

MAGIDSON, A. O.

PA 3/49T5

USSR/Academy of Sciences
Engineering
Power

May 48

"Conference of the Moscow Department of the All-
Union Scientific and Technical Society on Power
Engineering," A. O. Magidson, Engr, 1 p

"Elektrichestvo" No 5

Feb 48 session was for accounting, and selection
of members. Lists members elected. Briefly
describes more important works submitted for
evaluation.

3/49T5

MAGIDSON, A. O.

USSR/Electricity - Education

Jun 53

"Correspondence-School Advanced Training of Graduate Engineers," Prof B.M. Tareyev, Dr Tech Sci; Engr A.O. Magidson, All-Union Corresp Power Eng Inst (VZEI)

Elektrichestvo, No 6, pp 57-59

Describes organization of correspondence-school advanced training for graduate power engrs on basis of experience of VZEI in Moscow. Lists, discusses subject matter of projects recently completed for advanced training with VZEI by 8 persons from 8 different places (including Leninakan, Sochi, Taganrog). Submitted 22 Jan 53.

268T54

VINTER, A.V., akademik; KUKUSHKIN, I.N., inzhener; TRAPEZNIKOV, V.A.;
NIKOLAYEV, A.T., inzhener (Muromtsevo, Vladimirekoy obl.); KUDELIN,
Ya.M. (Muromtsevo, Vladimirskey obl.); PETROV, I.I., dotsent, kandidat
tekhnicheskikh nauk (Moscow); BADALYANTS, M.G., inzhener; BELICHENKO,
G.M., inzhener; KLAPCHUK, L.D., inzhener; FRANTSUZOV, Ye.M., inzhener;
TAREYEV, B.M., professor, doktor tekhnicheskikh nauk; MAGIDSON, A.O.,
inzhener.

Improving the knowledge of power engineers through correspondence
courses. Remarks on B.M.Taraev's and A.O.Magidson's article. Elek-
trichestvo no.3:76-80 Mr '54. (MLRA 7:4)

1. Energeticheskiy institut im. Krzhizhanovskogo Akademii nauk SSSR
(for Vinter). 2. Glavnyy energetik Gor'kovskogo avtomobil'nogo
zavoda im. Molotova (for Kukushkin). 3. Institut avtomatiki i tele-
mekhaniki Akademii nauk SSSR (for Trapeznikov). 4. Chlen-korrespon-
dent Akademii nauk SSSR (for Trapeznikov). 5. Leninakanges (for Bada-
lyants). 6. Dnepropetrovskiy institut inzhenerov transporta (for Be-
lichenko). 7. Kurakhovskaya gres (for Klapchuk). 8. Orekhovo-Zuyev-
skaya tets (for Frantsuzov). 9. Vsesoyuznyy zaobnyy energeticheskiy
institut (for Tareyev and Magidson).

M. G. Drozdov
DROZDOV, N.G., professor, doktor tekhnicheskikh nauk; PRIVEZENTSEV, V.A., professor, doktor tekhnicheskikh nauk; KOMAROV, N.S., dotsent, kandidat tekhnicheskikh nauk; NIKULIN, N.V., dotsent, kandidat tekhnicheskikh nauk; SHUMSKIY, I.I., dotsent, kandidat tekhnicheskikh nauk; KREMLEV-SKIY, P.A., kandidat tekhnicheskikh nauk; GEPPE, A.P., inzhener; ALEK-SANDROV, N.V., professor, doktor tekhnicheskikh nauk; TAREYEV, B.M., professor, doktor tekhnicheskikh nauk; EYGENSON, L.S., professor, doktor tekhnicheskikh nauk; STEFANOV, V.S., dotsent, kandidat tekhnicheskikh nauk; MAGIDSON, A.O., inzhener.

"Science of electrical materials." M.M.Mikhailov. Reviewed by N.G. Drozdov, and others. Elektrichestvo no.3:93-94 Mr '54. (MLRA 7:4)

1. Moskovskiy energeticheskiy institut im. Molotova. 2. Vsesoyuznyy zaachnyy energeticheskiy institut.
(Electric insulators and insulation) (Electric conductors)

MAGIDSON, A. O.

AID P - 1305

Subject : USSR/Electricity
Card 1/2 Pub. 27 - 29/30
Author : Alexandrov, N. V., Doc. of Tech. Sci., Prof. and
Magidson, A. O., Eng.
Title : Book review: N. G. Drozdov, N. V. Nikulin, V. A.
Privezentsev, L. I. Fedorov and S. A. Yamanov, Electrical
Materials. Ed.-in-Chief: Doc. of Tech. Sci., Prof.
N. G. Drozdov. Approved by the Administration of Ed-
ucational Institutions of the Ministry of Electric Power
Stations as a textbook for technical schools. 399 pp.
State Power Engineering Publishing House, 1954
Periodical : Elektrichestvo, 1, 87-88, Ja 1955
Abstract : The author summarizes the table of contents and gives a
critical and detailed review of the book. His opinion
is that its deficiencies can be easily corrected in
future editions. Since these faults are not basic, he
recommends the book as a useful textbook.

MAGIDSON, A.O.

AUTHOR Eng. A.P. GEPPE, Eng. A.O. MAGIDSON 105-6-26/26
TITLE G.I. Rabchinskaya. "Radiotechnical Working Materials".
 2. revised edition, 328 pages, price Rb. 7.65, published
 by Gosenergoizdat 1956. Licensed by the Department for
 Instructional Institutes of the Ministry for the Radio
 Industry as a text book for technical schools MRTP.
 (G.I. Rabchinskaya. Radiotekhnicheskiye materialy.
 Vtoroye izdaniye, pererabotannoye. 328 str., ts. 7 rub.
 65 kop. Gosenergoizdat, 1956. Dopushcheno Upravleniyem
 uchebnymi zavedeniyami Ministerstva radiotekhnicheskoy
 promyshlennosti v kachestve uchebnika dlya tekhnikumov
 MRTP.- Russian)

PERIODICAL Elektrichestvo 1957, Nr 6, pp 95-96 (U.S.S.R.)

ABSTRACT The above is a book review. The book consists of the follow-
 ing parts:
 1) Working materials for electric insulation.
 2) Semiconductors.
 3) Conductors.
 4) Magnetic working materials. Besides, 8 laboratory works
 are described.

CARD 1/2

PRIVEZENISEV, Vladimir Alekseyevich; MAGIDSON, Abram Osipovich;
TAREYEV, B.M., prof., doktor tekhn. nauk; YEMZHIN, V.V.,
tekhn. red.

[Artificial and synthetic fibers and films for electrical
insulation]Iskusstvennye i sinteticheskie volokna i plenki
dlia elektricheskoi izoliatsii. Moskva, Gosenergoizdat,
1962. 111 p. (Polimery v elektroizoliatsionnoi tekhnike,
no.3) (MIRA 15:10)

(Electric insulators and insulation)
(Textile fibers, Synthetic)

KORITSKIY, Yuriy Vladimirovich; MAGIDSON, A.O., red.; BORUNOV, N.I.,
tekh.n.red.

[Electrical engineering materials]Elektrotekhnicheskie mate-
rialy. Moskva, Gosenergoizdat, 1962. 366 p. (MIRA 16:3)
(Electric engineering--Materials)

MAGIDSON, E.M.

TSEYROV, Yevgeniy MIL'YEVICH; MAGIDSON, E.M., redaktor VORONIN, K.P.,
tekhnicheskii redaktor

[High tension air circuit breakers] Vozdushnye vykliuchateli vysokogo
napriazheniia. Moskva, Gos. energ. izd-vo, 1957. 311 p.
(MLRA 10:5)

(Electric circuit breakers)

MIRIDSON E.M.

KULNSHOV, (g. Khabarovsk); MAGIDSON, E.M.

Effect of altitude on the operation of electric apparatus. Energetik
5 no.4:40 Ap '57. (MIRA 10:6)

(Electric machinery)

MAGIDSON, E.M.

AUTHOR 1) Eng. G.L. VUL'MAN (Moscow) 105-6-25/26
2) Eng. E.M. MAGIDSON.

TITLE Chronicle (Khronika.- Russian)
1) In the department for electrical machines of the TsNTOEP.
(V sektsii elektricheskikh mashin TsENTOEP.- Russian)
2) In the technical management of the MES.
(V tekhnicheskoy upravlenii MES.- Russian)

PERIODICAL 1) Elektrichestvo 1957, Nr 6, pp 94-94 (U.S.S.R.)
2) Elektrichestvo 1957, Nr 6, pp 94-94 (U.S.S.R.)

ABSTRACT 1) In December 1956 the plenary meeting of the department
was held. Lectures were delivered on problems connected
with the projecting of large turbo- and hydro generators
of 200 and 300 MW and concerning the prospects of the
development of energetic systems.
2) In connection with the fact that in the Moscow trans-
former plant the production of three-phase transformers
220/38,5/11 kV with an efficiency of 10 and 2L MVA

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Chronicle.

105-6-25/26

- 1) In the department for electrical machines of the TsNTOEP.
- 2) In the technical management of the MES.

and of three phase autotransformers is beginning, the technical management of the MES stipulated that all projecting organizations must make wide use of substations or 220 kV with transformers of low efficiency which are additionally connected with the side of higher voltages without a switch.

Besides, several schemes are suggested.

ASSOCIATION: not given
PRESENTED BY: -
SUBMITTED: -
AVAILABLE: Library of Congress.

CARD 2/2

ACC NR: A17007595

SOURCE CODE: UR/0104/66/000/008/0095/0096

26

AUTHOR: Chuprakov, N. M.; Borovoy, A. A.; Postnikov, N. A.; Malychev, A. A.;
Magidson, E. M.; Sin'chugov, F. I.; Zeylidzon, Ye. D.; Barchaninov, G. S.;
Yermolenko, V. M.; Vasil'yev, A. A.; Sokolov, N. I.; Ul'yanov, A. S.;
Fedoseyev, A. M.; Sarkisov, M. A.; Rokotyan, S. S.; Azar'yev, D. I.; Arson,
G. S.; Dubinskiy, L. A.; Zhulin, I. V.; Kolpakova, A. I.; Antoshin, N. N.
Krikunchik, A. B.; Kuchkin, M. D.; Preobrazhenskiy, N. Ye.; Rout, M. A.;
Kheyfits, M. E.; Sharov, A. N.; Yakub, Yu. A.; Gorbunov, N. I.; Shurmukhin,
V. A.; Beschinskiy, A. A.

ORG: none

TITLE: Boris Sergeyevich Uspenskiy (on his 60th birthday)

SOURCE: Elektricheskiye stantsii, no. 8, 1966, 95-96

TOPIC TAGS: hydroelectric power plant, electric engineering personnel

SUB CODE: 10

ABSTRACT: B. S. Uspenskiy was born in June 1906. He graduated from the State Electric Machine Building Institute in 1928 as an electric installation engineer. He worked in the State Electro-Technical Trust for four years, then in the All-Union ElectroTechnical Union, where he planned power construction units. Plans which he made up at that time for the electrical portion of electrical stations and sub-stations are still being used. He was involved in planning and installation of the electrical portion of hydro-electric power stations and powerful pumping stations in the Moscow-Volga Canal. During the war, he was in charge in installation of the Krasnogorskaya Heat and Electric Power Station, the planning of the Urals Hydro-Electric Power Station and other projects. Ho

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ACC NR: AP7007595

has been the author of thirty-three printed works, a great number of :
reviews, etc. Orig. art. has: 1 figura. [JPRS: 38,330]

Card: 2/2

SOV/126-6-6-12/25

AUTHORS: Bokshteyn, B. S., Magidson, I. A. and Svetlov, I. L.

TITLE: On Diffusion in the Bulk and at the Boundaries of Grains (O diffuzii v ob'yeme i po granitsam zeren)

PERIODICAL: Fizika metallov i metallovedeniye, 1958, Vol 6, Nr 6, pp 1040-1052 (USSR)

ABSTRACT: Fisher (Ref.9) was the first to give a theoretical analysis of superposition and interaction of grain-boundary and bulk diffusion in a polycrystal. He discusses diffusion in a semi-infinite crystal with grain boundaries perpendicular to the crystal surface (Fig.1). A grain boundary was represented by a "slot" of thickness δ . The coefficients of diffusion at the boundary and in the bulk of a grain were D_2 and D_1 respectively. It was assumed that D_2 is $\gg D_1$ and therefore the vertical component of the bulk diffusion was neglected; diffusion was taken to occur predominantly at right angles to the boundary. The concentration of the diffusing substance at the surface of the sample was assumed to be constant and equal to c_0 ; D_1 and D_2 were independent of concentration. Solving differential equations for diffusion along the boundaries and in the bulk of grains

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On Diffusion in the Bulk and at the Boundaries of Grains

Fisher found a simple expression for c_{0g} which is the concentration of the diffusing substance in the grain. The "slot" model described by Fisher was developed further by Golikov and Borisov (Ref 12), who estimated the limits of applicability of Fisher's solution. The "slot" model is only a rough approximation. It describes diffusion in a single boundary and therefore cannot allow for dimensions of grains and interaction between grain boundaries. This model is not suitable for grains of small size, for small ratios of the diffusion coefficients and for long diffusion times. It cannot be used at all to describe diffusion in mosaic blocks. The authors describe a different diffusion model. They regard a polycrystal as an assembly of grains in the form of spheres (Fig. 2). They assume that the packing is somewhat denser than for perfect spheres, since in general the grain shapes are not spherical. The grain boundaries are treated as a separate phase with its own properties. It is assumed that at a certain distance r_0 from the centre of each grain there

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On Diffusion in the Bulk and at the Boundaries of Grains SOV/126-6-6-12/25

is a discontinuous change of concentration and diffusion coefficient. The diffusing substance is distributed between the two phases, the boundaries and the bulk of grains. The model is similar to those used in heat and mass transfer theories for granular material. The concentration of the diffusing substance at the grain boundaries is taken to be a function of the depth of penetration x and time of diffusion t :

$$u(x, t) = \iiint u(x, y, z, t) dydz .$$

The concentration of the diffusing substance in the bulk of the grains is assumed in the form:

$$w(x, r, t) = \iiint w(x, y, z, r, t) dydz$$

where r is the radial distance in a grain. Diffusion in spherical grains of mean radius r_0 is then given by Eq.(4) and diffusion at the grain boundaries is given by Eq.(5). The latter equation introduces two new quantities: H which is the portion representing "free" boundaries in the total area of boundaries, and η is the boundary area per

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On Diffusion in the Bulk and at the Boundaries of Grains

unit volume. The authors show that for non-spherical grains $\eta/H = 2/a_0$, where a_0 is the smallest separation between grains. The diffusion equations with their initial and boundary conditions can be then written as follows:

$$\frac{\partial w}{\partial t} = D_1 \left(\frac{\partial^2 w}{\partial r^2} + \frac{2}{r} \frac{\partial w}{\partial r} \right), \quad (9)$$

$$\frac{\partial u}{\partial t} = D_2 \frac{\partial^2 u}{\partial x^2} - \frac{2}{a_0} D_1 \frac{\partial w}{\partial r} \Big|_{r=r_0}, \quad (10)$$

$$u(0, t) = u_0, \quad (11')$$

$$u(x, 0) = 0, \quad (11'')$$

$$w(x, r_0, t) = \gamma_0 u(x, t), \quad (12')$$

$$w(x, r, 0) = 0. \quad (12'')$$

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On Diffusion in the Bulk and at the Boundaries of Grains

Spherical symmetry of the function $w(x, r, t)$ is assumed in the above equations, which means that they are applicable in the case of small grains, long diffusion times and large ratios D_2/D_1 . The authors introduce non-dimensional parameters:

$$\rho = \frac{r}{r_0} ; \quad \tau = \frac{D_1 t}{r_0^2} ; \quad \xi = \frac{x}{r_0} ; \quad \alpha = \frac{D_2}{D_1}$$

and solve Eqs.(9) and (10), using the operational Laplace method (Appendix 1). The solution is given by:

$$\frac{\bar{u}}{u_0} = \frac{1}{p} \exp \left(- \sqrt{\frac{p + \gamma \frac{2}{a_0} K(p)}{\alpha}} \xi \right) \quad (16)$$

where:

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On Diffusion in the Bulk and at the Boundaries of Grains

$$K(p) = \sqrt{p} \frac{\exp(\sqrt{p}) + \exp(-\sqrt{p})}{\exp(\sqrt{p}) - \exp(-\sqrt{p})} - 1 = \sqrt{p} \operatorname{cth} \sqrt{p} - 1 \quad (17)$$

$$\bar{c} = \bar{u} \frac{\exp(\sqrt{pp}) - \exp(-\sqrt{pp})}{\exp(\sqrt{p}) - \exp(-\sqrt{p})} \quad , \quad (18)$$

and $\gamma = \gamma_0 r_0$. The solution of Eq.(16) is rewritten in terms of variables used in Eqs.(9-12") and simplified for certain special cases. The solution was used to calculate the diffusion coefficients using the experimental data of Bokshteyn et al (Ref.5). These diffusion coefficients are given in a table on p 1045 together with the results of calculations using Fisher's method and two other methods. The "spherical" model used by the authors may be used to describe diffusion in powders, eutectic-type two-phase mixtures, and between mosaic blocks. The paper is entirely

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· On Diffusion in the Bulk and at the Boundaries of Grains

theoretical. There are 2 appendices, 1 table and 14 references; 6 of the references are Soviet and 8 English.

ASSOCIATION: Moskovskiy institut stali (Moscow Steel Institute)

SUBMITTED: June 23, 1956.

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S/764/61/000/000/002/003

AUTHORS: Karsanov, G.V., Lyakhin, B.P., Magidson, I.A., Odoyevskiy, L.S.,
Tirkina, A.N., Engineers; Mikhina, V.N., Orlova, S.Ye.,
Candidates of Technical Sciences.

TITLE: Problems of the technology of metallic Chrome.

SOURCE: Razvitiye ferrosplavnoy promyshlennosti SSSR. Ed. by N.M. Dekhanov
and others. Kiyev, Gostekhizdat USSR, 1961, 205-217.

TEXT: The paper reports briefly the results of experimental investigations per-
formed at the Laboratory of Pure Metals and Alloys, TsNIICherMet (Central Scien-
tific Research Institute of Ferrous Metallurgy). The direct objective of the investi-
gation is the development of a method for the making of metallic Cr that would ob-
viate the defects (primarily the elevated content of impurities) exhibited by the
aluminothermic method currently prevailing in the USSR. A brief state-of-the-art
report comprises two graphic summaries of the processing of Cr-containing ores
and the technology of the production of Cr_2O_3 and CrO_3 . Following a brief cost
comparison as obtained from various sources it is stated that the utilization of
chlorchrome as an initial source material broadens the perspectives of the making
of pure chrome and reduces the production costs significantly. The waterless

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S/764/61/000/000/002/003

Problems of the technology of metallic Chrome.

chromechloride can be obtained directly from a chloridation of Cr ores with a minimal number of process operations and a high degree of purity. The present investigation was based primarily on a chloridation of briquets of ore and a C-containing reducer by gaseous Cl at high T, the removal of the chlorides of Cr, Fe, Al, and other elements, and their subsequent selective condensation. A schematic block diagram shows the process procedure for the obtainment of CrCl_3 . The laboratory experiments show that under suitable process conditions the Cr is practically completely removed into the sublimate. The process is almost total at 800°C , but up to 850° it still proceeds slowly. A faster rate is obtained at $900-950^\circ$, but a further increase in temperature does not accelerate the process substantially. Hard coal was found to be the most inexpensive reducer. A cost comparison indicates the cost advantage of the new process. Electrolytic methods were tested at the Laboratory of Pure Metals and Alloys of the TsNICherMet for the production of metallic Cr, including: (a) The electrolysis of aqueous solutions of CrO_3 , (b) the electrolysis of polychromatic solutions, (c) the electrolysis of aqueous solutions of salts of the trivalent Cr, primarily CrCl_3 , and (d) the electrolysis of CrCl_3 in salt fusions. The TsNICherMet developed the electrolytic method of the making of metallic Cr from aqueous solutions of CrO_3 and introduced them into semi-industrial production at the Experimental Factory of the TsNICherMet in 1952. An experi-

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Problems of the technology of metallic Chrome.

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mental production of chrome at the Zestafon Iron-Alloys Plant was performed by the staff of the Plant under the direction of G. Ya. Sioridze. The method is recommended for general industrial application. The high cost of the initial raw material is, to a degree, compensated by the high purity of the product obtained. Polychromatic solutions were developed at the Ural Polytechnical Institute imeni Kirov and at the Ural Scientific Research Institute for Metals. A systematic investigation of the electrolytic making of chrome from aqueous solutions of CrCl_3 was performed by the Laboratory of Pure Metals and Alloys of the TsNICherMet. In addition to the methods already mentioned, an improved technology for the making of Chrome by the electrosilicothermic method was also performed. There are 10 figures and 2 tables; no references.

ASSOCIATION: TsNICherMet (Central Scientific Research Institute for Ferrous Metallurgy).

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S/137/62/000/005/041/150
A006/A101

AUTHORS: Magidson, I. A., Karsanov, G. V., Gerasimova, M. I., Kalmykova, T. V.

TITLE: Developing technological schemes of the chlorination process of chrome ore

PERIODICAL: Referativnyy zhurnal, Metallurgiya, no. 5, 1962, 24 - 25, abstract 5G156 ("Metallurg. i khim. prom-st' Kazakhstana. Nauchno-tekh. sb." 1961, no. 4 (14), 15 - 23)

TEXT: Two technological schemes of obtaining dehydrated Cr chloride by chlorination of Cr ore were checked in large-scale laboratory tests. Scheme 1 was based on the possibility of using a shaft chlorinator with a through muffle permitting the continuous unloading from the apparatus of the solid unchlorinated residue; scheme no. 2 is based on the use of a shaft electric resistance furnace. In this case $MgCl_2$ formed during chlorination must be filtered through a porous bottom-checker and removed from the furnace in the form of a liquid melt. Several experiments by scheme 1 were conducted at 18 - 48 hour duration of the process. Chlorination was performed at $950^{\circ}C$ and 0.5 liter/min Cl_2 supply.

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S/137/62/000/005/041/150
A006/A101

Developing technological schemes of...

rate. The size of coke particles was -2+1 mm, the coke-to-ore ratio was 1.5 : 1, the height of the charge column to be chlorinated was 150 mm. The average Cr extraction from the ore was 98 - 99%. Cr extraction into "pure" fraction of Cr chloride was 75-78%. Cr extraction from the ore according to scheme 2 attained 98%. At an increased rate of the gas flow in the chlorinator, extraction increased up to 99.0 - 99.8%. Cr extraction into "pure" fraction attained 80%. There are 16 references.

G. Svodtseva

[Abstracter's note: Complete translation]

Card 2/2

MAGIDSON, I.A.; KARSANOV, G.V.; GERASIMOVA, M.I.; KALMYKOVA, T.V.

Investigation of the chlorination of chromium ores. Zhur. prikl.
khim. 34 no.5:953-962 My '61. (MIRA 16:8)

1. Tsentral'nyy nauchno-issledovatel'skiy institut chernoy
metallurgii.

(Chlorination) (Chromium ores)

S/080/61/034/011/002/020
D202/D301

AUTHORS: Magidson, I.A., Karsanov, G.V., Kalmykova, T.V., and
Gerasimova, M.I.

TITLE: Selective chlorination of chromium ore

PERIODICAL: Zhurnal prikladnoy khimii, v. 34, no. 11, 1961,
2391 - 2398

TEXT: The kinetics of chlorination of chromium ore components with a limited amount of carbon were studied. As starting materials a chromium ore, containing Cr_2O_3 - 56, FeO - 4; Fe_2O_3 - 11; Al_2O_3 - 11, SiO_2 - 3 and MgO - 15 %, and coal as reducing agent were used. These materials were ground, bricketed into tablets (8 mm in diameter and 3 - 4 mm thick), carbonized at 800°C and chlorinated in a 45 mm quartz tube, heated electrically. In the first experimental series the chlorination was carried out with and without coal, its amount being varied from 1.75 to 8.75 %; the rate of flow of the chlorine being 0.25 l/min., the temperature 900° , weight of samples 25 g. The authors found that iron elimination without reducing agent
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Selective chlorination of ...

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D202/D301

proceeded much more slowly and less completely than with about 2 % of the coal; under these conditions the iron elimination was completed in an hour, leaving a practically iron-free ore; but when coal content was augmented the elimination was slackened (practically finished in 5 hours) and chromium losses increased considerably (5 and 20 % respectively). In further experiments the author investigated the effect of the chlorine flow rate and that of ore and coal particle size on the chlorination of iron oxides. It was found that chlorine flow in the range 0.15 - 0.5 l/min. did not affect chlorination of the iron, but increased Cr losses. To avoid these losses the temperature was lowered to 700°C, but then iron elimination proceeded much more slowly and although at the beginning of chlorination, Cr losses were practically the same as at 900°, the whole process lasted so long that total losses rose from 7 to 15 %. Particle size of the ore did not affect elimination of the iron which was completed in an hour (Cl flow = 0.15 l/min, coal ~ 2 %) but did affect Cr losses; with coarser ore (0.30 mm) they amount to 4 %, with finer grains - (0.07 mm) they rose to 7 %. All experimental results are given in the article, as well as a plan of a continuously working laboratory chlorination installation, on which
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Selective chlorination of ...

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D202/D301

it is seen that the chlorination was carried out with a chlorine-argon mixture. On this equipment the last experimental series was carried out under following conditions: coal - 2 %; particle size; ore 0.50 mm, coal 0.15 mm; chlorine flow - 0.3 l/min; temperature 900°C, time - 1 hour, the obtained product containing $Cr_2O_3 = 65.1\%$ Fe - 0.02 % and the Cr losses being about 7 %. In the authors' opinion this product is suitable for production of metallic chromium. It is also mentioned that chromium ore chlorination experiments were carried out in the USSR in 1959 and 1960 by A.M. Polyakov and T.S. Shibneva in Unikhim (Ural Scientific Research Chemical Institute). There are 8 figures, 2 tables, and 14 references: 2 Soviet-bloc and 12 non-Soviet-bloc. The 4 most recent references to the English-language publications read as follows: C. Hart, Canad. pat. 563,253, 1937; A.J. Gailey, Canad. Pat. 409,796, 1943; H. Erasmus, U.S. pat. 2,480,184, 1949; H.S. Cooper, U.S. pat. 2,752,301, 1956.

ASSOCIATION: Tsentral'nyy nauchno-issledovatel'skiy institut chernoy metalurgii (Central Research Institute of Ferrous Metallurgy)

SUBMITTED: February 6, 1961
Card 3/3

34970

S/080/62/035/002/008/022
D202/D302

18,3100 (1087, 1521)

AUTHORS: Mikhina, V. N., Karsanov, G. V., Vorob'eva, A. S. and
Magidson, I. A.

TITLE: Electrolytic production of metallic chromium from aq.
chromic chloride

PERIODICAL: Zhurnal prikladnoy khimii, v. 35, no.2, 1962, 301-310

TEXT: The authors studied the effect of different factors on the output and quality of electrolytic chromium deposits from chromic chloride solutions with an NH_4BF_4 buffer solution, such as the concentrations of CrCl_3 and NH_4BF_4 , temperature, current density, Cr^{2+} , Cr^{3+} and NH_4^+ concentration and pH. The experiments were carried out in a 10 amp electrolyzer, in which the cathode and anode compartments were separated by a porous diaphragm. The apparatus is described in detail and illustrated. The best results were obtained under the following conditions: Concentrations of CrCl_3 and

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Electrolytic production of ...

S/080/62/035/002/008/022
D202/D302

NH_4BF_4 in the cathode compartment - 1.5 g-mol/l and 1 g-mol/l respectively, temperature 40 - 50°C and c.d. about 15A/dm²; HCl concentration in the anode compartment 3.5 g-mol/l and that of CrCl_3 - 1 g-mol/l. The average current yield of metallic chromium was 76% (in some expts. even 80 - 85%) and the specific electric energy consumption was 10 - 12 kW-hr/kg Cr. The results were checked on a large-scale laboratory equipment. Light, close-packed Cr deposits were obtained, easily detachable from the cathode. The current yield was 60 - 67% and energy consumption ~15 kW-hr/kg. The authors give a schematic diagram of the laboratory installation and propose a scheme for the industrial production of metallic Cr. The metal obtained on the large-scale installation contained the following impurities: Fe - 0.05 - 0.10; Si < 0.005; O - 0.3 - 0.8; H - 0.02 - 0.10; N - 0.07 - 0.20; C - 0.02 - 0.03; S - 6×10^{-3} ; Mg < 5×10^{-3} ; Bi - 1×10^{-4} %. There are 10 figures and 9 references: 7 Soviet-bloc and 2 non-Soviet-bloc. The reference to the English language publi-

Card 2/3

Electrolytic production of ...

S/080/62/035/002/008/022
D202/D302

ation reads as follows: H. R. Carveth and W. R. Mott, J. Phys. Chem., 9, 231, 1905.

SUBMITTED: February 17, 1961.

X

Card 3, 5

MAGIDSON, I.A.; KARSANOV, G.V.; KALMYKOVA, T.V.

Role of carbon in high temperature chlorination of chromium
ores. Zhur. prikl. khim. 36 no.10:2132-2138 0 '63.

(MIRA 17:1)

L 09152-67 EWT(m)/EWP(t)/ETI IJP(c) JD
ACC NR: AP7002757 SOURCE CODE: UR/0364/66/002/008/0906/0913

BEFLASHCHENKO, D. K., MAGIDSON, I. A., BELASHCHENKO, G. I., And LYAPUNOVA, L. G. 43
Moscow Institute of Steel and Alloys (Moskovskiy institut stali i splavov)

"Migration Phenomena in Semiconducting Melts of Thallium Sulfides and Selenides
Moscow, Elektrokimiya, Vo 2, No 8, 1966, pp 906-913

ABSTRACT: In an experimental cell of the liquid semiconductor-neutral metallic electrode type, concentration and temperature dependence of the mean coefficient of diffusion of the solution and apparent effective charges of components in melts of the Tl-S and Tl-Se systems exhibiting semiconductor properties were investigated. A discussion of the results was based on the theory of polygenic solutions, the components of which can be in different states of aggregation. The contribution of the ionic and electron-vacancy components to total electroconductivity of the melts investigated was evaluated. It was found to depend on melt temperature and composition. A conclusion was drawn as to the features of the reaction in the melts of those compounds characterized by relatively high electroconductivity of an electronic nature and by a predominantly ionic bonding between solution molecules. Orig. art. has: 6 figures, 14 formulas and 6 tables. [JPRS: 38,139]
TOPIC TAGS: semiconducting material, semiconductor conductivity

SUB CODE: 20 / SUBM DATE: 12Jul65 / ORIG REF: 010 / OTH REF: 003

DOC 541.13:621.315.592
01-5-1631

ACC NR: AP6034025

SOURCE CODE: UR/0080/66/039/010/2207/2210

AUTHOR: Magidson, I. A.; Karsanov, G. V.; Kalmykova, T. V.; Cheremisina, N. V.

ORG: none

TITLE: Behavior of beryllium metal in aqueous solutions of nitric, boric and oxalic acids

SOURCE: Zhurnal prikladnoy khimii, v. 39, no. 10, 1966, 2207-2210

TOPIC TAGS: beryllium, beryllium corrosion, beryllium dissolution, nitric acid ~~corrosion~~, boric acid ~~corrosion~~, oxalic acid ~~corrosion~~, AQUEOUS SOLUTION, (CORROSION) RATE

ABSTRACT: The behavior of compact 99.8%-pure beryllium specimens in aqueous nitric, boric and oxalic aqueous solutions at various temperature has been investigated. It was found that beryllium dissolution with an increase of temperature from 25 to 60C rises in 50% nitric-acid solution from 0.01 to 0.4 g/m²·hr, in 35% solution from 0.2 to 0.9 g/m²·hr, and in 15% solution from 30 to 55 g/m²·hr. Further decrease in solution concentration reduces the dissolution rate. The dissolution rate of beryllium in 10-25% nitric-acid solution containing 530-335 g/l iron nitrate is 0.01-0.5 g/m²·hr, i.e., is the same as in 50% nitric-acid solution free of iron nitrate. The beryllium dissolution rate in 50% oxalic-acid solution rises from 5 to 60 g/m²·hr as temperature increases from 40 to 80C; in 10% boric-acid solution

Card 1/2

UDC: 669.725 : 661

ACC NR: AP6034025

at 50—90C it does not exceed 0.02 g/m²·hr, which means that even at 90C the boric acid dissolves beryllium at the same rate as 45—50% nitric-acid solution at 25C. Orig. art. has: 3 figures.

SUB CODE: 11/ SUBM DATE: 29Oct64/ ORIG REF: 003/ OTH REF: 004/

Card 2/2

MAGIDSON, I.B.

From a toy to a rolling mill. Izobr.i rats. no.4:21-22 Ap '62.
(MIRA 15:4)

1. Zamestitel' nachal'nika otdela svodnogo planirovaniya
Komiteta po delam izobreteniy i otkrytiy.
(Technological innovations)

AVRUKH, M.L.; MAGIDSON, L.M.; DMITRIYEV, V.G.

Principles of designing a small contactless automatic telephone
exchange using magnetic elements. Probl.pered.inform. no.9:150-159
'61. (MIRA 14:7)

(Telephone, Automatic)

Σ 30754-66 REF(d)/T/INM(1) IJF(c) 10/00/INT(BF)/GI
ACC NR: AT6008557 SOURCE CODE: UR/0000/65/000/000/0036/0039

AUTHOR: Magidson, L. M.; Sidorin, Yu. M.

ORG: none

TITLE: A reading machine^{16c} for sign recognition by the fragment method

SOURCE: AN SSSR. Institut nauchnoy informatsii. Chitayushchiye ustroystva (Reading devices). Moscow, VINITI, 1965, 36-39

TOPIC TAGS: reading machine, computer technology, binary code, logic circuit

ABSTRACT: A description is given of a text-reading machine developed at the All-Union Institute of Scientific and Technical Information (VINITI). The machine is designed to read typewritten signs of one style of type (letters and numerals) by comparing blackened regions of a field of representation for a given sign with its counterpart in a binary code system (areas of information, so coded, are called fragments). The speed of operation of any stage may be controlled by adjustment to the speed of the input. All logical circuits are based on ferrite-diode modules developed in the VINITI laboratory and transistors are used in the amplifier circuits. The machine consists of four interdependent stages: an electromechanical scanning circuit, a logic stage, a decoder, and a printer. Orig. art. has: 2 figures.

SUB CODE: 09/ SUBM DATE: 09Sep65

Card 1/1 *KP*

MAGIDSON, M. A.: Master Tech Sci (diss) -- "The use of radioactive isotopes to solve some problems in the mechanics of the gases of industrial furnaces". Moscow, 1959. 17 pp (Min Higher Educ USSR, Moscow Order of Labor Red Banner Inst of Steel im I. V. Stalin), 120 copies (KL, No 8, 1959, 137)

MAGIDSON, M.A.

Investigating the spontaneous carburizing of casing-head gas
in open-hearth furnace burners. Stal' 21 no.6:566 Je '61.
(MIRA 14:5)

(Open-hearth furnaces---Combustion)

DIKSHTEYN, Ye.I.; MAGIDSON, M.A.; SHATUKHOV, A.I.; GAZHUR, V.F.

Improving the luminance and organizing the natural gas fuel
spray. Stal' 24 no.10:890-892 0 '64. (MIRA 17.12)

1. Magnitogorskiy metallurgicheskiy kombinat i Chelyabinskiy
nauchno-issledovatel'skiy institut metallurgii.

GINZBURG, D.B., doktor tekhnicheskikh nauk; MAGIDSON, M.Ya., inzhener.

Tank furnace for the production of piece glassware. Leg.prom. 15
no.2:37-40 F '55. (MIRA 8:4)

(Glass manufacture)

MAGIDSON, M.A., inzhener; PROSYANOV, Yu.F.

Elimination of bangings in reversing the valves of open-hearth
furnaces at the Serov Metallurgical Plant. Stal.proizv.no.1:
94-101 '56. (MLRA 9:9)

1. Metallurgicheskiy zavod imeni Serova.
(Serov--Metallurgical plants) (Open-hearth furnaces)

AUTHOR: Magidson, M. A. SOV/163-58-2-21/46

TITLE: The Rules Governing the Distribution of the γ -radiation of Radioactive Gas as a Basis of Investigating the Flow Rate (Zakonomenosti raspredeleniya gamma-izlucheniya radioaktivnogo gaza, polozhennyye v osnovu izmereniya skrostey potokov)

PERIODICAL: Nauchnyye Doklady vysshey shkoly. Metallurgiya, 1958, Nr 2, pp. 128-133 (USSR)

ABSTRACT: A new method of using radioactive indicators for investigating the mechanism of measuring a flow rate was worked out by means of a water cooled counter for the γ -quanta. The dependence of the intensity of γ -radiation on the gas flow was found. Also the dependence of the radiation intensity on the length and the radius of the cylinder filled with γ -radioactive gas, as well as on the constant distance of the cylinder from the detector were investigated. It was shown that with an increase of the diameter of the cylinder the radiation intensity increases. The radiation intensity and the thickness of the radioactive layer are in such a mutual

Card 1, 2

The Rules Governing the Distribution of the DOI/163-500 - 1'46
 γ -Radiation of Radioactive Gas as a Basis of Investigating the Distribution

relation that with increasing thickness of the radioactive layer the radiation intensity will also increase. Construction of the water cooled counter makes possible measuring of the radioactivity with a practically constant flow rate also within the temperature range from 0 to +40°C. In the case of a longer operation of the counter in the furnace, especially when working in the melting zone, a slag layer is formed on its surface which does, however, have no effect on the γ -radiation. The operation with the counter is simple and the results obtained are sufficient. There are 3 figures and 5 references, 3 of which are Soviet.

ASSOCIATION: Moskovskiy Institut Stali (Moscow Steel Institute)

DEVELOPED: December 1, 1957

Page 2

AUTHORS: Glinkov, I. A., Agilison, I. A. 30V/163-58-2-22/46

TITLE: Measuring the Flow Rate in Short Channels by Means of Radioactive Indicators (izmereniya skorosti potoka v korotkikh kanalakh s pomoshch'yu radioaktivnykh indikatorov)

PERIODICAL: Nauchnyye doklady vysshey shkoly. Metallurgiya, 1958, Nr 2, pp. 134-141 (USSR)

ABSTRACT: A method for determining the mean flow rate in short channels by means of radioactive indicators was worked out. Ag¹¹⁰ was used as γ -radioactive indicator and Ag¹¹⁰NO₃ as water soluble compound. An equal distribution of the radioactive indicator introduced along the vertical direction of the channel was achieved, and the distribution of the flow of combustible products in the lower cross section of the channel was determined. The flow rate of the combustible products in the vertical direction of the channel amounts to $W = 12,0$ m/sec. with a probable error of 8,5 %. The method suggested makes possible the determination of the boundary of the flow in the vertical direction of the channel. There are 5 figures and 3 tables.

Card 1/2

Measuring the Flow Rate in Short Channels by Means
of Radioactive Indicators

SOV/163-52-7-2/46

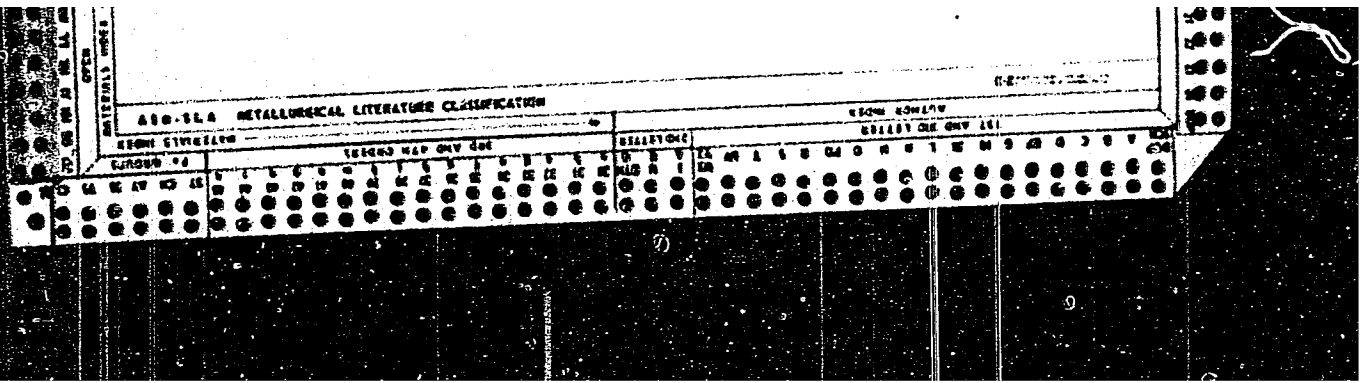
ASSOCIATION: Moskovskiy Institut stali (Moscow Steel Institute)

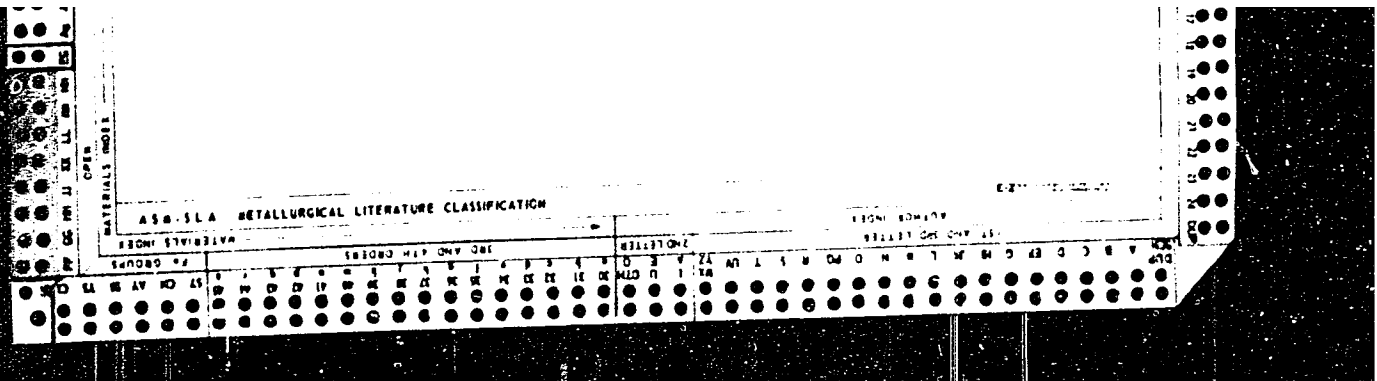
SUBMITTED: December 8, 1957

Card 2/2

TAREYEV, B.M., laureat Stalinskoy premii, doktor tekhn. nauk, prof.;
MAGIDSON, O.A., red.

[Fundamentals of the physics of dielectrics; lectures] Osnovy fiziki dielektrikov; lektsii. Moskva, Vses.zaochnyi energ. in-t. No.1.[Electrical conductivity of dielectrics] Elektroprovodnost' dielektrikov. Izd.4., perer. 1961. 46 p. (MIRA 15:7)
(Dielectrics)





CA

15

Alkaline methods of separating iodine. O. Yu. MAGIDSON. *Izv. Akad. Nauk. SSSR. Khim. Ser.* 1950, 4-6, 19-21, 34-7; 1951, 65-71. —Various preliminary expts. made to ppt. I from iodide solns. from Itaku bore-hole water contg. a great variety of other salts in addn. to high proportions of naphthenates, by using starch for adsorbent, are discussed. Expts. with O₂ showed that an increased concn. of the iodide increases the absorption of the latter. An increase in the amt. of O₂ increases the I yield only from low concns., decreasing it at high concn., the absorption being greatly improved when a stream of CO₂ is passed through the soln., which is also the case when the reaction is in the presence of NaHCO₃. Large quantities of O₂ cause the formation of I₂O₄, which does not produce compds. which could be adsorbed by starch. Up to 91% of I can be recovered from a soln. contg. 250 g. NaCl and 2.5 g. NaHCO₃ per l. at an I concn. of 100 mg. and O₂ consumption 103% of the theory. In using the permanganate method, discussed in detail, the highest I yields were obtained (88.5%) when 217% of the oxidizer was used in a soln. contg. 100 mg. of I ion. Hypochlorite exts. I from its aq. solns. quite satisfactorily, but the water should contain the salts in a concn. of at least 15-17%. Thus, 1.58 equiv. of the oxidizer at 100 mg. of I per l. gives an I yield of 74.3%.

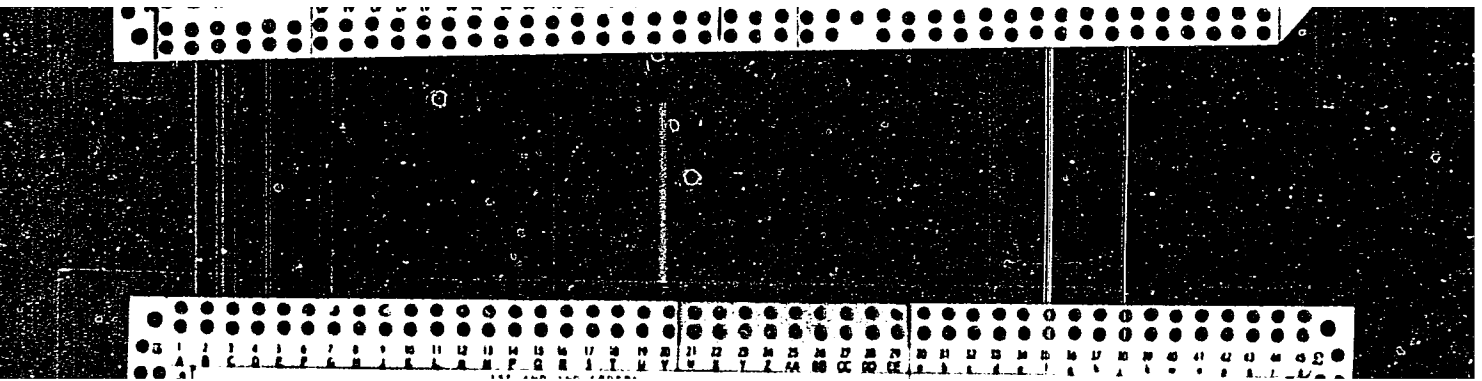
A. A. BOEHLINGE

ASM-3LA METALLURGICAL LITERATURE CLASSIFICATION

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	00
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CIA-RDP86-00513R001031330006-4"

1ST AND 2ND ORDERS PROCESSES AND PROPERTIES INDEX 3RD AND 4TH ORDERS

ca

2

Influence of sodium chloride on oxidation of iodine with potassium chlorate. (1)
 YU. MAGIDSON AND A. G. BAICHIKOV. *J. Russ. Phys. Chem. Soc.* 62, 3633 (1930).
 cf. Hofmann, Quous and Schneider, *C. A. B.* 3297; Magidson, *C. A.* 22, 3079, 24, 2963.
 Magidson and Baichikov, *C. A.* 24, 3413.—The oxidation of I ion and of neutral I with
 KClO₃ is accelerated in the presence of concd. solns. of NaCl; the acceleration is in di-
 rect proportion to the concn. of NaCl. The NaCl also acts as a salting-out agent on the
 I formed, decreasing the concn. of the latter in soln. With rising temp. the accelerat-
 ing effect of NaCl decreases. There is a const. relation of 1:1 between the I remaining in
 soln. and the unoxidized I ion, which indicates the presence of some unstable compd. In
 the oxidation of I in NaCl medium Cl acts as an oxidizing agent. The mechanism of
 oxidation becomes more clear by assuming that the oxidation is caused by HClO₂ and
 not by ClO₂. An increase in the concn. of acid is also an important factor in the ac-
 celeration of the reaction, whereby smaller concns. of I require correspondingly more
 acid. The accelerating effect of FeCl₂ is also observed in NaCl medium. By changing the
 amt. of KClO₃ it is possible to terminate the oxidation with formation of neutral I, or
 ICl, or iodate. KClO₃ and I in the mol. proportion of 1 to 3 give ICl, and that of 5 to
 3 give KIO₃; the intermediary proportions give a mixt. of both. The iodate is pptd.
 from the system as KHI₂O₆.KCl. Depending on the amt. of H₂SO₄, the oxidation may
 be regulated from a quiet to a turbulent progress. CHAS. BLANC

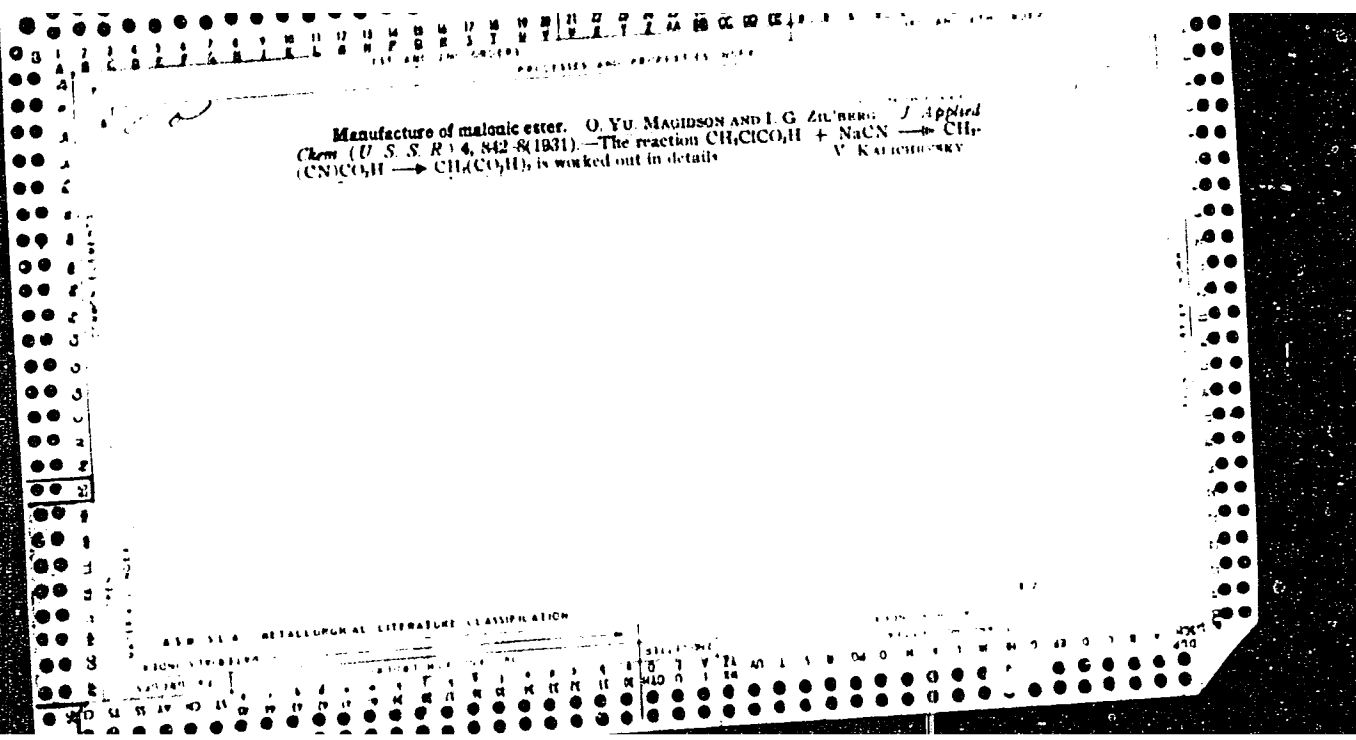
ASB 514 METALLURGICAL LITERATURE CLASSIFICATION

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CR

10

Extraction of phenetidine from the reaction mass. O. YU. MAGIDSON and R. A. TRUFAN. Russ 23,373, Oct. 31, 1931. Phenetidine prepd. by reduction is extd. from the reaction mass with alc



10

CA

Methylating *p*-aminophenol. O. YU. MARJONSON AND G. I. MENSHIKOV. *Khim. Farm. Prom.* 1932, 117-22 — Methylating PhCH₂NC₆H₄OH with Me₂SO, is the most practical method to produce *p*-MeNH₂C₆H₄OH. Another important method is to hydrate HCH₂NC₆H₄OH in the presence of activated Al. Numerous other methods are discussed. I. G. NABABKIN

ASST. DIR. METALLURGICAL LITERATURE CLASSIFICATION

112

Synthesis of quinoline derivatives for treatment of malaria. O. MAGIDSON, I. STRUKOV, N. DUBCHENKOVSKAYA AND I. LITVINICH. *Khim Farm Prom* 1933, 9-14 -A

series of quinoline derivs was synthesized and tested clinically. N,N-diethylamino propyl-D-methoxyquinoline is most efficient and when combined with quinine works without failure. Other derivs are discussed.

I. NASHARVICH

ASB 31A METALLOGRAPHICAL LITERATURE CLASSIFICATION

CA

PROCESSES AND PROPERTIES INDEX

Synthesis of acridine derivatives for treatment of malaria. O. Yu. Magidson and A. M. Grigorovskii. *Khim. Farm. Prom.* 1943, 187-8.—The synthesis is effected by condensation of 9-phenoxy or 9-chloroacridines with diamines. The activity on *Plasmodium falciparum* was detd. on: 2-ethoxy-6-nitro-9-diethylaminoethylaminoacridine; 2-ethoxy-7-nitro-9-diethylaminoethylaminoacridine; 2-ethoxy-6-(and 7)-nitro-9-diethylaminopropylaminoacridine; 2-methoxy-7-nitro-9-diethylaminohydroxypropylaminoacridine; 2-methoxy-6-chloro-9-diethylaminopropylaminoacridine; 2-methoxy-6-chloro-9-diethylaminobutylaminoacridine; 2-methoxy-6-chloro-9-diethylaminopentylaminoacridine; 2-methoxy-9-diethylaminopropylaminoacridine. The compds. with 7-nitro groups are more powerful than 6-nitro and increasing the C chain to C₅ also increases the activity. *d*-Hydroxypropyl derivs. approach atabrin in efficiency. L. Naskrevich

ASM-51A METALLURGICAL LITERATURE CLASSIFICATION

FROM SOURCE

BRITISH ONE ONE 151

FROM SOURCE

181000 NIP ONE 151

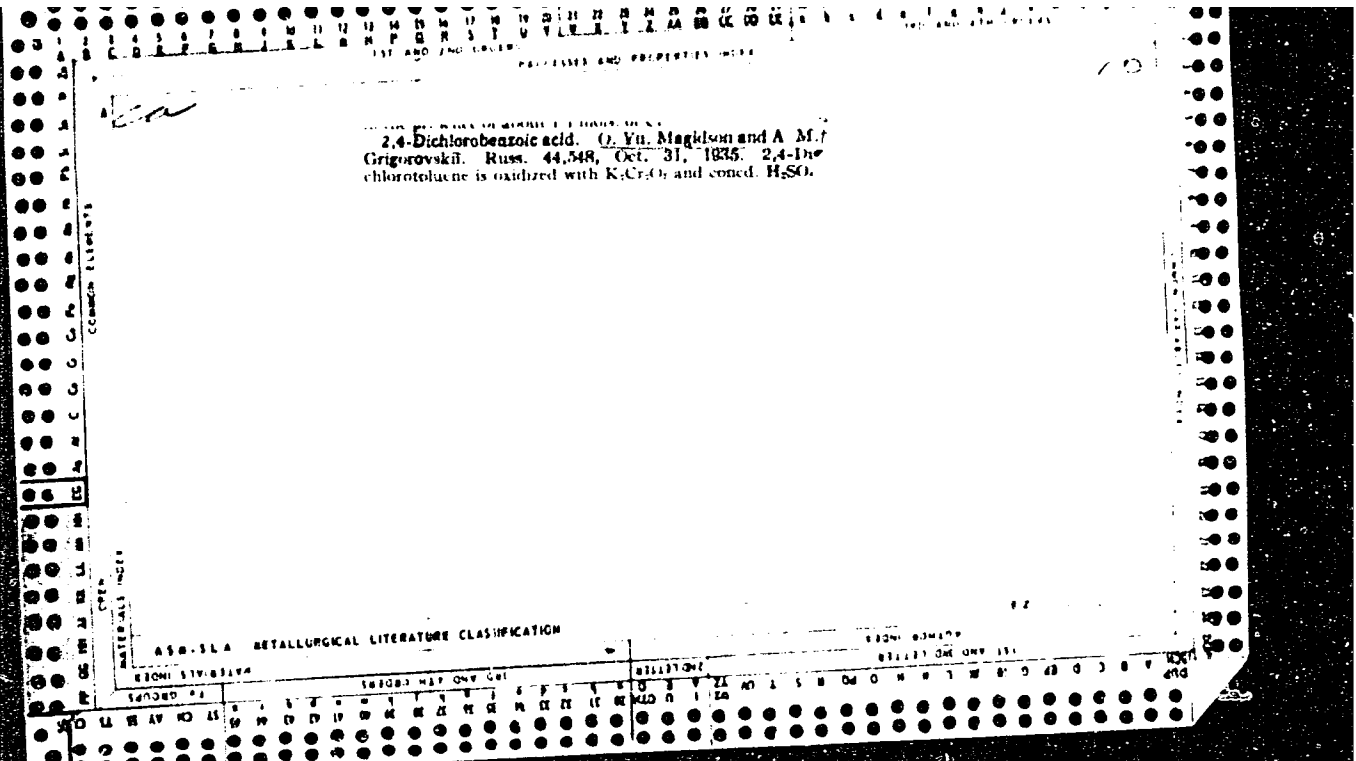
BRITISH ONE

8-Aminoquinoline derivatives as basic products for production of antimalarials. III. Effect of branching of the diethylaminoalkyl chain on the antimalarial effect. O. S. Maslitskaya, N. M. Dzhirkovskaya, and I. M. Litvinov (J. Gen. Chem. Russ., 1934, 8, 1047-1053). 8-Amino-6-methoxyquinoline (I), NaNH_2 , and $\text{C}_2\text{H}_5\text{Cl}$ in Et_2O afford 8-isobutylamine, b.p. 163-165° (hydrochloride, m.p. 205°), and 8-dimethylamino-6-methoxyquinoline, b.p. 172-183° (hydrochloride, m.p. 136-158°). Et α -diethylaminoisobutyrate and Na in EtOH yield β -diethylaminoisobutyl alcohol, b.p. 87-88°/14 mm., converted by heating with SOCl_2 in CHCl_3 into the chloride, b.p. 85-88°/14 mm.; which with (I) gives 8-(β -diethylaminoisobutylamino)-6-methoxyquinoline, b.p. 193° (therapeutic index, 1-6). Diethyl- β -hydroxy- γ -methyl- n -butylamine, b.p. 181-184°, from NH_4Cl and CH_3I - $\text{CH}_2\text{CH}_2\text{OH}$, or by methylating NH_4Cl - $\text{CH}_2\text{CH}_2\text{OH}$, is converted by heating with SOCl_2 in C_2H_5 into diethyl- β -chloro- γ -methyl- n -butylamine, b.p. 70-72°/12 mm., which

condenses with (I) to yield 8-(β -diethylamino- α -isopropyl- γ -methylamino)-6-methoxyquinoline, b.p. 187-191°/3 mm. (I=0). Diethyl- γ -hydroxy- β -dimethylpropylamine, b.p. 88-89°/8 mm., obtained from NH_4Cl and CH_3Br - $\text{CH}_2\text{CH}_2\text{OH}$ (140-150°, 30 hr.), affords the γ -Cl-derivative (II), b.p. 60-71°/11 mm. (SOCl_2 ; 100°; 5 hr.). 8-(γ -Diethylamino- β -dimethylpropylamino)-6-methoxyquinoline, m.p. 134-136° (I=2), is obtained from (I) and (II) (125-130°; 2 days), and 8-(β -diethylaminoisobutylamino)-6-methoxyquinoline, b.p. 195-200°/1.5 mm. (I=4) (succinate, m.p. 153-154° (decomp.)), is prepared similarly from (I) and β -diethylaminoisobutyl chloride, b.p. 69-75° (hydrochloride, m.p. 89-91°). R. T.

A 3

ASB-51A METALLURGICAL LITERATURE CLASSIFICATION



ca

10

Synthesis of naganine. O. Yu. Magidson, O. S. Madseva and M. V. Rubtsov. *Khim. Farm. Prom.* 2, 80-84(1935).—Naganine, Na salt of *m,m'*-bis[5-(4,6,8-trisulfo-1-naphthylcarbonyl)-*o*-tolylcarbonyl]carbanilide, is prepd. as follows: 1-Amino-4,6,8-naphthalenetrisulfonic acid is condensed in H₂O with *m*-nitrotolyl chloride, reduced with Fe to 1-(*m*-aminotolyl-amino)-4,6,8-naphthalenetrisulfonic acid, again condensed as above with *m*-nitrobenzoyl chloride, and the compd. obtained treated with COCl₂ in CH₃COONa producing naganine. Details of every step are given. L. Nasarevich

ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION

PROCESSES AND PROPERTIES INDEX

10

ca

Mechanism of the oxidation of *o*-toluenesulfonamide to saccharin. O. Yu. Magidson and I. G. Zil'berg. *J. Gen. Chem. (U. S. S. R.)* 5, 920-3 (1935).—In the preliminary study of the mechanism of oxidation of *o*-MeC₆H₄SO₂NH₂ (I) to saccharin, I was oxidized with CrO₃ in Ac₂O at from -5° to 30° with and without the addn. of a little H₂SO₄. By the method of fractional neutralization and Et₂O extrn. of the mother liquor, the following 4 compds. were isolated: *o*-MeC₆H₄SO₂NHAc, m. 132-4°; (with H₂SO₄) acetosaccharin GC C₈H₈SO₂NAC, m. 195-7° (cf. *Ber.* 29, 1050); a compd., m. 174-6°, easily oxidized with KMnO₄ to saccharin and which is, probably, either AcOCH₂C₆H₄SO₂NHAc or AcOCH₂C₆H₄SO₂NAC; and a compd., m. 103-5°, which was not identified. C. B.

AS 6-51-A METALLURGICAL LITERATURE CLASSIFICATION

E2

COMMON ELEMENTS: A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q, R, S, T, U, V, W, X, Y, Z, AA, AB, AC, AD, AE, AF, AG, AH, AI, AJ, AK, AL, AM, AN, AO, AP, AQ, AR, AS, AT, AU, AV, AW, AX, AY, AZ, BA, BB, BC, BD, BE, BF, BG, BH, BI, BJ, BK, BL, BM, BN, BO, BP, BQ, BR, BS, BT, BU, BV, BW, BX, BY, BZ, CA, CB, CC, CD, CE, CF, CG, CH, CI, CJ, CK, CL, CM, CN, CO, CP, CQ, CR, CS, CT, CU, CV, CW, CX, CY, CZ, DA, DB, DC, DD, DE, DF, DG, DH, DI, DJ, DK, DL, DM, DN, DO, DP, DQ, DR, DS, DT, DU, DV, DW, DX, DY, DZ, EA, EB, EC, ED, EE, EF, EG, EH, EI, EJ, EK, EL, EM, EN, EO, EP, EQ, ER, ES, ET, EU, EV, EW, EX, EY, EZ, FA, FB, FC, FD, FE, FF, FG, FH, FI, FJ, FK, FL, FM, FN, FO, FP, FQ, FR, FS, FT, FU, FV, FW, FX, FY, FZ, GA, GB, GC, GD, GE, GF, GG, GH, GI, GJ, GK, GL, GM, GN, GO, GP, GQ, GR, GS, GT, GU, GV, GW, GX, GY, GZ, HA, HB, HC, HD, HE, HF, HG, HH, HI, HJ, HK, HL, HM, HN, HO, HP, HQ, HR, HS, HT, HU, HV, HW, HX, HY, HZ, IA, IB, IC, ID, IE, IF, IG, IH, II, IJ, IK, IL, IM, IN, IO, IP, IQ, IR, IS, IT, IU, IV, IW, IX, IY, IZ, JA, JB, JC, JD, JE, JF, JG, JH, JI, JJ, JK, JL, JM, JN, JO, JP, JQ, JR, JS, JT, JU, JV, JW, JX, JY, JZ, KA, KB, KC, KD, KE, KF, KG, KH, KI, KJ, KK, KL, KM, KN, KO, KP, KQ, KR, KS, KT, KU, KV, KW, KX, KY, KZ, LA, LB, LC, LD, LE, LF, LG, LH, LI, LJ, LK, LL, LM, LN, LO, LP, LQ, LR, LS, LT, LU, LV, LW, LX, LY, LZ, MA, MB, MC, MD, ME, MF, MG, MH, MI, MJ, MK, ML, MM, MN, MO, MP, MQ, MR, MS, MT, MU, MV, MW, MX, MY, MZ, NA, NB, NC, ND, NE, NF, NG, NH, NI, NJ, NK, NL, NM, NN, NO, NP, NQ, NR, NS, NT, NU, NV, NW, NX, NY, NZ, OA, OB, OC, OD, OE, OF, OG, OH, OI, OJ, OK, OL, OM, ON, OO, OP, OQ, OR, OS, OT, OU, OV, OW, OX, OY, OZ, PA, PB, PC, PD, PE, PF, PG, PH, PI, PJ, PK, PL, PM, PN, PO, PP, PQ, PR, PS, PT, PU, PV, PW, PX, PY, PZ, QA, QB, QC, QD, QE, QF, QG, QH, QI, QJ, QK, QL, QM, QN, QO, QP, QQ, QR, QS, QT, QU, QV, QW, QX, QY, QZ, RA, RB, RC, RD, RE, RF, RG, RH, RI, RJ, RK, RL, RM, RN, RO, RP, RQ, RR, RS, RT, RU, RV, RW, RX, RY, RZ, SA, SB, SC, SD, SE, SF, SG, SH, SI, SJ, SK, SL, SM, SN, SO, SP, SQ, SR, SS, ST, SU, SV, SW, SX, SY, SZ, TA, TB, TC, TD, TE, TF, TG, TH, TI, TJ, TK, TL, TM, TN, TO, TP, TQ, TR, TS, TT, TU, TV, TW, TX, TY, TZ, UA, UB, UC, UD, UE, UF, UG, UH, UI, UJ, UK, UL, UM, UN, UO, UP, UQ, UR, US, UT, UY, UZ, VA, VB, VC, VD, VE, VF, VG, VH, VI, VJ, VK, VL, VM, VN, VO, VP, VQ, VR, VS, VT, VU, VV, VW, VX, VY, VZ, WA, WB, WC, WD, WE, WF, WG, WH, WI, WJ, WK, WL, WM, WN, WO, WP, WQ, WR, WS, WT, WY, WZ, XA, XB, XC, XD, XE, XF, XG, XH, XI, XJ, XK, XL, XM, XN, XO, XP, XQ, XR, XS, XT, XU, XV, XW, XX, XY, XZ, YA, YB, YC, YD, YE, YF, YG, YH, YI, YJ, YK, YL, YM, YN, YO, YP, YQ, YR, YS, YT, YU, YV, YW, YX, YY, YZ, ZA, ZB, ZC, ZD, ZE, ZF, ZG, ZH, ZI, ZJ, ZK, ZL, ZM, ZN, ZO, ZP, ZQ, ZR, ZS, ZT, ZU, ZV, ZW, ZX, ZY, ZZ.

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Quinolone derivatives as a source of antimalarial products. IV. Compounds with long chains in the 8-position. O. Yu. Magidson, O. S. Madava and M. V. Rubtsov. *J. Gen. Chem. (U.S.S.R.)* 5, 1508-16(1975).— See *C. A.* 29, 7013^a, where the 1st author name is incorrectly given. G. G.

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COMMON ELEMENTS

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ASS-SLA METALLURGICAL LITERATURE CLASSIFICATION

197 AND NEW LETTERS

INDEX LETTERS

197 AND NEW LETTERS

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1ST AND 2ND CROSS

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120 AND 121M CROSS

COMMON ELEMENTS

OPEN MATERIALS INDEX

ASB S L A METALLURGICAL LITERATURE CLASSIFICATION

120M CROSS

121M CROSS

2

The thermal properties of the system 4-nitrotoluene-2-chloro-4-nitrotoluene-2,6-dichloro-4-nitrotoluene. G. Yu. Magidson and V. A. Shevelev. *J. Applied Chem. (U. S. S. R.)* 8, 1431-4 (in German 1434) (1935).--The 3 two-component systems and the three-component system from these compds. are all simple solns. and form no compds. with each other. H. M. Leicester

PROCESSES AND PROPERTIES INDEX

ca 18

Ten years' work in the extraction of iodine from borehole waters. O. Yu. Magidson. *J. Chem. Ind. (Moscow)* 12, 390-5 (1935).
H. M. Leicester

COMMON ELEMENTS

MATERIALS INDEX

ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION

GROUP	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
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MAGIDSON, O. J.

"Composes acridiniques, comme source des derives antimalariques. Communication II".
Magidson, O. J. et Trawine, A. I. (p. 909)

SO: Journal of General Chemistry (Zhurnal Obsheei Khimii) 1936, Vol. 6, No. 7

PROCESS AND PROPERTIES INDEX

1ST AND 2ND ORDERS

1ST AND 4TH ORDERS

10

Ca

Synthesis of "Plasmocide"-- the methylene bisacylate of 6-methoxy-8-(γ -N-diethylaminopropylamino)quinoline. O. Yu. Magidson, I. T. Strukov, M. D. Bohuishev and S. P. Toif. *J. Applied Chem.* (U. S. S. R.) 9, 304 (2) (in English 321) (1936); cf. Magidson *et al.*, *C. A.* 28, 1770^g, 3477^g; 30, 1510^g. The salt (I) of 6-methoxy-8-(γ -N-diethylaminopropylamino)quinoline (II) with methylenebisacetylic acid, $\text{CH}_2[\text{C}_6\text{H}_4(\text{OH})\text{CO}_2\text{H}]_2$ (III) is a stable and convenient prepn. The synthesis is divided in 2 parts: (1) prepn. of 8-amino-6-methoxyquinoline (IV), and (2) prepn. of γ -diethylaminopropyl chloride (V), followed by condensation of IV and V to II and formation of I from II and III. (1) $p\text{-O}_2\text{NC}_6\text{H}_4\text{Cl} \rightarrow p\text{-nitroanisole} \rightarrow p\text{-anisidine} \rightarrow \text{acetovanisidine} \rightarrow m\text{-nitro-}p\text{-acetovanisidine} \rightarrow 6\text{-methoxy-8-nitroquinoline} \rightarrow \text{IV}$ (cf. Ger. pat. 451,730). (2) Glycerol \rightarrow diformin \rightarrow allyl formate \rightarrow allyl chloride \rightarrow trimethylene chlorobromide \rightarrow V. The condensation is effected in alc. by refluxing at 105-10 $^\circ$ for 24-36 hrs. I is prepd. by dilg. with H_2O an alc. mixt. of II and III. III, m 218-20 $^\circ$ (228-32 $^\circ$). Clemensen, *C. A.* 5, 2642) resulted by condensing salicylic acid with CH_2O in the presence of concd. HCl . C. B.

Properties of some antimony compounds of o-hydroxyquinoline. M. Denayer. *Limé Congr. chim. ind. (Bruxelles, Sept., 1935)* 1936, 387-91. A brief comparison of the properties of antimonial esters of aromatic mono- or polyphenols and of the corresponding hydroxyquinoline derivs., showing the existence of a residual valency of Sb.

A. Padineau-Couture

454 514 METALLURGICAL LITERATURE CLASSIFICATION

E2

Ca

Acridine compounds as a source of medicinal products.
 III. Tetrahydro compounds (1) Yu. Magidson and A. I. Travin. *J. Gen. Chem.* (U.S.S.R.) 7: 823-82 (1937); cf. *C. A.* 30, 4488. Continuing the study of quinoline and acridine derivs., various derivs. of 1,2,3,4-tetrahydroacridine (I) contg. NO₂, Cl and dialkylamino groups are prepd. and tested for possible antimalarial activity. The compds. have no antimalarial action and are more toxic than the corresponding acridine derivs. In addn., the diethylamide (XVIII), β -diethylaminoethyl ester (XIX) and β -diethylaminoethylamide (XX), of 1,2,3,4-tetrahydroacridine-9-carboxylic acid (II) are prepd., and shown to possess anesthetic properties. Two general methods of prepn. are used: (1) from anthranilic acid or its derivs. with cyclohexanone (III) to give tetrahydroacridones, which are condensed with chlorotetrahydroacridines, which are condensed with diethylaminoalkylamines (V), and (2) from isatin and III to give II, which as the acid chloride, is condensed with V. The compds. prepd. are analogous to the quinoline derivs. in many of their properties, and differ from corresponding acridines. The following bases and intermediate products are prepd: o-AcNH(C₆H₄)CO₂H, m. 170-5°; 2,5-H₂N(O₂N)C₆H₃CO₂H (VI), yellow crystals, m. 275°; 2,5-H₂N(Cl)C₆H₃CO₂H (VII), m. 206-7°, from the Ac deriv., which is prepd. by oxidation of 5,2-

CIAcNH(C₆H₄)Me; 4,2-Cl(H₂N)C₆H₃CO₂H (VIII), m. 230°, prepd. by the following series of reactions: m. (O₂N)₂C₆H₃Me \rightarrow 4,2-H₂N(O₂N)C₆H₃Me \rightarrow 4,2-Cl(O₂N)₂C₆H₃Me \rightarrow 4,2-Cl(H₂N)C₆H₃Me \rightarrow VIII. 2,4-H₂N(O₂N)₂Me \rightarrow 4,2-Cl(H₂N)C₆H₃CO₂H \rightarrow VIII. 2,4-H₂N(O₂N)₂Me \rightarrow 4,2-Cl(H₂N)C₆H₃CO₂H, m. 270°, β -chlorotetrahydroacridine, m. 69-70°

(Perkin and Sedgwick give 220°, cf. *C. A.* 19, 521) from 1,2,3,4-tetrahydroacridone (XV) and IV; 7-chlorotetrahydroacridone (from VII and III), needles from PhNH₂, m. 385°, which with IV gives 7,9-dichlorotetrahydroacridine (IX), plates, m. 84-5° (HCl salt, m. 220° (decomp.)); 7-chloro-9-phenyltetrahydroacridine, yellow needles or prisms, m. 127-8° (HCl salt, rhombic plates, m. 204-5°), from IX and PhOH (X); 7-chloro-9-(*t*-butylamino-*o*-methylbutyl)aminotetrahydroacridine (acridine No. 38) (sepd. as the mecoic acid salt, m. 85-90° (decomp.)), from IX, X and Et₃N(CH₂)₂CH₂(NH₂)Me (XI); 6-chlorotetrahydroacridone (XII), m. 380°, from VIII and III; 6,9-dichlorotetrahydroacridone (XIII), yellow prisms, m. 87-9°, from XII and IV; 6-chloro-9-iodotetrahydroacridone, rose prisms, m. 115-16°, from XII, red P and I; 6-chloro-9-(*t*-N-diethylamino-*o*-methylbutyl)aminotetrahydroacridine (acridine No. 30), thick yellow oil, too insignificant to characterize, from XIII, X and XI.

see other side \rightarrow

A 50-560 METALLURGICAL LITERATURE CLASSIFICATION

SEARCHED	INDEXED	SERIALIZED	FILED

7-nitrotetrahydroacridone (XIV), green powder, m. 324-5° (decompn.), from VI and III, or from XV, H₂SO₄, and KNH₂; 7-nitro-9-chlorotetrahydroacridine, slightly rose prisms, m. 148-9°, from XIV and IV; 6-nitro-9-chlorotetrahydroacridine (XVI), slightly rose needles, m. 149-50°, from 6-nitrotetrahydroacridone and IV; 6-nitro-9-(*β*-N-diethylamino-*α*-methylbutyl)aminotetrahydroacridine (acridine No. 37) (sepd. as the meconic acid salt, yellow, m. 110-15° (decompn.)), from XVI and XI in a sealed tube at 200-10° (for 4 hrs.; II, prepd. by the method of Borucho (C. A. 2, 2807°); acid chloride, from II, IV and PCl₅, which is isolated as the HCl salt (XVII), almost colorless prisms, m. 188-200° (decompn.); XVIII, needle-like crystals, m. 102-3°, from XVII and Et₃NH with subsequent decompn. by NaOH; XVIII.HCl, m. 245-6°; XIX.2HCl, m. 188-9°, from XVII and Et₃N(CH₃)OH; XX.2HCl, m. 240-8°, from XVII and Et₃N(CH₃)₂NH₂. Nineteen references.
John Livak

PROCESSES AND PROPERTIES INDEX

17

ca

Quinoline compounds as sources of medicinal products.
 V. Anesthetics of the series 6-alkoxy-8-aminoquinoline.
 O. Yu. Magidson and A. L. Mikhoyan. *J. Gen. Chem.*
 (U.S.S.R.) 7, 1557-63 (1937); cf. C. A. 30, 1514'. —
 Diethylamino-2,2-dimethyl-3-oxopropane hydrobro-
 mide and 6-ethoxy-8-aminoquinoline form 8-(1-γ-di-
 ethylamino-β,β-dimethylpropyl) amino-6-ethoxyquinoline
 b₁ 193-8°, *di-HCl salt* m. 205-7° (decompn.). By using
 the appropriate quinoline deriv., the corresponding 6-
 propoxy compd. b₁ 199-204°, *di-HCl salt* m. 214-17°
 (decompn.), 6-butoxy compd. b₁ 200-12°, *di-HCl salt* m.
 218-20° (decompn.) and 6-benzyloxy compd. m. 69-70° are
 prepd. The 6-octyl compd. could not be prepd. in this
 way. The min. anesthetic dose on a rabbit's eye for the
 Et and Pr compds. was 0.0075% and for the Bu and
 PhCH₂ compds., 0.01%. The toxic dose for mice was
 3 mg. for the Et and Pr compds. and 4-5 mg. for the Bu
 and PhCH₂ compds. H. M. Leicester.

ASB-51A METALLURGICAL LITERATURE CLASSIFICATION

ALPHABETIC INDEX

NUMERICAL INDEX

SYMBOLIC INDEX

ALPHABETIC INDEX

NUMERICAL INDEX

SYMBOLIC INDEX

Quinoline compounds as sources of medicinal products.
 VI. Antimalarial compounds with the side chain in the four-position. *4-(1,1-dimethylamino-3-hydroxypropyl)aminoquinoline* (IV) form 6-methoxy-4-(1,1-dimethylamino-3-hydroxypropyl)aminoquinoline which easily absorbs CO₂ and H₂O from the air. Its *picrate* m. 210-12° and its *acetylated picrate* m. 245-7°. II and V give the corresponding 2-isomer, b. 214-9°, m. 65-8°. *picrate* m. 190.5-2°; *di-HCl salt* m. 98-102°. These compounds are formed with greater difficulty and in smaller yields than their isomers in which the side chain is in the 8-position. The 2-isomers have no antimalarial action. The 4-isomers are antimalarials, and are less toxic than the 8-isomers. Introduction of OH in the side chain of the 4-compounds lowers the toxicity and raises the therapeutic index, which is exactly the opposite effect from that produced in the 8-compounds by this change. H. M. L.

77.5-8.5°. *picrate*, m. 187.5-8.5°. I and 3-diethylamino-3-hydroxypropylamine (V) form 6-methoxy-4-(3-diethylamino-3-hydroxypropyl)aminoquinoline which easily absorbs CO₂ and H₂O from the air. Its *picrate* m. 210-12° and its *acetylated picrate* m. 245-7°. II and V give the corresponding 2-isomer, b. 214-9°, m. 65-8°. *picrate* m. 190.5-2°; *di-HCl salt* m. 98-102°. These compounds are formed with greater difficulty and in smaller yields than their isomers in which the side chain is in the 8-

position. The 2-isomers have no antimalarial action. The 4-isomers are antimalarials, and are less toxic than the 8-isomers. Introduction of OH in the side chain of the 4-compounds lowers the toxicity and raises the therapeutic index, which is exactly the opposite effect from that produced in the 8-compounds by this change. H. M. L.

ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION

PROCESSES AND PROPERTIES INDEX

CA

Antimalarial agent. O. Yu. Magidson and A. M. Grigorevskii. Russ. 51,030, April 30, 1938. 2-Methoxy-0-chloro-0-(diethylamino)pentyl)acridine is treated with lactic acid in an org. solvent (alc., acetone, ether, etc.) and the lactate is purified by recrystn.

ASS. S.L.A. METALLURGICAL LITERATURE CLASSIFICATION

MATERIALS INDEX

AUTHOR INDEX

1ST AND 2ND LETTERS

3RD AND 4TH LETTERS

5TH AND 6TH LETTERS

7TH AND 8TH LETTERS

9TH AND 10TH LETTERS

11TH AND 12TH LETTERS

13TH AND 14TH LETTERS

15TH AND 16TH LETTERS

17TH AND 18TH LETTERS

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89TH AND 90TH LETTERS

91ST AND 92ND LETTERS

93RD AND 94TH LETTERS

95TH AND 96TH LETTERS

97TH AND 98TH LETTERS

99TH AND 100TH LETTERS

ca

10

4-Methylaminoantipyrine. O. Yu. Magkison and I. E. Gorbovitskii. Russ. 63,077, Aug. 31, 1938. 4-Benzylideneaminoantipyrine is heated with dimethyl sulfate, the mixt. dild. with H₂O and acidified, benzaldehyde distd. off with steam and 4-methylaminoantipyrine sepd. from the soln. in the usual manner.

COMMON ELEMENTS

MATERIALS INDEX

ASS-SLA METALLURGICAL LITERATURE CLASSIFICATION

GROUP	LETTERS	FROM SOURCE
A	B	C
D	E	F
G	H	I
J	K	L
M	N	O
P	Q	R
S	T	U
V	W	X
Y	Z	

side chain on the acridine...
 son, A. M. Grigorovskii and E. P. Gal' perin. *J. Gen. Chem.* (U. S. S. R.) 8, 50-55 (in English) (1938); cf. *C. A.* 31, 5800^a.—The study is continued by prep. of acridine derivs. with dialkylaminoalkylamino groups in the side chain and Cl and Br and OMe and OH substituents in the positions 6 and 2, resp., and testing for a possible chemotherapeutic activity. The results show a considerable reduction of the therapeutic index on the introduction of a NO₂ group in position 7 with the halogen in position 6 and on the substitution of Br for Cl, OH for OMe and morpholine for the NR₂ group in position 9. A similar replacement by the NMe₂ group produced no change in the physiol. activity. The general method for the prepn. is by condensation of 2,4-Cl₂C₆H₃CO₂H (I) or its derivs. with an aryamine to a chloroanthranilic acid, which with POCl₃ gives a 6,9-dichloroacridine. Hydroxy-9-chloroacridines are prepd. from Ac derivs. of hydroxyacridones with POCl₃ or by demethylation of methoxy-9-chloroacridines. The following bases and intermediate products are prepd.: 2,4,5-Cl₃(C₆N)₂C₆H₂CO₂H, m. 101.3° (Villiger, *C. A.* 23, 2164) (30 g.) with 19 g. *p*-anisidine, 24 g. K₂CO₃, 10 g. KOAc and 9.1 g. Cu powder in 180 ml. BuOH on boiling for 4 hrs. gave *N*-(4'-methoxyphenyl)-4-chloro-5-nitroanthranilic acid, m. 223.4°. 14 g. of the acid on refluxing with 90 g. NH₄Cl for 3 hrs. in an oil bath gave 12 g. 2-methoxy-7-

deethylamino-propylaminoacridine, m. 100.0°.
N-(4'-chlorophenyl)-6-chloroanthranilic acid (IV), from I and *p*-ClC₆H₄NH₂; *HCl* salt, m. 232.3°. 2,6,9-Trichloroacridine, m. 201.3°, from IV and pale greenish microcrystals, m. 201.3°. This with III gave 2,6-dichloro-9-(4'-*N*-diethyl-2-methoxy-6-methylbutylamino)acridine. *HCl* salt, yellow powder, m. 220° (acridine no. 28). 2-Methoxy-6-chloro-9-(4'-*N*-morpholino)acridine from 2-methoxy-6,9-dichloroacridine (V) and morpholine in PhOH, the base, m. 222.4°. the *HCl* salt, orange cryst. powder, m. 254.5° (acridine no. 32). 1-(*N*-morpholino)-2-aminopropane, from 2-chloropropylphthalimide and morpholine in xylene; the base, b. 214.15°, d₄²⁰ 0.9892. 2-Methoxy-6-chloro-9-(4'-*N*-morpholino-propylamino)acridine, yellow cryst. powder, m. 142.4°, from V and 2-morpholino- α -aminopropane in PhOH, *HCl* salt, m. about 250° (acridine no. 31). *N*-(4'-Methoxyphenyl)-4-bromoanthranilic acid, m. 160.7° (cf. *J. Chem. Soc.* 85, 1260 (1904)), and *p*-anisidine; this with POCl₃ gave 2-methoxy-6-bromo-9-chloroacridine, greenish needles, m. 158.60° (Ger. 553,072 (*C. A.* 26, 4083) gives 160.1°). 2-Methoxy-6-bromo-9-(4'-*N*-diethylamino- α -methylbutylamino)acridine, from 2-methoxy-6-bromo-9-chloro-

(over)

acridine and III in PhOH. *HCl* salt, 227-9° (acridine no. 34). 2-Methoxy-6-chloro-9-(δ -*N*-dimethylamino- α -methylbutylamino)acridone, from V and 1-dimethylamino-4-aminopentane (cf. C.A. 30, 1510°); *HCl* salt, yellow, m. 258-60° (decomp.) (acridine no. 35). 2-Hydroxy-6-chloroacridone, green, m. 345-7° (C₁₂H₉N). 2-Benzoyl-6-chloroacridone, green, m. 340-8°. This with POCl₃ in PhCl gave 2-benzoyl-6,9-dichloroacridone (VI), pale green, m. 100-7°. This is also obtained from 2-hydroxy-6,9-dichloroacridone (VII) with BeCl₂. VII, green, m. 220-2°, from V in xylene with anhyd. AlCl₃. 2-Hydroxy-6-chloro-9-(δ -*N*-diethylamino- α -methylbutylamino)acridone (VIII), from VI and III in PhOH. Since the *HCl* and picrate salts do not crystallize, it was converted into the oxalate, m. 157-60° (decomp.) (acridine no. 30), by treating the Et₂O soln. with aq. (C₂H₄). VIII is also prepd. in 50% yield from VII and III. Chas. Blanc

MAGHIDSON, O. J.

"Acridine compounds as a source for remedies. V. The relation between antimalarial effect and changing substituents in position 2 and 6 as well as the amine in the side chain." Maghidson, O. J., Grigorovsky, A. M., and Galperin, E. P. (p.66)

SO: Journal of General Chemistry (Zhurnal Obshchei Khimii) 1938, Volume 8, No. I

Quinazoline compounds as a source of medicinal products. I. Alkylamino derivatives of 6-nitro- and 6-chloroquinazoline. O. Yu. Magidson and E. S. Golovchinskaya. *J. Gen. Chem.* (U. S. S. R.) **8**, 1797-1809 (in English, 1909) (1938). The study of heterocyclic compds. (acridine and quinoline, cf. C. A. **32**, 500, 505) is extended to quinazoline derivs. Various derivs. of 6-nitro- and 6-chloroquinazoline contg. diethylaminoalkylamino groups are prepd. and tested for possible pharmacol. activity. The compds. have no antimalarial action and are less toxic than the corresponding quinoline derivs. In addn. 1-bis-(4-(*diethylamino- α -methylbutylamino*)-6-quinazolyl)urea (XIII) and 3,4-dihydro-4-oxo-6-quinazolylazophenylene-2,4-diamine (XI) are prepd. The latter compd. is shown to possess bactericidal action on streptococci and curative action in Bang's disease. A general method of prepn. is used, based on the condensation of anthranilic acid (I) and its derivs. with formamide to 3,4-dihydro-4-quinazolones (cf. Niementovskiy, *J. prakt. Chem.* (2), **51**, 564 (1895)), which with PCl₅ in excess POCl₃ give 4-chloroquinazoline (II) and its derivs., which are condensed with diethylaminoalkylamines. 4-(*Diethylamino*propylamino)quinazoline, yellowish crystals, sol. in H₂O and org. solvents, m. 60-70°, was prepd. in 43.3% yield from 5 g. II in a little dry Et₂O and 8 g. 1-diethylamino-3-aminopropane (III). The next day the sepd. oil was freed from the extd. with Et₂O, the Et₂O removed, the excess III driven off on a water bath and the product recrystd. from ligroin;

oxalate, m. 135°; picrate, m. 190-201°. 5-Chloroanthranilic acid, m. 210° (cf. Dorch, *J. prakt. Chem.* (2), **33**, 50), reacts with HCONH₂ at 135° to form *N*-aminomethyl-3,4-dihydroquinazolinic acid, m. 170°, which on further heating at 180° gives 6-chloro-4-oxo-3,4-dihydroquinazoline (IV), m. 281-5°. Refluxing 5 g. IV and 8 g. PCl₅ in 10 ml. POCl₃ for 1.5 hrs. and decomg. the pptd. crystals with ice and NH₄OH in 200 ml. dichloroethane yielded 2.3 g. 6-chloro-4-(*diethylamino*propylamino)quinazoline (V), m. 155-6°. 6-Chloro-4-(*diethylamino*propylamino)quinazoline, oily crystals (HCl salt, m. 255°; picrate, m. 181-4°), formed in 82% yield from 3.5 g. V in 50 ml. C₆H₆ and 4.6 g. III. 6-Chloro-4-(*diethylamino- α -methylbutylamino*)quinazoline, yellowish powder, m. 107-10° (oxalate m. 185°), from V and 1-diethylamino-4-aminopentane (VI). Crude 3-nitro-5-chloroacetotoluide, m. 180-5°, prepd. by nitration of 5-chloroacetotoluide by the method of Cohen and Dakin (*J. Chem. Soc.* **81**, 1329 (1902)), when oxidized with 2% KMnO₄ in the presence of MgSO₄ at 80° and then acidulated with dil. H₂SO₄ gave 50-55% 3-nitro-5-chloroacetanthranilic acid, pale yellow needles, m. 171-2°. Oxidation in an Fe vessel produced only resinification products. The acid, hydrolyzed with 20% HCl at 110°, formed 58% 5-nitro-5-chloroanthranilic acid, bright yellow needles, m. 237-8° (PhMe). Formylanthranilic acid, m. 161-3°, prepd. in 97% yield by refluxing 137 g. I and 158 g. of

when treated in H_2SO_4 ...
 gave 82% 5-nitroformylanthranilic acid. Condensation of
 225-30°. It is hydrolyzed in H_2O to 5-nitroanthranilic
 acid, fine yellow needles, m. 263-5°. Nitration of
 the latter acid with $HCONH_2$ at 150-60° formed 71%
 6-nitro-4-oxo-7,8-dihydroquinazoline (VII), yellow prisms
 from pyridine, m. 275°. VII is also formed by nitration of
 4-quinazolinone (cf. Bogert and Geiger, C. A. 6, 1442).
 4-Chloro-6-nitroquinazoline (VIII) (from VII and PCl_5 +
 $POCl_3$), yellowish needles from ligroin, m. 129°. 6-
 Nitro-4-(δ -diethylamino- α -methylbutylamino)quinazoline
 (IX), yellow crystals from Et_2O , m. 120-7°. prepd.
 from VIII and VI in C_6H_6 . Refluxing 12 g. VII with
 50 g. of freshly recrystd. $Na_2S_2O_4$ in 12 ml. H_2O for
 5 hrs., filtering cold, neutralizing the filtrate with 25%
 $AcOH$ and recrystg. the ppt. from H_2O gave 63% 6-
 amino-4-quinazolinone (X), golden fine needles, m. 301°
 (H₂O) (Bogert and Geiger give 318°, loc. cit.). X (2 g.)
 in 3.3 ml. of concd. HCl dild. with 15 ml. H_2O when diazo-
 tized with 0.81 g. $NaNO_2$ at 0° and then coupled with 2.22
 g. of the HCl salt of m - $C_6H_4(NH_2)_2$ in H_2O gave XI.
 IX, reduced with 10% $(NH_4)_2S$ in dil. alc., gave 6-amino-
 4-(δ -diethylamino- α -methylbutylamino)quinazolinone (XII),
 m. 80-91°. meconate, m. 82°; picrate, m. 204-6°. Heat-
 ing 1 g. XII and 0.35 g. Ph carbonate up to 200° under
 20-5 mm. until the distn. of PhOH had stopped yielded
 0.65 g. XIII. It could not be purified by crystn.
 Chas. Blanc

181 AND 182 SERIES PROCESSES AND PROPERTIES INDEX

CA

Azo dye. O. Yu. Magilson and M. V. Ryabtsov. *Dokl. Akad. Nauk SSSR*, 1939, 26, 271. Sulfanilamide is dissolved and coupled in alk. soln. with 1-acetamido-8-hydroxy-3,6-naphthalenedisulfonic acid.

COMMON ELEMENTS
OPEN
MATERIALS INDEX

ASS-SLA METALLURGICAL LITERATURE CLASSIFICATION

SELECT ONE OR MORE

GROUP #4	GROUPS 1-3	GROUPS 5-7	GROUPS 8-10	GROUPS 11-13	GROUPS 14-16	GROUPS 17-19	GROUPS 20-22	GROUPS 23-25	GROUPS 26-28	GROUPS 29-31	GROUPS 32-34	GROUPS 35-37	GROUPS 38-40	GROUPS 41-43	GROUPS 44-46	GROUPS 47-49	GROUPS 50-52	GROUPS 53-55	GROUPS 56-58	GROUPS 59-61	GROUPS 62-64	GROUPS 65-67	GROUPS 68-70	GROUPS 71-73	GROUPS 74-76	GROUPS 77-79	GROUPS 80-82	GROUPS 83-85	GROUPS 86-88	GROUPS 89-91	GROUPS 92-94	GROUPS 95-97	GROUPS 98-100
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CA
MAGIDSON, O. Yu.

PROCESSES AND PROPERTIES INDEX

Quinoline compounds as sources of medicinal preparations. VIII. Anesthetic compounds of amides of cinchoninic acid. O. Yu. Magidson, M. V. Fedotova and V. V. Zverev. *J. Gen. Chem. (U. S. S. R.)* 9, 2097-2103 (1939); cf. *C. A.* 33, 1327. —The effects of different alkyls on anesthetic action was studied for compds. of percarine type, 2-ROC₂H₄NCONHR'NEt₂, where R = Me, Et, iso-Pr, Bu or C₆H₅; and R' = (CH₂)₄, CH₂CH(OH)CH₃, or CH₂Me-CH₂(CH₂)₂. In almost all cases an increase of R caused an increase of the toxicity of the compd.; at the same time the effective dose decreased, but more slowly than the toxicity. For this reason the chemotherapeutic index of the amide with iso-Am radical is optimum when R is iso-Pr, and of the amide with hydroxypropyl radical when R is Me. Introduction of OH into the side chain sharply decreased the toxicity. 2-Methoxy-N-(8-diethylamino-8-methylbutyl)cinchoninamide (73% yield), b_p 231-4°, index 1.25; 2-ethoxy deriv. (97%), b_p 218-22° m. 71-2°, index 0.75; 2-isopropoxy deriv., b_p 220°, index 8; 2-octoxy deriv., m. 80-1°, index 3; 2-butoxy deriv. (90%), m. 61-7°, b_p 223-8°, index 8; 2-ethoxy-N-(8-diethylamino-butyl)cinchoninamide, m. 62-3°, index 0.3; 2-butoxy deriv. (66%) m. 46-8°, index 2; 2-methoxy-N-(7-diethylamino-8-hydroxypropyl)cinchoninamide (92%), m. 75 (l), index 14; 2-ethoxy deriv. (83%), m. 85-4°, index 3; 2-butoxy deriv. (92%), m. 63-4°, index 6; percarine index 12.5.

A. A. Podgorny

ASB-31A METALLURGICAL LITERATURE CLASSIFICATION

62 2 1

Pyrimidone. O. Yu. Magidson and I. E. Gorbovist-skiĭ. Russ. 52,991, April 30, 1940. 4-Amino-1-phenyl-2,3-dimethylpyrazolone is treated with formaldehyde and formic acid, cooled to 70°, treated with alkali until no more resinous substance seps., filtered, and the pyrimidone sepd. by adding excess NaOH.

ASB-3LA METALLURGICAL LITERATURE CLASSIFICATION

MATERIALS INDEX		2ND LETTERS		1ST AND 2ND LETTERS	
A	ALUMINUM	A	ALUMINUM	A	ALUMINUM
B	IRON	B	IRON	B	IRON
C	STEEL	C	STEEL	C	STEEL
D	COBALT	D	COBALT	D	COBALT
E	COPPER	E	COPPER	E	COPPER
F	NICKEL	F	NICKEL	F	NICKEL
G	CHROMIUM	G	CHROMIUM	G	CHROMIUM
H	TITANIUM	H	TITANIUM	H	TITANIUM
I	ZINC	I	ZINC	I	ZINC
J	LEAD	J	LEAD	J	LEAD
K	SILICON	K	SILICON	K	SILICON
L	MANGANESE	L	MANGANESE	L	MANGANESE
M	PHOSPHORUS	M	PHOSPHORUS	M	PHOSPHORUS
N	SULFUR	N	SULFUR	N	SULFUR
O	ANTHRACITE	O	ANTHRACITE	O	ANTHRACITE
P	BITUMINOUS	P	BITUMINOUS	P	BITUMINOUS
Q	LIQUID	Q	LIQUID	Q	LIQUID
R	SOLID	R	SOLID	R	SOLID
S	OTHER	S	OTHER	S	OTHER
T	OTHER	T	OTHER	T	OTHER
U	OTHER	U	OTHER	U	OTHER
V	OTHER	V	OTHER	V	OTHER
W	OTHER	W	OTHER	W	OTHER
X	OTHER	X	OTHER	X	OTHER
Y	OTHER	Y	OTHER	Y	OTHER
Z	OTHER	Z	OTHER	Z	OTHER

CR

10

A. P. ... (U. Yu. ... and G. A. ...
... July 21, 1940. Methyl butyl
ketone is treated with formamide, the reaction product is
hydrolyzed with H₂SO₄ and is further treated in the usual
manner.

COMMON ELEMENTS

MATERIALS INDEX

ASS-SLA METALLURGICAL LITERATURE CLASSIFICATION

REGIONS

AUTHOR

INDEXED

ISSUED

DATE

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ca

Chemotherapeutic preparations of the "streptocide" series. I. Azo compounds. O. Yu. Magidson and M. V. Rubtsov. *J. Gen. Chem.* (U. S. S. R.) 10, 756-68 (1940).—The study of protosil, named here "streptocide" (I), and its derivs. began by prepg. 30 azo compds. of analogous structure and comparing their physiol. effect on mice infected with hemolytic streptococci. In the parallel tests the chemotherapeutic index of I was taken as a unit = 100. The exptl. evidence shows the influence of the SO₂NH₂ group, since its replacement by Cl, MeO and EtO groups produced inactive compds. Accumulation of benzenesulfonamide groups as in II resulted in decreased activity. Similar results were produced by transposition of the sulfonamide group from the 4- to 3-position. In the study of the physiol. influence of the 2nd azo component (*m*-C₆H₄(NH₂)₂ (III)) in I the substitution of 1 and 2 OH for NH₂ resulted in increased activity and toxicity. The replacement of III by 6-hydroxyquinoline gave a product of high activity and decreased soly., and that by 6-aminoquinoline gave a product of an equal activity and greater soly. as compared with I. The use of diethylaminoalkylaniline as the 2nd component gave compds. with higher toxicity and considerable chemotherapeutic action against hemolytic streptococci, trypanosomes and malarial plasmodium. Compds. formed with C₆H₄(SO₂H)₂ and its NH₂ and OH derivs. showed various degree of chemotherapeutic activity and, with the exception of IV, are nontoxic. The most active prepgs. proved to be I, V, VI and VII. The name system for sulfanilamide derivs. proposed by Crowley, *et al.* (C. A. 32, 5151⁹), is used in describing the following compds. The general procedure consists of a coupling reaction of a diazonium soln. of *p*-H₂NC₆H₄SO₂NH₂ (VIII) with a required component. *p*-(2,4-Diaminophenylazo)benzenesulfonysulfanilamide, 2,4-(H₂N)₂C₆H₃N₂C₆H₄SO₂NHC₆H₄SO₂NH₂ (II), m. 223-5° (chemotherapeutic index 55), was derived from sulfanilsulfanilamide, m. 129-7°, prepd. by refluxing 6 hrs. 11.65 g. *p*-AcNHC₆H₄SO₂Cl and 17.2 g. VIII in Me₂CO and sapoag. the condensation product with boiling 17% HCl. 3'-Sulfamyl-2,6-diaminobenzene (*m*-streptocide), m. 198° (HCl salt, m. 219°), prepd. from III and diazotized *m*-sulfanilamide (cf. Zincke and Müller, C. A. 7, 1720); index 50. 5-*p*-Sulfamylphenylazo-6-aminoquinoline (VI), m. 281°; index 100. 4'-Sulfamyl-6-(2-diethylaminoethylamino)azobenzene, m. 183-6°, prepd. with Et₂NCH₂CH₂NHPh, is toxic; index 90. 4'-Sulfamyl-6-(3-diethylamino-2-hydroxypropylamino)azobenzene, m. 166-7° (from Et₂NCH₂CH(OH)CH₂NHPh), is toxic; index 100. 5-*p*-Sulfamylphenylazo-6-hydroxyquinoline (V), does not m. 290°; index 100. 2-(4'-Sulfamylphenylazo)-4-amino-1-naphthol-3,6-disulfonic acid (IV), prepd. with H acid, is toxic; index 100; the Ac deriv. (VII), index 100. 2-(4'-Sulfamylphenylazo)-1-amino-4,6,8-naphthalenetrisulfonic acid, black powder; index 40. 4'-Sulfamyl-2-amino-4-hydroxyazobenzene, m. 228°; index 90. 4'-Sulfamylphenylazo-2,4-diamino-6-benzenecarboxylic acid (from 3,5-(H₂N)₂C₆H₃CO₂H), does not m. 300°, is toxic; index 85. 4'-Sulfamyl-2,6-dihydroxyazobenzene (from resocinol), does not m. 300°, is toxic; index 100. 2-(4'-Sulfamylphenylazo)-1,8-dihydroxy-3,6-naphthalenedisulfonic acid (from chromotropic acid); index 80. 5-(4'-

Sulfamylphenylazo-2-hydroxybenzoic acid (from salicylic acid), m. 221° (decompn.); index 100. 5-(6'-Sulfamylphenylazo)-2-aminobenzoic acid (from anthranilic acid), m. 228-6°; index 24. II. M. V. Ruzhtov. *Ibid.* XII-43.

—Derivs. of VIII with substituents in the amino and sulfamyl groups were prepd. and their physiol. actions were compared. In the parallel tests the chemotherapeutic index of VIII was taken as a unit = 80. In general, the therapeutic effect varied with the nature of the substituent in the amino group. Introduction of diethylaminoalkyls decreased greatly the therapeutic action and increased the toxicity. Acid radicals, linked by means of a methylene group, increased the activity and soly. as in IX. The benzyl group showed but little effect on the activity (X). Of the substituents in the sulfamyl group benzyl produced an insignificant change (XI), while sulfamyl and *p*-H₂N-C₆H₄-SO₂-NH greatly reduced the activity. The *p*-H₂N-C₆H₄-group increased the activity (XII and XIII), which again was reduced by the presence of SO₂H in the substituent (XIV and XV). *p*-Sulfamylphenylbenzylamino (X), m. 174.5-76°, was prepd. from 7.5 g. BaH, 16 g. VIII, HCO₂H and 7.5 g. of 85% HCO₂H by heating the mixt. at 120-5° in an oil bath for 3 hrs. and dilg. with 30 ml. alc. The

crude product was purified by heating it with 15% HCl, treating the soln. with dil. Na₂CO₃ and recrystg. from Me₂CO; index 70. 1-(*p*-Sulfamylphenylamino)-2-diethylaminoethane, m. 140-3°, prepd. from ClCH₂CH₂CH₂N(Et)₂HCl and VIII by heating at 131° for 3 hrs., to form index 45. 1-(*p*-Sulfamylphenylamino)-2-hydroxy-1-diethylaminoethane (from ClCH₂CH(OH)CH₂NEt₂·HCl), m. 112°, is toxic; index 10. *p*-Sulfamylphenylglycine (IX), m. 265-6° (decompn.), was prepd. by gently heating 7 g. CH₂ClCO₂H in 15 ml. of 20% NaOH dild. with 20 ml. H₂O, 7.5 g. of cryst. NaOAc and 8.6 g. VIII and recrystg. from 50% alc.; index 125. *p*-Sulfamylphenylglycineamide, m. 203-4°, was prepd. by refluxing VIII and CH₂ClCONH₂ in C₆H₅N for 2.5 hrs., dilg. with 2 vols. H₂O and acidifying with HCl to Congo red; index 85. Na *p*-sulfamylphenylsulfamate was prepd. by introducing 9 g. ClSO₂H and 8.6 g. VIII into 50 g. C₆H₅N at 30-40°, treating the mixt. with 7.3 g. NaOH in 15 ml. H₂O, evapg. *in vacuo* to dryness, dissolving in 40 ml. H₂O and crystg. at 32°; index 20. *p*-H₂NO₂SC₆H₄NHCH₂SO₂Na was formed by treating 17.2 g. VIII and 26.7 g. of 50% NaHSO₃ with 9.6 g. of 38.2% HCHO in 38 ml. H₂O and stirring the mixt. at 50° for 3 hrs.; index 90. *p*-NH₂C₆H₄SO₂NHCH₂Ph (XI), m. 119-9.5°, was prepd. in 84% yield by sapon. of *p*-AcNHC₆H₄SO₂NHCH₂Ph obtained by treating 11.7 g. *p*-ClO₂SC₆H₄NHAc and 10.7 g. PhCH₂NH₂ and recrystg. from 60% alc.; index 65. *Disulfanilimide*, m. 253-6° (decompn.), was prepd. by a modified method of Crossley, *et al.* (*loc. cit.*); index 5. 2-Amino-1-sulfanilamido-benzenesulfonic acid (XIV) (*cf.* Crossley, *loc. cit.*), index 60. *p*-NH₂C₆H₄SO₂NHC₆H₄NH₂-*p* (XII), m. 138-8.5°, index 100. *p*-Bis(sulfanilamido)benzene (XIII), m. 248-9° (decompn.), index 100. 2,7-Bis(sulfanilamido)benzenesulfonic acid (XV), index 25.

Chrs. Blanc

CA

Vitamin B₁. O. Yu. Magidson and A. I. Travin. Russ. 59,509, Apr. 30, 1941. Vitamin B₁ is obtained by condensation of 2-methyl-4-amino-5-halopyrimidine with 4-methyl-5-hydroxyethylthiazole by heating in solvents of low dielec. const., such as bromoform or anisole.

Microfilm frame containing a document page. The page includes a title, a paragraph of text, and a classification table at the bottom. The table has columns for 'MATERIAL INDEX', 'ASME-ISA METALLURGICAL LITERATURE CLASSIFICATION', and 'SERIALS ONE'. The document is surrounded by a perforated border with the text 'COMBINATION ELEMENTS' and 'SERIALS ONE' visible on the left and right sides respectively.

XIV, 15 g, $H_2NCH_2CH_2CH_2NH_2$ (from XIV), its aq. soln. is 130-40°, followed by pptn. with $C_6H_5O_4$. Its analogous unstable. Condensation of XIV with V under analogous conditions does not give a cryst. salt of 2-methoxy-8-fluoro-9-(1-methyl)-4-diethylaminobutylamino)acridine. 2-Methoxy-8-nitro-9-chloroacridine (20 g.) (from 2-chloro-4-nitrobenzoic acid on condensation with *p*-anisidine and cyclization of the formed *N*-(4-methoxyphenyl)-4-nitroanthranilic acid by means of $POCl_3$) yields on reduction with 30 g. $SnCl_2$ and excess alc. HCl 2-methoxy-8-amino-9-chloroacridine (XVI), yellow needles, m. 218° (unsharp); HCl salt, cherry-red, difficultly sol. The reaction of XVI with diamines does not give cryst. salts of the condensation products. As regards the therapeutic effectiveness of the above compds., IX is completely inactive. XV is very toxic, and a dose close to the lethal is ineffective in bird malaria. The absence of therapeutic effectiveness in XV is explained by the fact that it is easily hydrolyzed. Gertrude Berend.

CA

/ Sulfanilacetamide. O. Yu. Magnison. ¹⁹⁴³
7, No. 3/8, 21-2(1943).—A brief review of the chem. and
bacteriol. properties of sulfanilacetamide (albacil,
sulfamide). H. L. Williams

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1ST AND 4TH COLUMNS
PROCESSES AND PROPERTIES INDEX
2ND AND 3RD COLUMNS

10

2 Amino-thiazole (1) Yu. Magnan and V. N. Sokolova. USSR 60,044, March 31, 1946. A method for obtaining 2-aminothiazole comprises a condensation of thiourea and of the product of chlorinating a mixt. of equimol. quantities of acet- or paraldehyde and EtOH. Chlorination is carried on to an absorption of 1 mol. of Cl₂. The product is monochloroacetaldehyde alcoholate. The condensation of the latter with thiourea produces 2-aminothiazole. The yield is 55% of theoretical. M. Hosh.

M

COMMON ELEMENTS
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A 50-51-A METALLURGICAL LITERATURE CLASSIFICATION
TECH. DIVISION
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2ND AND 3RD COLUMNS

ca

8-Trichloromethylcaffeine and 7-chloromethyl-8-trichloromethylcaffeine. O. Yu. Magidson, E. S. Golovchinskaya, and T. M. Kudinova, U.S.S.R. 66,308, May 31, 1940. 8-Methylcaffeine is chlorinated in $PbCl_2$. The chlorination product requires no further purification. This method gives high yields. M. Hosh

INTERNATIONAL LITERATURE CLASSIFICATION

MAGIDSON, O. YU.

"Survey of New Synthetic Preparations Made in USSR," Trudy Uchenogo
meditsinskogo soveta pri nachal'nike Mediko-sanitarnogo Upravleniya VMF
(Transactions of the Medical Academic Council Attached to the Chief, Naval
Medical and Sanitary Administration), 5, 1, 7, 6-25, 1946

The chemical structure of 2-sulfanylimino-1,2-dihydro-1-pyridinacetate and of its N-substituted derivatives of the alkyl carboxylic acid type. O. Yu. Magidson and A. S. Elina (All Union Chem. Pharm. Research Inst., Moscow). *J. Gen. Chem. (U.S.S.R.)* 16, 1033-40(1946). -The available evidence for the "normal" and the 2-pyridonimine structures of sulfapyridine (I) is presented (11 ref. ences). In a search for a sulfapyridine deriv. which is sol. at physiol. pH levels, a no. of carboxylic acid derivs. were prepd. by condensation of Na sulfapyridine with appropriate terminally-substituted halo esters. The products on hydrolysis gave substances whose properties indicate a pyridonimine structure, i.e. the RCO₂H group is attached to the 1-position in the pyridine nucleus. None of the products showed appreciable activity toward staphylococcus infections; the carbonate deriv. showed some activity toward dysentery, but had poor soly.; the AcOH deriv. showed activity toward pneumonia and dysentery approx. equiv. to sulfapyridine and was sol. at pH 7.2 (as the Na salt). 1 (20 g.) in 80 cc. 8% NaOH was treated slowly with 12 g. ClCH₂CO₂Et at 5-8°; after stirring 1 hr. the mixt. was poured into H₂O and unreacted I was removed with 4% NaOH; the residue, crystd. from H₂O conng. a little NaOH, gave the *Et 2-sulfanylimino-1,2-dihydro-1-pyridinacetate*, as colorless plates, sol. 1:20 in H₂O, which on standing in water readily hydrolyzed to the *free acid*, m. 213-14°. To 10 g. ClCH₂CO₂Et in 60 cc. dry xylene, 20 g. powd. Na salt of I was added and the reaction mixt. boiled 3 hrs. with stirring; the mixt. was filtered and treated with N NaOH; the insol. residue (75.4%) and the calcd. amt. of Na₂CO₃, followed by titration with Et₃O, hard powder. Heating on a steam bath for 1 hr. 5 g. of the Na deriv. of I in 8 cc. 50% EtOH with 8 g. Et 11-bromohendecanoate in 15 cc. 90% EtOH, pouring into ice water, and washing the ppt. with Et₂O, N NaOH and water gave 27.1%. *Et 2-sulfanylimino-1,2-dihydro-1-pyridinhendecanoate*, m. 93.4° (from dil. EtOH), this (1 g.), 15 cc. 90% EtOH, and 0.4 cc. 28% NaOH, heated on a steam bath 1 hr., freed of EtOH, and the residue dissolved in H₂O and pptd. by HCl, yielded the *free acid*, m. 162.3° (from EtOH). Hydrolysis of the AcOH deriv. in coned. HCl 1 hr. at 100° gave sulfanilic acid and 2 ketohydropyrimidazole, isolated as the HCl

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ASS. S. A. METALLOGICAL LITERATURE CLASSIFICATION

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salt, m. 244-5° (decomp., from EtOH); picrate m. 207-8° (from H₂O). Similar hydrolysis of the EtCO₂H deriv. gave sulfamic acid and 2-keto-3,4-dihydro-3-pyrido[1,2-a]-pyrimidine-HCl, decomp. 275-6° (from EtOH); *picrate* m. 219-20° (from EtOH). An authentic comparison compl. was prepd. by boiling 6 g. BrCH₂CH₂CO₂Et and 3.1 g. 2-aminopyridine 40 min. in 20 cc. abs. EtOH, to yield the *HBr salt* of the above, m. 203-4° (from EtOH); this on heating with AgCl in EtOH gave the HCl salt, identical with the above. Sulfamethylthiazole (25 g.), 42 cc. 50% EtOH, and 14 cc. 28% NaOH, treated with 17 g. ClCH₂CO₂Et in 80 cc. 60% EtOH, boiled 1 hr., poured into ice water, and the solid washed with H₂O and 1% NaOH, gave 13 g. *Et 3-sulfamethylthiazolacetate*, m. 213-13.5° (from acetone); this (10.4 g.), 90 cc. 50% EtOH, and 8.5 cc. 28% NaOH were boiled 1 hr. and evapd. *in vacuo*, the residue, after soln. in H₂O, gave with HCl a ppt. of 10.2 g. *free acid*, m. 204-5° (after drying at 100°); *dihydrate*, from aq. EtOH, m. 109-10°, the acid was assigned the structure of 2-sulfamethylimino-2,3-dihydro-6-methyl-3-thiazolacetate acid; it showed very little *therapeutic activity*.

G. M. Kosolapoff
 Some new selenium ethers. Floyd C. McIntire and E. P. Painter (Abbott Labs., North Chicago). *J. Am. Chem. Soc.* 69, 1834(1947). PhSeH (103 g.) in 350 ml. abs. EtOH in a N atm., treated with 1 equiv. Na and, after soln., with 84 g. BrCH₂CH₂OH, gives 87% 2-hydroxyethyl Ph selenide, bp. 152-3°; the unstable *di-Br compd.*, orange, m. 113°. PhCH₂SeNa and BrCH₂CH₂OH give 70% 2-hydroxyethyl benzyl selenide, bp. 130-2°; the Br compd. is unstable. PhSeNa and ClCH₂CH(OEt) give 60% 2-(phenylseleno)ethyl, bp. 153-3.5°; the orange-yellow Br addn. compd. is unstable. Hydrolysis with N H₂SO₄, reaction of the aldehyde with NH₃ and HCN, and hydrolysis of the nitrile with HCl give about 10% *d*-(phenylseleno)alanine.
 C. J. West

1st AND 2ND EDITIONS
PROCESSES AND PROPERTIES INDEX

CA 10

Thiouracil. V. N. Sokolova and O. Yu. Magidson.
U.S.S.R. 67,948, Feb. 28, 1947. $\text{OHCC}_6\text{H}_4\text{CO}_2\text{Na}$ is
made to react with thiourea. The product is treated im-
mediately with an aq. soln. of thiourea. M. Bosch

COMMON ELEMENTS
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