9:9 S '56. (MLRA 9:10)  
(TUVA AUTONOMOUS PROVINCE --SPRINGS)

CHERKASHIN, P.M.

By-pass of a mixing machine of the disintegrator type. Koks i khim.  
no.5:61 '56. (MLRA 9:10)  
(Coke industry--Equipment and supplies)

CHERKASHIN, V.; MAYPET, A.

Simplest corn cribs. Sel'.strei. li no.8:7-8 Ag '56. (MIRA 9:10)

1.Nachal'nik Belgeredskogo oblastnogo upravleniya po stroitel'stvu v kolkhozakh (for Cherkashin).2.Starshiy inzhener Belgeredskogo oblastnogo upravleniya po stroitel'stvu v kolkhozakh.  
(Corn (Maize)--Storage) (Farm buildings)