

SKLYAR, V.T., kand.khimicheskikh nauk; LEBEDEV, Ye.V., kand.khimicheskikh nauk; LIZOGUB, A.P., inzh.; ZHURBA, A.S., inzh.; PEREKREST, A.N., inzh. LEBEDEVA, L.B., inzh.; BARANOVSKIY, M.I., inzh.

Some ways of more efficient refining of Western Ukrainian paraffin oils. Nauch.zap.Ukrniiproekta no.4:87-112 '61. (MIRA 15:1)  
(Ukraine, Western--Petroleum--Refining)

KRASNOVA, S.I.; MAL'NEV, A.F. [Mal'nev, A.F.]; PUCHKOVSKAYA, G.A. [Puchkiv'ska, H.O.]; SKLYAR, V.T.

Determination of methyl and methylene groups in a narrow-boiling range paraffin-naphthene fraction on the basis of infrared absorption spectra. Ukr.fiz.zhur. 6 no.6:843-846 N-D '61.  
(MIRA 16:5)

1. Institut fiziki AN UkrSSR, Kiyev.  
(Methyl groups--Spectra) (Methylene groups--Spectra)  
(Hydrocarbons)

SKLYAR, Vladimir Tikhonovich; LEBEDEV, Yevgraf Venediktovich; .  
PREDETECHENSKAYA, N.F., red.; MATUSEVICH, S.M., tekhn. red.

[Petroleum of the Ukraine; composition and properties] Nefti  
Ukrainy; sostav i svoistva. Kiev, Gos.izd-vo tekhn.lit-ry  
USSR, 1962. 298 p. (MIRA 15:7)  
(Ukraine--Petroleum--Analysis)

SKLYAR, V.T., kand.khim.nauk; BODAN, A.N., inzh.; MASKAYEV, A.A., inzh.

Rapid oxidation of Drogobych paraffin. Nauch. zap. Ukrniiproekta  
no.8:3-9 '62. (MIRA 16:1)  
(Drogobych—Paraffins) (Oxidation)

LIZOGUB, A.P., kand.khim.nauk; SKLYAR, V.T., kand.khim.nauk; KRASNOVA,  
S.I., kand.khim.nauk; Prinimal uchastiye ANTONENKO, D.I.

Determination of the paraffin wax content of petroleum products.  
Nauch.zap.Ukrniiproekta no.8:18-22 '62. (MIRA 16:1)  
(Paraffin wax) (Petroleum products)

S/710/62/000/008/001/003  
E075/E436

AUTHORS: Sklyar, V.T., Sabirova, G.V., Zhurba, A.S., Candidates  
of Chemical Sciences, Rozhin, V.P., Gonopol'skiy, L.Ye.,  
Zvereva, A.D., Chuchvara, P.G., Engineers

TITLE: Preparation of freon oil  $\times\phi$ -12 (KhF-12) from  
Anastasiyevka crude

SOURCE: Kiyev. Gosudarstvennyy nauchno-issledovatel'skiy i  
proyektnyy institut ugol'noy, neftyanoy i gazovoy  
promyshlennosti. Nauchnyye zapiski. no.8. 1962.  
Neftepererabotka. 48-57

TEXT: The authors investigated the possibility of producing freon  
(refrigerant) oil KhF-12 from a naphthenic Anastasiyevka crude as  
only insufficient amounts of this oil can be obtained from Dosor  
and Balakhany crudes. The oils were produced in the L'vovskiy  
neftepererabatyvayushchiy zavod (L'vov Refinery) from the  
Anastasiyevka crude (IVth horizon). Vacuum distillates  
constituting 13.7 and 8 to 9% of the crude were acid refined  
giving oils having pour points below  $-38^{\circ}\text{C}$ , flash points 164 to  
 $180^{\circ}\text{C}$  and viscosities ranging from 18 to 20.8 cs at  $50^{\circ}\text{C}$ . These  
oils did not satisfy the freon test (clouding of the oil/freon  
Card 1/2

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... ..  
... ..

BODAN, A.N., inst.: SAI/Ch. V.T., kand.khim.nauk

Micromethod for the cryoscopic determination of the molecular  
weights of bitumens and their constituents. Nauch.zap.  
Ukrniiproekta no.8:58-63 '62. (MIRA 16:1)  
(Bitumen)



S/048/63/027/001/033/043  
B125/B102

AUTHORS: Krasnova, S. I., Mal'nev, A. F., Puchkovskaya, G. A., and Sklyar, V. T.

TITLE: Determination of the methyl and methylene groups in narrow paraffin and paraffin naphthene fractions from the infrared absorption spectra

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Seriya fizicheskaya, v. 27, no. 1, 1963, 98 - 99 ✓

TEXT: The qualitative determination of the portion of methyl and methylene groups in narrow paraffin and naphthene fractions (which contain n-paraffins, isoparaffins, and naphthenes) from the mineral oils of Bitkov and Dolina is described. The intensity of the absorption bands corresponding to the oscillation frequencies of the groups  $\text{CH}_3$  and  $\text{CH}_2$  is assumed to be independent of the remainder of the molecule. The weight percentage of the methyl and methylene groups or of the  $\text{CH}_2$  groups was determined from the integral intensity of the absorption bands in the ranges  $7.14 - 7.44 \mu$  and  $12.5 - 14.3 \mu$  as well as those of the  $3.38$ ,  $3.42$ , and  $7.25 \mu$  bands for  $\sim 20$  different  
Card 1/2

ЖУКОВ, Владимир Тихонович, канд. хим. наук; ЛЕБЕВ, Евгений  
Васильевич, канд. хим. наук; ЗАКУРА, Vadim  
Aleksandrovich, канд. техн. наук; КИМЕНКО, А.П., канд.  
техн. наук, рецензент

[Higher monolefins] Vysshie monolefiny. Kyiv, Tekhnika,  
1964. 281 p. (MIRA 17:9)

BUKHALO, S.M., doktor ekon. nauk, otv. red.; SHEVCHENKO, Ya.A., doktor ekon.nauk, red.; YAKUSHA, G.B., kand. tekhn. nauk, red.; SKLYAR, V.T., kand. khim. nauk, red.; RESHETNYAK, A.A., inzh., red.; FILYUKHANOV, L.S., inzh., red.; METLINA, T.I., inzh., red.; VELIKOKHAT'KO, A.T., red.

[Problems of effective use of fuel and power resources (Donets and Dnieper Economic Regions); materials] Voprosy ratsional'nogo ispol'zovaniia toplivno-energeticheskikh resursov (Donetsko-Pridneprovskii ekonomicheskii raion); materialy. Kiev, Naukova dumka, 1964. 200 p. (MIRA 17:12)

1. Nauchno-tekhnicheskaya konferentsiya po voprosam ratsional'nogo ispol'zovaniya toplivno-energeticheskikh resursov. Donetsk, 1962. 2. Institut ekonomiki Gosplana Ukr.SSR (for Shevchenko).

L 19865-65 EWT(m)/EPF(c)/EWP(j) Pc-4/Pr-4 AEDC(b)/SSD/HSD/AFWL/AFGC(b)/ESD(gs)/  
ESD(t) RM/MLK  
ACCESSION NR AM5001004 BOOK EXPLOITATION 2/3 S/

Sklyar, Vladimir Tikhonovich (Candidate of Chemical Sciences); Lebedev,  
Yevgraf Venediktovich (Candidate of Chemical Sciences); Zakupra, Vadim  
Aleksandrovich (Candidate of Technical Sciences)

Higher monoolefins (Vy'sshiye monoolefiny\*), Kiev, Izd-vo "Tekhnika", 1964,  
281 p. illus., biblio. 1,800 copies printed.

TOPIC TAGS: higher monoolefin, chromatography, infrared spectroscopy, mass spectroscopy

PURPOSE AND COVERAGE: This book covers the problems of obtaining monoolefins with five and more carbon atoms and their use for alcohol synthesis, washing substances, plastics plasticizers, synthetic resins, oil additives, high quality special lubricants, etc. The methods of studying olefin-containing carbon mixtures, especially the methods of gas-liquid and liquid chromatography, infrared spectroscopy, mass spectroscopy, etc. are examined in detail. The book is intended for researchers, engineers, and technicians in the petrochemical and oil refining industries and can also be useful for students and graduate students specializing in petrochemical synthesis.

TABLE OF CONTENTS [abridged]:

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Ch. II. Investigation of higher monoolefins -- 65  
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SUB CODE:OC

SUBMITTED: 14Apr64

NR REF SOV: 245

OTHER: 272

DATE ACQ: 30Nov64

Card 2/2

SKLIYAR, V.T.; LEBEDEV, Ye. I.; ZAKUPRA, V.A.

Dehydrocracking of paraffins over sulfide catalysts. Nefte-  
khimiia 4 no.2:200-208 Sr-Ap'64 (MIRA 17:8)

Thermocatalytic oxidation of paraffins over oxide catalysts.  
Ibid.:209-214

1. Gosudarstvennyy nauchno-issledovatel'skiy i proyektnyy insti-  
tut neftyanoy i neftekhimicheskoy promyshlennosti "Ukrniigiproneft",  
Kiyev.

ACCESSION NR: AP4032515

S/0204/64/004/002/0209/0214

AUTHOR: Sklyar, V. T.; Lebedev, Ye. V.; Zakupra, V. A.

TITLE: Thermocatalytic transformation of paraffins on oxide catalysts

SOURCE: Neftekhimiya, v. 4, no. 2, 1964, 209-214

TOPIC TAGS: paraffin dehydrocracking, olefin production,  $\alpha$  olefin production, thermocatalytic cracking, oxide catalyst, MoO sub 3 NiO Al sub 2 O sub 3 catalyst, WO sub 3 NiO Al sub 2 O sub 3 catalyst, Cr sub 2 O sub 3 /Fe sub 2 O sub 3 catalyst, isomerization, disproportionation, aromatization, condensation, catalyst regeneration, economics, conversion rate

ABSTRACT: Liquid olefins were obtained in 35-45% yield from paraffins by dehydrocracking with oxide catalysts ( $\text{MoO}_3\text{-NiO-Al}_2\text{O}_3$ ,  $\text{WO}_3\text{-NiO-Al}_2\text{O}_3$ ,  $\text{Cr}_2\text{O}_3/\text{Fe}_2\text{O}_3$ ) at temperatures of 550-590C. The paraffin crude, obtained from diesel oil by complexing with carbamide, typically contained 0.06% aromatics, and 40 wt.%  $\text{C}_{16}$  -  $\text{C}_{18}$  n-paraffins. At 550C increasing the feed rate reduced the yield; at 590C, the reverse obtains and high yields were obtained at a space velocity of 3 hours<sup>-1</sup>. To obtain a relatively high  $\alpha$ -olefin-containing product the conversion should be

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ACCESSION NR: AP4032515

limited to 30-40% at high temperatures and space velocities, simultaneously recirculating the unconverted portion of the crude and inert diluents. Side reactions such as isomerization, disproportionation of hydrogen, aromatization and condensation are more prevalent with these oxide than with sulfide catalysts. However, the former are cheaper and may be regenerated more easily. Orig. art. has: 1 table and 4 figures.

ASSOCIATION: Gosudarstvennyy nauchno-issledovatel'skiy i proyektnyy institut neftyanoy i neftekhimicheskoy promyshlennosti "Ukrniigiproneft" g. Kiyev.  
(State Scientific Research and Planning Institute of the Petroleum and Petrochemical Industry)

SUBMITTED: 24Apr63

ENCL: 00

SUB CODE: FP, OC

NO REF SOV: 002

OTHER: 000

2/2



SKLYAR, V.I., kand. khimicheskikh nauk; GORDASH, Yu.T., kand. khimicheskikh nauk; KALICHEVSO, V.M.

Comparative study of the demulsification capacity of certain ionogenic surfactants. Neft. i gaz. prom. no.2:61-63 Ap-Je '64. (MIRA 17.9)

L 36296-65 EWT(m)/EPF(c)/EWP(j)/EWA(d)/T Pc-4/Pr-4 R/R  
ACCESSION NR: AP4047389 S/0065/84/000/010/0037/0040

21  
23  
B

AUTHOR: Gordash, Yu. T. ; Sklyar, V. T. ; Serov, V. A. ; Klochok, I. B.

TITLE: Petroleum desalination by use of complex pentaerythritol esters and carboxylic acids as surface-active compounds

SOURCE: Khimiya i tekhnologiya topliv i masel, no. 10, 1964, 37-40

TOPIC TAGS: petroleum desalination, surface active compound, pentaerythritol, complex ester, esterification, carboxylic acid, hydroxyl group

ABSTRACT: The use of non-ionogenic surface-active compounds for petroleum desalination is commonly known and the authors discuss the effect of pentaerythritol on the desalination ability of complex esters of multi-atom alcohols and carboxylic acids having the length of a straight carbon chain. Esterification of pentaerythritol by a double excess of carboxylic acid yielded complex acetic, propionic, butyric and other esters. Within the 3500 to 3700  $\text{cm}^{-1}$  range, the esters displayed a very weak absorption band which is characteristic of free hydroxyl

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5896-65

ACCESSION NR: AP4047389

groups. These esters were tested as desalination agents of Ukrainian petroleum. The optimal concentration of the complex esters was found to lie within the 0.005 to 0.01% (by weight) range. Extending the carbon chain in acid to C<sub>4</sub> enhanced desalination but a further increase had an appreciably adverse effect. The study of the degree of substitution of free OH-groups in pentaerythritic acid showed that an increase in the number of free OH groups in complex ester impedes the desalination of petroleum. Mixtures of pentaerythritol tri- and tetraesters with butyric acid gave the best results. The findings of the authors reflect the need for the development of more effective deemulsifiers to desalinate petroleum in any Soviet deposit. Orig. art. has: 2 figures and 2 tables.

ASSOCIATION: UkrNIIgiproneft'

SUBMITTED: 00

ENCL: 00

SUB CODE: GC

NR REF SOV: 004

OTHER: 004

Card 2/2

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L 41165-65 EWT(m)/EWP(+)/EWP(z) IJP(c) JD S/0286/65/000/003/0041/0041  
ACCESSION NR: AP5007171

14  
B

AUTHOR: Lebedev, Ye. V.; Sklyar, V. T.; Perakrast, A. N.; Gordash, Yu. T.;  
Zakupra, V. A.; Kal'chenko, V. M.; Gvul'misaryan, T. G.

TITLE: A method for producing highly aromatized material for making carbon black.  
Class 23, No. 167933

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 3, 1965, 41

TOPIC TAGS: carbon black, aromatic compound

ABSTRACT: This Author's Certificate introduces a method for producing highly aromatized material for the production of carbon black. The material is made from petroleum byproducts by using redistillation to isolate the hydrocarbon fraction which contains the aromatic compounds. This fraction is then extracted by furfural or phenol. In order to provide a wider choice of materials, coke distillate is used as the petroleum byproduct. The 240-460°C fraction is isolated from the distillate.

ASSOCIATION: none

Card 1/1

*Submitted: 18 JAN 64*

SKLYAR, Yu.Ye.; YEVSTIGHEYEVA, R.F.; SARALINZE, O.D.; PREOBRAZHENSKIY,  
N.A.

Structure of the salts of 3-acetylpyrrole derivatives and  
the mechanism underlying dipyrromethane formation. Dokl.  
AN SSSR 157 no. 2:367-370 J1 '64. (MIRA 17:7)

1. Moskovskiy institut tonkoy khimicheskoy tekhnologii imeni  
Lomonosova. Predstavleno akademikom A.N.Nesmeyanovym.

SKLYAR, Yu.Ya., YEVSTIGNEYEVA, R.P.; PRGOBRASHENSKIY, N.A.

Synthesis of (β-dicyanovinyl) pyrroles and dipyrromethanes. Zhur.  
org. khim. 1 no.1:167-171 Ja '66. (MIRA 18:5)

I. Moskovskiy institut tonkoy khimicheskoy tekhnologii im. M.V.  
Lomonosova.

SKLYARCHENKO, Ya.F., inzh.

Inventor Nikolai Sergeevich Ryzhenko. Izobr.i rats. no.7:11-12  
Jl '58. (MIRA 11:9)

(Ryzhenko, Nikolai Sergeevich)

SKLYAR, Ye.F., red.; KOPITKOVA, N.K.[Kopytkova,N.K.], tekhn. red.

[Program on the economics of construction for economic study groups and seminars of the party educational system]  
Programa z ekonomiky budivnytstva dlia ekonomichnykh hurt-  
kiv i seminariv systemy politychnoi osvity. Kyiv, Derzh-  
politvydav URSR, 1962. 31 p. (MIRA 16:3)

1. Kommunisticheskaya Partiya Sovetskogo Soyuza. Vysshaya partiynaya shkola. Kafedra sovetskoy ekonomiki.  
(Construction industry--Management)



VOLOVICH, I.Ya.; SERZHEBNIK, A.E.

Compound treatment of female genital tuberculosis at the southern shores  
of the Crimea. Akush. i gin. no.6:101-105 N-3 '63.

(MIKA 17:12)

1. Iz sanatorii imeni F.E.Emerzhinskogo v Alupke (glavnyy vrach I.Ya.  
Volovich).

DANILOVA, L.K.; SKLYARCHIK, Ye.L.; AYRAFET'YANTS, E.Sh., zaveduyushchiy.

Effect of interoceptive stimuli upon the cardiac activity in "hysteriosis."  
Vop.fiziol.int. no.1:202-211 '52. (MLRA 6:8)

1. Laboratoriya vysshey nervnoy deyatel'nosti Leningradskogo Gosudarstvennogo  
ordena Lenina universiteta. 2. Laboratoriya kortiko-vistseral'noy fiziologii  
Instituta fiziologii tsentral'noy nervnoy sistemy Akademii meditsinskikh nauk  
SSSR. (Hysteria) (Nervous system) (Heart)

SKLYARCHIK, Ye.L. (Leningrad)

Disorder of daily rhythm of body temperature in athletes. Biul. eksp.  
biol. i med. 38 no.12:12-15 D '54. (MLRA 8:3)

(ATHLETICS,  
body temperature daily rhythm)  
(BODY TEMPERATURE,  
in athletes, daily rhythm)

SMIRNOV, K.M.; SKLYARCHIK, Ye.L.

Peculiarities of salivation in man in various degrees of acclimatization to a hot climate. *Fiziol.zhur.* 43 no.5:389-392 My '57.

(MIRA 10:12)

1. Krasnoznamenny voyenny institut fizicheskoy kul'tury i sporta imeni V.I.Lenina, Leningrad.

(CLIMATE,

acclimatization to hot climate, eff. on salivation (Rus))

(SALIVATION, SALIVARY GLANDS, physiology

eff. of hot acclimatization (Rus))

SKLYARCHIK, Ye. L.

VASIL'YEV, I.G.; ZIMNITSKAYA, L.P.; SKLYARCHIK, Ye. L.; SMIRNOV, K.M.;  
FILIPPOV, B.G.; KHITUN, S.A.; SHATALOV, A.M.

Daily rhythm of the ability to work in man [with summary in English].  
Fiziol.zhur. 43 no.9:817-824 S '57. (MIRA 10:11)

1. Krasnoznamenny voyenny institut fizicheskoy kul'tury i sporta  
im. V.I.Lenina, Leningrad.

(PHYSICAL EFFICIENCY,  
daily rhythm (Rus))

(PERIODICITY,  
daily rhythm of phys. efficiency (Rus))

SKLEBANIK, Ye.L.

Reflex changes in the skin temperature of rabbits as related to muscular activity. Trudy Inst. fiziol. 10:362-368'62.

(MIRA 17:3)

1. Laboratoriya ekologicheskoy fiziologii (zav. - A.D. Slonim)  
Instituta fiziologii imeni Pavlova AN SSSR.

SKLYARCHIK, Ye.L.

Study of rectal temperature and the blood sugar level in rabbits during prolonged muscular work. Opyt izuch. reg. fiziol. funk. 6:11-16 '63 (MIRA 17:3)

Cardiac output in rabbits and hares at rest and during muscular activity. Ibid. :16-23

Effect of tiring muscular activity on the diurnal periodicity of the ear temperature in rabbits and hares. Ibid. :24-28

1. Laboratoriya ekologicheskoy fiziologii (zav. - prof. A.D. Slonim) Instituta fiziologii imeni Pavlova AN SSSR.

DAVYDOV, A.F.; SKRYARCHIK, Ye.L.

Regulation of respiration and gas exchange in young Greenland seals related to immersion in water. Fiziol. zhur. 51 no.10: 1238-1243 O. 1965. (MIRA 18:12)

1. Laboratoriya ekologicheskoy fiziologii Instituta fiziologii imeni I.P. Pavlova AN SSSR, Leningrad. Submitted June 5, 1964.



L 22339-66

ACC NR: AP6004834 (N) SOURCE CODE: UR/0239/65/051/010/1238/1243

AUTHOR: Davydov, A. F.; Sklyarchik, Ye. L.

ORG: Ecological Physiology Laboratory of the Physiology Institute im. I. P. Pavlov AN SSSR, Leningrad (Laboratoriya ekologicheskoy fiziologii Instituta fiziologii AN SSSR/

TITLE: Regulation of respiration and gas exchange in young Greenland seals in relation to underwater submersion

SOURCE: Fiziologicheskii zhurnal SSSR, v. 51, no. 10, 1965, 1238-1243

TOPIC TAGS: experiment animal, animal physiology, biologic respiration

ABSTRACT: Dependence of oxygen deficit of seals on duration of the underwater submersion period, and also the period required to restore oxygen consumption to its initial level, were investigated. Experiments were conducted on 12 young Greenland seals ages 2 days to 2 mon aboard the icebreaker "Yermak" in the White Sea in March 1963 and experiments were continued on 3 of the animals at a Moscow laboratory. Underwater submersion of seals was staged in a tank filled with sea water warmed to temperatures which would not cause any gas exchange shifts higher than 5 to 10% over a 3 to 40 min period. Water temperature for the youngest

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UDC: 612.614.41+612.27

L 22339-66

ACC NR: AP6004834

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group of seals was 25 to 26°, temperature for slightly older seals was 17 to 18°, and the temperature for the oldest seals was 11 to 12°. The seals were allowed to rest on their backs on the water for 10 to 15 min prior to submersion. The seals were lowered into the tank on a special stand in which the front and back flippers and head were free to move. Respiration and gas exchange were investigated according to Douglas and Holden's methods (not described). The youngest seals were submerged for 1 and 3 minute periods and older seals were submerged for periods up to 10 min. The oxygen demand of the youngest seals was reduced (51 to 83%) with 1 and 3 minutes of submersion, while that of the older seals was increased (108 to 160%) for corresponding periods. The oxygen demand of older seals was sharply reduced (43 to 66%) with prolonged submersion of 5 to 10 minutes. Maximum compensation (70 to 80%) for oxygen deficit occurred during the first minute for all seal age groups regardless of submersion period duration, and the oxygen consumption level was completely restored within the first 3 minutes. However, the level of carbon dioxide given off by the seals was restored to normal in only about 10 minutes. Increased lung ventilation due to increased respiration frequency and respiration volume appears to be the main mechanism responsible for rapid supply of oxygen in seals following submersion. Orig. art. has: none.

SUB CODE: 06/ SUBM DATE: 05Jun64/ ORIG REF: 004/ OTH REF: 005

Card 2/2002

ACC NR: AF6004513

(A)

SOURCE CODE: UR/0334/85/000/010/0013/0015

AUTHOR: Domidov, P.; Sklyarenko, A.; Orlova, V.

ORG: Odessa Technological Institut im. M. V. Lomonosov (Odesskiy tekhnologicheskii institut)

TITLE: Effect of hydrothermal treatment of maize grain on quality and storability of corn meal and corn seed

SOURCE: Makomol'no-elevatornaya promyshlennost', no. 10, 1965, 13-15

TOPIC TAGS: food technology, food preservation, water vapor, thermal process, processed plant product

ABSTRACT: A new method is described and figured for more efficient removal of the lipid-rich germ from the kernel, thus avoiding rancidness of the ground corn and permitting processing of the seed for oil production. Successive operations consist of hydrothermal treatment, hulling the grain, three-fold grinding by rollers with perpendicularly arranged grooves, and separation of the seed. Tests were conducted on 2 different varieties of corn. For a moisture content of up to 14% in the kernel, a vapor pressure of 2 atm and exposure of 6-7 minutes was found optimal; for moisture above 14%, 1.5 atm for 1-2 minutes was optimal. Heat and humidity weaken the bond between germ and endosperm, permitting easier separation during grinding, and the

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UDC: 664.784.3+664.784.8.03

ACC NR: AF6004513

procedure results in a 7.5-7.8% increase in overall yield, 16% more seed, less lipid and ash content in the meal, increase in water-soluble substances, improved quality, shorter cooking period, and better aroma and color of the mush prepared from the grinds. Hulling increased yield by 4% and seed lipid content by 3-4%. Upon storing the seed for 3 months at 18-25 C, the acid number of the vapor-treated seed increased to a lesser degree than that of untreated seed. This process is thus judged to have a favorable effect on the quality of the lipids in the end products and on the seed and its stability under storage. Orig. art. has: 2 figures and 6 tables.

SUB CODE: 06,13/SUBM DATE: none

Card 2/2

SKLYARENKO, A.A.

Experience in the operation of Deitz engines. Biul. tekhn.-ekon. inform.  
Tekhn. upr. Min. mor. flota 7 no.6:29-38 '62. (MIRA 16:4)

1. Starshiy mekhanik teplokhoda "Sivash".  
(Marine diesel engines)

ZIL'BERT, I.S.; SKLYARENKO, A.N.; CHEFRANOV, V.V.

Ways of mechanizing stoping in mines No.101, 106, and 107 of  
the "Karagandaugol" Combine. Nauch. trudy KNIUI no.13:9-17  
'64 (MIRA 18:1)

SKLYARENKO, A.N., starshiy leytenant meditsinskoy sluzhby

Experience in the care of personnel of a ship during repair.  
Voenn.-med. zhur. no. 5:87-89 My '60. (MIRA 13:7)  
(NAVAL HYGIENE)

SKLYARENKO, A.N.

Portable anesthetic apparatus. Vest.khir. no.4:129-131 '61.  
(MIRA 14:4)

1. Iz kliniki voyenno-morskoy khirurgii (nach. - prof. A.A.  
Bocharov) Voyenno-meditsinskoy ordena Lenina akademii im.  
S.M. Kirova.

(ANESTHESIOLOGY—EQUIPMENT AND SUPPLIES)



SKLYARENKO, A. S.

Rybnoe khoziaistvo nashogo kolkhoza; rasskaz rybovoda kolkhoza im. Molotova Novo-Ukrainskogo raiona Kirovogradskoi oblasti /Fish economy of our collective farm; story of a fish breeder of the Molotov Collective Farm in Novo-Ukraina District, Kirovograd Province/. Kirovograd, Obl. gazetnoe izd-vo, 1952. 8 p.

SO: Monthly List of Russian Accessions, Vol. 6, No. 5, August 1953

SKLYARENKO, B.S., inzh.; SEMENOV, A.I., inzh.; DESYATUN, I.I., inzh.

Unit for feeding protein glue to glue-spreading rolls. Der. prom. 11 no.  
8:25-26 Ag '62. (MIRA 17:2)

1. Darnitskiy fanernyy zavod.

SKLYARENKO, B.S.

Unit for automatic feeding, mixing, and foaming of carbamide resins.  
Bum. i der. prom. no.3:37-38 J1-S '64.

(MIRA 17:11)

SKLYARENKO, D.L., inzh.; LUKANIN, D.D., inzh.

Making reinforced concrete products in open construction yards.  
Biul. stroi. tekhn. 12 no.5:4-6 My '55. (MIRA 11:12)  
(Precast concrete)

AUTHORS: Rogach, A.P., Ryzhikova, A.P. and Sklyarenko, D.V. <sup>SOV/133-59-1-22/23</sup>  
TITLE: The Influence of Annealing on Modified Ingot Moulds  
(Vliyaniye otzhiga na modifitsirovannyye izlozhnitsy)  
PERIODICAL: Stal', 1959, Nr 1, pp 92 - 93 (USSR)

ABSTRACT: In order to increase the durability of ingot moulds made from iron modified with 45% ferrosilicon, their annealing was tested. It was found that by annealing at 500-850 °C, a substantial decrease in casting stresses, decrease in hardness and a substantial modification in the micro-structure are obtained. As a result longitudinal cracks in annealed moulds appear only after 140-170 castings instead of after 50-60 castings. As longitudinal cracks may appear in annealed moulds after 100-110 castings, their annealing is recommended. In this way, the durability of moulds can be increased 2.5 times. Chemical compositions of the cast iron used for the experimental moulds are given in the text. The change in the micro-structure of metal on annealing is shown in Figures 1 and 2. There are 2 figures.

ASSOCIATION: Konstantinovskiy zavod im. Frunze (Konstantinovka  
Works imeni Frunze)  
Card1/1

SKLYARENKO, E.G.

Theorem on mappings lowering dimension. Bul Ac Pol mat 10  
no.8:429-432 '62.

1. Kafedra vysshey matematiki, Moskovskiy gosudarstvennyy  
universitet. Presented by P. Aleksandrov.

SKLYARENKO, I. A., Cand Tech Sci -- (diss) "Projected connections between two systems of orthogonal projects." Kiev, 1960. 12 pp; (Ministry of Higher and Secondary Specialist Education Ukrainian SSR, Kiev Construction Engineering Inst); 150 copies; free; (KL, 17-60, 159)

9

CA

Sources of methane emanation in mines of the Moscow Basin. I. P. Sklyarenko and B. A. Klepikov. *Izvestiya* No. 3, 22-24 (1951). The emanation of CH<sub>4</sub> from the working face of these mines is unlikely. Largest accumulation of CH<sub>4</sub> was found in old rooms, particularly in old rooms in which there was stagnant water. The source of the CH<sub>4</sub> was fermentation in such pools. M. Hosen



PEREPELITSA, V.K., inzhener; SKLYARENKO, I.P., inzhener.

~~Instrument used for controlling mine atmosphere composition.~~  
Instrument used for controlling mine atmosphere composition. Besep,  
truda v prem. 1 no.2:21-24 F '57. (MIRA 10:4)

1. Makeyevskiy nauchno-issledovatel'skiy institut po bezopasnosti  
rabot v gornoy promyshlennosti. (Mine dusts)  
(Mine gases)

SKLYARENKO, I.P., GRISHAYENKO, M.I., otv. red.; IL'INSKAYA, G.M., tekhn. red.;  
CHANTSEVA, G.M., tekhn. red.

[Hydrogen sulfide in coal mines and ways to control it] Sarovodorod  
v ugol'nykh shakhtakh i mery bor'by s nim. Moskva, Ugletekhizdat,  
1958. 28 p. (MIRA 11:11)

(Mine gases)

SKLYARENKO, I.P.; RASSOLOV, N.I.

Device for determining the quantity of settled coal dust.  
Biol. tekhn.-ekon. inform. no.10:5-6 '59. (MIRA 13:3)  
(Mine dusts--Measurement)

PEREPELITSA, Vladimir Konstantinovich; SKLYARENKO, Ivan Petrovich;  
USHAKOV, K.Z., otv.red.; OKHRIMENKO, V.A., red.izd-va;  
IL'INSKAYA, G.M., tekhn.red.

[Control of mine air composition by means of portable devices]  
Kontrol' sostava rudnichnoi atmosfery perenosnymi priborami.  
Moskva, Gos.nauchno-tekhn.izd-vo lit-ry po gornomu delu, 1960.  
49 p. (MIRA 13:5)

(Mine ventilation) (Gas detectors)  
(Dust collectors)

SKLYARENKO, I.P.; KRIVITSKIY, M.D.; KRIGMAN, F.Ye.; BURTSEV, Ye.F.

Reflective beta-ray thickness gauge (ROTOP-3A) for precipitated  
coal dust for use in mines. Atom. energ. 11 no.3:282-284 S '61.  
(MIRA 14:9)

(Coal mines and mining--Safety measures)  
(Mine dusts)

IKLYARENKO, I. P., KUVITSKIY, M. D., and KHOMAN, F. Ye.

"The Method of Analyzing Ternary Mixtures in an Ionization Gas Analyzer"

paper presented at the All-Union Seminar on the Application of  
Radioactive Isotopes in Measurements and Instrument Building,  
Frunze (Kirgiz SSR), June 1961)

So: Atomnaya Energiya, Vol 11, No 5, Nov 61, pp 468-470

RASSOLOV, N.I.; SKLYARENKO, I.P.

Developing a way of controlling the deposition of coal dust in  
mine workings. Vop. bezop. v ugol'. shakh. 13:219-240 '62.  
(MIRA 16:5)

(Mine dusts)

S/0032/64/030/001/0067/0069

ACCESSION NR: AP4015325

AUTHORS: Sklyarenko, I. P.; Krivitskiy, M. D.; Krigman, F. Ye.

TITLE: Analysis of ternary mixtures in ionization gas analyzers

SOURCE: Zavodskaya laboratoriya, v. 30, no. 1, 1964, 67-69

TOPIC TAGS: gas analyzer, relative sensitivity, methane, carbon dioxide gas, radiation source, ternary mixture

ABSTRACT: Measuring the relative sensitivity of methane and carbon dioxide gas in air at various distances between the radiation source and the working volume shows that a ternary mixture analyzer is feasible in a single ionization chamber. It is also shown that one can define the methane concentration and the sum of concentrations of the two gases with equal sensitivity using  $\alpha$ - or  $\beta$ -ionization radiation. Orig. art. has: 8 equations and 2 figures.

ASSOCIATION: Makeyevskiy nauchno-issledovatel'skiy institut po bezopasnosti rabot v gornoy promyshlennosti (Makeyevka Institute for Scientific Research for Safe Operation of Mining Industries)

Card 1/1



SKLYARENKO, I. S.

SECRET  
Use at the discretion of the recipient  
A theorematization of simplified  
S. S.

S/075/60/015/003/032/033/XX  
B005/B066

AUTHOR: Sklyarenko, I. S.  
TITLE: Problems of Analytical Chemistry on the XVII International  
Congress on Pure and Applied Chemistry  
PERIODICAL: Zhurnal analiticheskoy khimii, 1960, Vol. 15, No. 3,  
p. 382

TEXT: On the XVII International Congress on Pure and Applied Chemistry  
which was held at the beginning of September 1959 in Munich, about 400  
reports were read in 10 sections. More than 40 reports were devoted to  
different problems of analytical chemistry. Most of the studies on  
analytical chemistry dealt with the determination of traces of impurities  
in different compounds and pure metals. Of particular interest was an  
investigation on the determination of impurities in the production of  
high-purity metals and semiconductive materials. In this report special  
emphasis was placed on the radiometry and the emission-spectrophotometry  
after chemical enrichment of the impurities to be determined as highly  
sensitive methods for the determination of trace amounts. Another report  
Card 1/3

Problems of Analytical Chemistry on the  
XVII International Congress on Pure and  
Applied Chemistry

S/075/60/015/003/032/033/XX  
B005/B066

was concerned with the method of the "suspended drop" for the determination of minor impurities in metals. The sensitivity of this method is for some ions by 3-4 orders of magnitude higher than the sensitivity of the usual polarographic determinations. The special value of this method lies in the fact that the impurities need not be enriched prior to determination. In the section of the chemistry of actinides and lanthanides a novel photometric method was described for the determination of tetravalent cerium by means of sulfosalicylic acid. This method permits the determination of 5  $\mu$ g cerium; manganese and iron interfere. Another report was read on the separation of plutonium, uranium and their cleavage products by ion exchange, which had been carried out for the first time. Further lectures dealt with the following problems: separation of minute quantities of lanthanides from large quantities of americium and curium by using an anionite in the presence of LiCl; separation of iron from the lanthanides and thorium from hydrochloric acid medium in a strongly basic anionite; separation of thorium, uranium and rare earths by complex formation on a cation exchange resin. A comparatively small number of lectures was concerned with the separation of elements by means of extraction. A report

Card 2/3

Problems of Analytical Chemistry on the  
XVII International Congress on Pure and  
Applied Chemistry

S/075/60/015/003/032/033/XX  
B005/B066

dealt with the separation of rare earths by extraction in the liquid phase with different solvents, a further lecture reported on the separation of lanthanides from the actinides by complexing with dibutyl phosphate. A number of lectures were devoted to the investigation of complex compounds. A lecture dealt with the determination of copper and silver by redox titration with the potassium salt of diperiodato-cuprate, and of per-argenate, respectively, as strong oxidizing agents. The lectures of the Soviet scientists I. V. Tananayev and D. I. Ryabchikov were concerned with the complex formation of rare earth metals. The delegates of the congress became acquainted with the organization of analytical chemical teaching at the Munich University and at the Higher Polytechnic School and visited several research laboratories in the two mentioned institutes. ✓

Card 3/3

5.5200

25051  
S/075/61/016/004/001/004  
B107/B207

AUTHORS: Sklyarenko, Yu. S., Sklyarenko, I. S., and Chubukova, T. M.

TITLE: Application of thermogravimetry in analytical chemistry.  
Information 3. Thermogravimetric study of lanthanum carbonate

PERIODICAL: Zhurnal analiticheskoy khimii, v. 16, no. 4, 1961. 417 - 424

TEXT: This is a study of the thermal behavior of lanthanum carbonate precipitated from lanthanum chloride solutions with alkali carbonate. 1 N, 0.1 N, and 0.01 N solutions of lanthanum chloride were prepared from pure lanthanum oxide. Lanthanum carbonate was precipitated herefrom with potassium carbonate, and the precipitate thermogravimetrically analysed. The formula  $La_2(CO_3)_3 \cdot n H_2O$  of the precipitate is shown in Fig. 1; the anhydrous carbonate  $La_2(CO_3)_3$  is stable between 300 and 400°C. The plateau between 550 and 675°C corresponds to the compound of the empirical molecular formula  $La_2O_3 \cdot CO_2$ . The course of the curve shows, however, variations: The curves for the precipitates from concentrated solutions are higher and washing of the precipitate with water entails a considerable fall of the curve.  
Card 1/5

25051

S/075/61/016/004/001/004

B107/B207

J

Application of thermogravimetry ...

The best way of explaining these effects would be by hydrolysis; in this case, however, a higher precipitation temperature should cause a considerable effect. This is not the case: the behavior of a precipitate obtained from 0.01 N solution at 60 - 70°C corresponds exactly to curve (3). A second possibility is that potassium chloride is co-precipitated. If, instead of potassium carbonate, ammonium carbonate is used for precipitation, thermogravimetric analysis reveals a similar behavior of the precipitates (Fig. 3). Therefore, it is proved that the composition of the precipitates is independent of concentration (Ref. 8: Preiss I., Dussik A., Z. anorg. Chem. 131, 275 (1923)). Further studies showed that the compound of the empirical molecular formula  $La_2O_3 \cdot CO_2$  is suitable for weighing in gravimetric determinations. Ammonium carbonate serves as precipitating agent, the precipitate is annealed at 600°C. There are 3 figures, 2 tables, and 18 references: 7 Soviet-bloc and 11 non-Soviet-bloc. The four references to English-language publications read as follows: Quill L. L., Salutsky M. L., *Analyt. Chem.* 24, 1453 (1952); Salutsky M. L., Quill L. L., *J. Amer. Chem. Soc.* 72, 3306 (1950); Ballou N. E., National Nuclear Energy Series Manhattan Project Technical Section, Div. IV, Vol. 9, Book 3, paper 296, p. 1706.

Card 2/5

25051

S/075/61/016/004/001/002

E107/B207

Application of ...

N. Y. Toronto, Ld. Mc Graw-Hill company; 1951; Duval C., Inorganic Thermo-  
gravimetric Analysis, London, 1953.

ASSOCIATION: Institut geokhimii i analiticheskoy khimii im. V. I.  
Vernadskogo AN SSSR, Moskva  
(Institute of Geochemistry and Analytical Chemistry imeni V. I.  
Vernadskiy AC USSR, Moscow)

SUBMITTED: July 22, 1960

Card 3/5

SKLYARENKO, I.S.; CHUBUKOVA, T.M.

Thermogravimetry in analytical chemistry. Report No.4:  
Thermogravimetric study of plutonium (IV) iodate. Zhur.anal.  
khim. 18 no.4:492-495 Ap '63. (MIRA 16:6)

1. V.I.Vernadsky Institute of Geochemistry and Analytical  
Chemistry, Academy of Sciences, U.S.S.R., Moscow.  
(Plutonium compounds)  
(Chemistry, Analytical—Quantitative)



L 26925-65 EWT(m)/EWP(t)/EWP(b)/EWA(h) Feb JD  
ACCESSION NR: AP5006977

S/0075/65/020/001/0140/0141

AUTHOR: Sklyarenko, I. S.; Ustinov, V. I.

37  
23  
B

TITLE: Moscow seminar on analytical chemistry

SOURCE: Zhurnal analiticheskoy khimii, v. 20, no. 1, 1965, 140-141

TOPIC TAGS: chemical conference, chemical laboratory apparatus, microchemical analysis, isotope, automation, mass spectroscopy, analytic chemistry A

ABSTRACT: Regular sessions of the Moscow Seminar on Analytical Chemistry were held on 1 and 15 September 1964 at the Vernadskiy Institute of Geochemistry and Analytical Chemistry. The two sessions were devoted to instrumental methods of analysis and to mass-spectroscopic analysis of pure substances, respectively.

Two papers were presented at the first session:

P. N. Paley (Institute of Geochemistry, Academy of Sciences SSSR). Instrumental methods of analysis. A review of the state-of-the-art. The author concluded that a close collaboration between chemists and

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ACCESSION NR: AP5006977

designers of instruments and improvements in the field of information exchange are necessary for progress in automation. 8

V. A. Zarinskiy, A. F. Volkov, V. A. Ryabukhin, V. A. Yanchevskiy, and V. K. Chernoy (Institute of Geochemistry, Academy of Sciences SSSR ). Automatic, self-recording, high-frequency titrator. The authors introduced a new titrator divided into separate blocks, which makes it suitable for wide dissemination.

The following papers were presented at the second session:

M. S. Chupakhin (Institute of Geochemistry, Academy of Sciences SSSR ). Determination of  $10^{-12}$  —  $10^{-9}\%$  solid or gaseous impurities in ultrapure substances by the mass-spectroscopic method of isotope dilution using a spark as the ionic source. The author has been working on a method of recording  $10^{-7}$  —  $10^{-4}\%$  oxygen and nitrogen in pure substances. The method involves a precision recording of the isotope ratio simultaneously with the vacuum melting and isotope dilution. The anticipated error would not exceed 10% for limiting concentrations.

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ACCESSION NR: AP5006977

G. G. Glavin (Institute of the Rare Metals Industry). Mass-spectroscopic method for the study of the distribution of microimpurities in solids and the determination of surface impurities. A mass spectroscope with resolution from several hundreds to tens of thousands of angstroms was used with a spark ionic source. A 12- $\mu$  wide p-n junction in silicon was determined at a 2- $\mu$  resolution. Periodicity in the distribution of iron, silicon, calcium, and chromium impurities in rhenuim single crystals was shown at a 30- $\mu$  resolution. Fractions of the monolayer of a thin film were recorded on the surface of the substrate, making it possible to distinguish structural impurities from those introduced during the etching. 6

Yu. A. Karpov (Institute of the Rare Metals Industry). High-sensitivity method of oxygen determination in titanium using a mass spectroscope with a spark ionic source. A correlation was established between the yield of polyatomic TiO complexes (clusters) and the oxygen content, which was determined by vacuum melting and isotope dilution. The theoretical sensitivity of the mass-spectroscopic oxygen determination in titanium was estimated to be about  $1 \times 10^{-5}\%$  with 30% accuracy.

Card 3/4

L 26925-65  
ACCESSION NR: AP5006977

ASSOCIATION: none

SUBMITTED: 00

NO REF SOV: 000

ENCL: 00

OTHER: 000

SUB CODE: GC

ATD PRESS: 3185-F

Card 4/4

L 54472-65 EWT(m)/EPF(n)-2/EWP(j)/T/EWP(t)/EWP(b) Ps-4/Pu-4 IJP(c)  
JD/WW/JG/GS/RM

ACCESSION NR: AT5013649

UR/0000/65/000/000/0147/0152  
543.253;546.791

31  
8x)

AUTHOR: Paley, P. N.; Gusev, N. I.; Skiyarenko, I. S.; Chulukova, T. M.

TITLE: Polarographic determination of uranium in nitric acid media containing tri-n-butyl phosphate. Part 1. Polarography in weakly acidic media

SOURCE: AN SSSR. Otdeleniye obshchey i tekhnicheskoy khimii. Radiokhimicheskiye metody opredeleniya mikroelementov (Radiochemical methods for determining trace elements); sbornik statey. Moscow, Izd-vo Nauka, 1965, 147-152

21

TOPIC TAGS: polarography, uranium determination, tributyl phosphate, nitric acid concentration, gelatin

ABSTRACT: The object of this study was to determine the cause of the influence of tributyl phosphate (TBP) on the polarographic reduction of U(VI), so that optimum conditions for determining U(VI) could be selected. A dropping mercury electrode and an IR-55A polarograph were used. The uranyl ion was analyzed polarographically.

active properties  
interference of TBP can be eliminated by introducing a gelatin solution, which

Card 1/2

ASSOCIATION: None

SUBMITTED: 16Mar64

NO REF SOV: 002

ENCL: 00

SUB CODE: IC, CP

OTHER: 005

*BBB*  
Card

2/2

L 54473-65 EWT(m)/EPF(n)-2/ENP(j)/T/ENP(t)/ENP(b) Pc-5/Pu-4 IJP(c)  
JD/WW/JG/GS/RM

ACCESSION NR: AT5013650

UR/0000/85/000/000/0153/0156  
543.253:540.791

31  
221

AUTHOR: Paley, P. N.; Gusev, N. I.; Sklyarenko, I. S.; Chubukova, T. M.

TITLE: Polarographic determination of uranium in nitric acid media containing tri-n-butyl phosphate

SOURCE: AN SSSR. Otdeleniya obshchey i tekhnicheskoy khimii. Radiokhimicheskiye metody opredeleniya mikroelementov (Radiochemical methods for determining trace elements); sbornik statey. Moscow, Izd-vo Nauka, 1965, 153-156

TOPIC TAGS: polarography, uranium determination, tributyl phosphate, nitric acid concentration

ABSTRACT: The article points out the advantages of the polarographic determination of U(VI) in moderately concentrated (2.0 N) nitric acid solutions as compared to weakly acidic media (~ 0.3 N HNO<sub>3</sub>). The presence of 0.02-0.035% gelatin eliminates the influence of tributyl phosphate (TBP) on the wave of U(VI) and raises the permissible concentration of acidity (from 1.5 to 2.0 when there is a considerable fluctuation of acidity) with a three- or five-



N HNO<sub>3</sub>), the determination should be made using a  
fold volume of 1.75 N HNO<sub>3</sub>. Moderately concentrated HNO<sub>3</sub> solutions are used  
Card 1/2

... SOLUTIONS. ORIG. ART. HAS: 5 figures.

ASSOCIATION: None

SUBMITTED: 16Mar64

NO REF SOV:001

ENCL: 00

OTHER: 001

SUB CODE: IC, 00

*BBB*

2/2

Card

L 51000-65 EPA(s)-2/EWT(m)/EPF(n)-2/EWP(o)/EWP(z)/EWP(b) Pad/Pt-7/Pt-4

IJP(c) JD/vw/hw/jg

ACCESSION NR: AP5013247

UR/0226/65/000/005/0024/0028

AUTHOR: Yeremenko, V. N.; Nizhenko, V. I.; Sklyarenko, L. I.

38  
37  
6

TITLE: Density and free surface energy of liquid alloys of the nickel-chromium system

6 27 27

SOURCE: Poroshkovaya metallurgiya, no. 5, 1965, 24-28

TOPIC TAGS: nickel chromium system, nickel alloy, chromium containing alloy, liquid alloy density, liquid alloy free surface energy, density temperature dependence, surface energy temperature dependence, surface energy concentration dependence

ABSTRACT: The temperature and concentration dependence of the free surface energy and density of liquid Ni-Cr alloys containing from 10 to 60 at% Cr at temperatures up to 1650C have been investigated. The temperature dependence of the density, and the composition dependence of specific volume at 1600C were found to be roughly linear. These data and the alloys' density showed that the specific volumes of liquid and solid Ni-Cr alloys follow the additivity rule. Chromium decreases the free surface energy of liquid alloys, particularly at chromium contents exceeding 10 at%. The curve of composition dependence of free energy at 1600C has a minimum at Cr concentrations of about 50 at%, which is explained, however, by the presence of the products of reaction between the melt and the aluminum oxide of the crucible. Orig. art. has: 5 figures.

Card 1/2

L 51000-65

ACCESSION NR: AP5013247

ASSOCIATION: Institut problem materialovedeniya AN UkrSSR (Institute of Problems  
of the Science of Materials, AN UkrSSR)

SUBMITTED: 16May64

ENCL: 00

SUB CODE: MM

NO REF SOV: 006

OTHER: 003

ATD PRESS: 4014

Card *pr* 2/2

L 50998-65 EWP(e)/EPA(s)-2/EWT(m)/EPF(c)/EWP(i)/EPF(n)-2/EWP(v)/EPR/EPA(w)-2/  
T/EWP(t)/EWP(z)/EWP(b) Pad/Pt-7/Pu-4 IJP(c) JD/WW/HM/JG/JH  
UR/0226/65/000/005/0029/0034  
ACCESSION NR: AP5013248

AUTHOR: Yeremenko, V. N.; Nizhenko, V. I.; Sklyarenko, L. I.

54  
51  
B

TITLE: Wetting aluminum oxide by chromium-nickel melts

SOURCE: Poroshkovaya metallurgiya, no. 5, 1965, 29-34

TOPIC TAGS: chromium alloy, nickel containing alloy, molten alloy, aluminum oxide, aluminum oxide wetting, contact angle, contact angle time dependence, contact angle temperature dependence, contact angle composition dependence

ABSTRACT: The dependence of time, temperature, and concentration on the contact angle ( $\theta$ ) in wetting recrystallized, poreless, aluminum-oxide substrates by chromium-nickel melts containing 0-80 at% Cr has been investigated at temperatures up to 1660C. For pure nickel at a constant temperature,  $\theta$  decreased from 120 to about 100 deg during the first 70 min and then slightly increased with time. With increasing temperature,  $\theta$  decreased from about 114 to 103 deg at 1460 and 1520C, respectively, and remained constant with a further increase in temperature. For the melt containing 10 at% Cr at 1460C,  $\theta$  sharply dropped from 110 to 90 deg in the first moments and did not change subsequently with either time or increasing temperature. The  $\theta$  of the melt containing 30 at% Cr decreased continuously with both the time and temperature and was 83 deg at 1640C. In melts containing 40, 54, and  
Card 1/2

L 50998-65

ACCESSION NR: AP5013248

3

60 at% Cr,  $\theta$  reached a constant value more rapidly and was greater (90 deg at 1650C) than in melts with a lower Cr content. Thus, in the Cr-Ni melt- $Al_2O_3$  system, Cr-Ni alloys containing up to 30% Cr have the highest adhesion characteristics and are the best binding materials for sintered metal- $Al_2O_3$  cermets. Since a nichrom with 30 at% Cr on an aluminum-oxide substrate has a contact angle smaller than 90 deg, it can be used for impregnation of  $Al_2O_3$  cermets. The calculated values of the free interphase energy and of the work of adhesion indicate that, depending on the composition of a Ni-Cr melt, the bond between the melt and  $Al_2O_3$  is effected by the formation of intermediate compounds in the contact zone and of solid solutions. The experimental data showed that the most favorable conditions for the formation of strong bonds in sintered materials of the nichrom-aluminum oxide type exist in a Ni-Cr melt containing 20-30 at% Cr. Orig. art. has: 10 figures and 1 table.

[MS]

ASSOCIATION: Institut problem materialovedeniya AN UkrSSR (Institute of Problems of the Science of Materials, AN UkrSSR)

SUBMITTED: 20Jun64

ENCL: 00

SUB CODE: M4

NO REF SOV: 003

OTHER: 006

ATD PRESS 4014

Card <sup>sh</sup> 2/2

L 61922-65 EPA(s)-2/EWI(m)/EPF(n)-2/EWA(d)/T/ENP(t)/ENP(b)/EPF(c)  
Pt-7/Pu-4 JD/WI/JW/JG/WB

UR/0226/05/000/006/0036/0041

ACCESSION NR: AP5016035

AUTHOR: Nizhenko, V. I.; Yeremenko, V. N.; Sklyarenko, L. I.

TITLE: Use of the lying drop method for determining surface energies and densities of liquids which wet a base material

SOURCE: Poroshkovaya metallurgiya, no. 6, 1965, 36-41

TOPIC TAGS: metal physics, metal surface, surface property, free energy, density determination, copper, high temperature

ABSTRACT: Free surface energies and densities of liquids were determined as a function of temperature, for Cu and CaF<sub>2</sub>, by the lying drop method. Instead of using the equatorial diameter in the measurements, wetting angles for Mo substrates ( $\theta < 90^\circ$ ) were successfully utilized. The liquid drops had to be specially prepared in order to facilitate angle determination. Calibration was done by using ethyl alcohol and vacuum oil and a linear relationship was found between the edge of the Mo base and the maximum angle of the liquid with the horizontal. Photographs are shown of the liquids lying on the base. Using the appropriate angle of wetting, surface free energies were obtained for pure Cu at 1120 and 1500°C, as well as for

Card 1/2

L 61922-65

ACCESSION NR: AP5016035

CaF<sub>2</sub> in the 1420-1560°C temperature range. At 1500°C, the numerical value of the free energy for Cu was 1283 joule-mol/m<sup>2</sup>, which compared favorably with the literature value. All of the experiments were carried out in a helium atmosphere. Data for CaF<sub>2</sub> was tabulated, and also agreed well with published results. The density of the liquids at these same temperatures was measured. Extraneous effects due to diffusion, evaporation, and base metal attack proved to be ineffective in grossly changing the test parameters. The lying drop method was shown to be a general purpose method for determining free surface energies and densities. Orig. art. has: 6 figures, 1 table.

ASSOCIATION: Institut problem materialovedeniya AN UkrSSR (Institute of Problems in the Study of Materials, AN UkrSSR)

SUBMITTED: 01Jun64

ENCL: 00

SUB CODE: GP, MM

NO REF SOV: 011

OTHER: 002

Card 2/2 *gib*



Z 60029-65 EPA(a)-2/EWT(m)/EPE(e)/EPP(n)-2/ANA(d)/EMP(t)/EMP(z)/EWP(D)  
Psd/Pt-7/Pu-4 ISP(e) JD/vw/hw/jg/wb

ACCESSION NR: AP5018277

UR/0226/65/000/007/0080/0083

AUTHOR: Yeremenko, V. N.; Nizhenko, V. I.; Sklyarenko, L. I.

5/  
4/  
8

TITLE: The effect of zirconium on the surface properties of liquid nickel at the melt-gas and the melt-solid aluminum oxide boundaries

SOURCE: Poroshkovaya metallurgiya, no. 7, 1965, 80-83

TOPIC TAGS: dispersion strengthened alloy, nickel alloy, aluminum oxide containing alloy, zirconium containing alloy, alloy free surface energy, alloy contact angle, wetting, aluminum oxide wetting

ABSTRACT: The effect of 0.5-6.5% zirconium additions on the free surface energy ( $\sigma$ ) of 99.99%-pure liquid nickel and on its contact angle ( $\theta$ ) in wetting a recrystallized aluminum substrate has been investigated in vacuum and in a hydrogen atmosphere at temperatures up to 1600C. The specific volumes of the solid and liquid alloys were found to increase linearly with increasing zirconium content. Zirconium caused only a slight decrease in  $\sigma$ , which at all zirconium contents decreases with increasing temperature. Zirconium reduces  $\theta$ , sharply decreases the free interphase energy of nickel at the nickel-aluminum oxide boundary, and increases the work of adhesion. For example, 6.5 at% Zr increased the work of adhesion to 2575 MJ/m<sup>2</sup>, compared to 774 MJ/m<sup>2</sup> for pure nickel. Thus, zirconium can be recom-

Card 1/2

L 60029-65  
ACCESSION NR: AP5018277

mended as an interphase-active additive for obtaining a stronger bond between the metallic matrix and a refractory component in sintered materials of the Ni-Al<sub>2</sub>O<sub>3</sub> type and in nickel-base alloys dispersion-strengthened with refractory oxides. Orig. art. has: 5 figures and 1 table. [MS]

ASSOCIATION: Institut problem materialovedeniya AN UkrSSR (Institute of the Problems of the Science of Materials, AN UkrSSR)

SUBMITTED: 16May64

ENCL: 00

SUB CODE: MM

NO REF SOV: 006

OTHER: 001

ATD PRESS: 4058

Card 2/2 *TOP*

L 54505-65 EPA(s)-2/ENT(m)/EPF(n)-2/ENP(t)/EWP(b) Pt-7/Pu-4 IJP(c)

JD/WW/JG

ACCESSION NR: AP5014306

UR/0073/65/031/006/0459/0563

669.871-154 : 532.14 : 532.61

AUTHOR: Nizhenko, V. I.; Sklyarenko, L. I.; Yeremenko, V. N.

38  
37  
0

TITLE: Surface free energy and density of liquid gallium as a function of temperature

SOURCE: Ukrainskiy khimicheskiy zhurnal, v. 31, no. 6, 1965, 559-563

TOPIC TAGS: gallium, surface tension, density, liquid metal, adhesion

ABSTRACT: The available information on the temperature dependence of the density and the surface free energy of liquid gallium is very limited, consequently, an investigation of these properties was undertaken in a broad temperature range. The density of the liquid gallium and the wetting angles between the surface of polycrystalline alumina and gallium were determined on the set-up described previously [Ukr. khim. zh. 26, 423, (1960)]. Polytherms were obtained in both directions, by heating and by cooling the specimens. It was found that surface free energy for liquid gallium is not a linear function of temperature. After the least square fit, the data for the surface free energy of liquid gallium as a function of temperature

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may be described by the following equation in the 303-1773°K range

$$\sigma = 708 - 0.0031(T - 302.93) - 0.000067(T - 302.93)^2$$

The nonlinear temperature dependence of the surface free energy of liquid gallium results from structural changes which occur in liquid gallium during temperature increase. The decrease in the specific volume of gallium during melting indicates an increase in the coordination number during transition from solid to liquid. The density of liquid gallium from the melting point to 1720°K can be expressed by the following relationship:

$$\rho = 6.08 - 0.00006(T - 302.93)$$

From the relationship between density and temperature, critical values were found for density, temperature and pressure. On the basis of wetting angle studies, the temperature dependence of the energy of adhesion between liquid gallium and polycrystalline alumina can be expressed by  $W_a = \sigma(1 + \cos \theta)$ . In the 300-1270°K region the energy of adhesion is nearly independent of temperature. With a further increase in temperature,  $W_a$  sharply increases and at high temperatures the rate of increase in  $W_a$  decreases. This is due to the chemical interaction at the liquid gallium-alumina interface. Intense chemisorption of liquid gallium on the alumina

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L 54505-65

ACCESSION NR: AP5014306

surface begins at  $\sim 1350^{\circ}\text{K}$ . A further increase in temperature reduces the rate of increase in  $W_a$  due to surface saturation. Orig. art. has: 3 figures and 1 table.

ASSOCIATION: Institut problem materialovedeniya AN UkrSSR (Materials Research Institute, AN UkrSSR)

SUBMITTED: 30Dec63

ENCL: 00

SUB CODE: GC, HM

NO REF SOV: 009

OTHER: 003

*lit*  
Card 3/3

L 34084-66 EWT(m)/T/EWP(t)/ETI LIF(c) JD/WW/JH/HW/JG  
ACC NR: AP6025520 SOURCE CODE: UR/0370/66/000/002/0183/0192

AUTHOR: Yeremenko, V. N. (Kiev); Nishenko, V. I. (Kiev); Sklyarenko, L. I. (Kiev) 64  
13

ORG: none

TITLE: Surface tension and density of molten alloys of the system Ni-Ga and their miscibility with Al sub 2 0 sub 3 16

SOURCE: AN SSSR. Izvestiya. Metally, no. 2, 1966, 188-192

TOPIC TAGS: surface tension, molten metal, nickel alloy, gallium alloy, aluminum oxide, alloy phase diagram, metal property, specific density, specific volume 16

ABSTRACT: This report shows that of the isotherm of free surface energy ( $\sigma$ ) of molten alloys of the system Ni-Al there is a clearly pronounced point of inflection corresponding in composition to the congruently melting intermetallide NiAl. Gallium is an analog of aluminum and therefore it was of interest to study the surface properties of the Ni-Ga system and to compare them with the phase diagram.

The temperature and concentration relationships of the density of alloys in the Ni-Ga system were determined. It was established that specific volumes of alloys both in the molten and in the solid states differ sharply from additive values.

The temperature and concentration relationships of the free surface energy of molten alloys in the Ni-Ga system were studied.

It was shown that the isotherm plotted from experimental data passes

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ACC NR: AP6025520

considerably above that calculated for an ideal solution. This evidences the negative departure of the system examined from ideality.

The isotherm of  $\sigma$  for the Ni-Ga system has a more flattened appearance compared to the isotherm of  $\sigma$  for alloys in the Ni-Al system, which is accounted for by the significant dissociation of intermetallides in the molten state in this system.

The temperature dependence of the regional corner of miscibility with alloys in the Ni-Ga system of polycrystalline specimens of aluminum oxide was studied. The presence of "thresholds of miscibility" on miscibility polytherms is accounted for by the intensified chemical reaction at the interface with increase in temperature. Orig. art. has: 6 figures, 4 formulas and 1 table. [JPRS: 36,774]

SUB CODE: 11, 20 / SUBM DATE: 11Nov64 / ORIG REF: 005 / OTH REF: 002

Card 2/2

ACC NR: AR0035409

SOURCE CODE: UR/0137/66/000/009/A008/A008

AUTHOR: Mizhenko, V. I.; Yeremenko, V. I.; Sklyarenko, L. I.

TITLE: Use of the lying drop method to determine the surface energy and density of liquids that wet the substrate material

SOURCE: Ref. zh. Metallurgiya, Abs. 9A51

REF. SOURCE: Sb. Poverkhnostn. yavleniya v rasplavakh i vznikayushchikh iz nika tverd. fazakh. Hal'chik, 1965, 211-215

TOPIC TAGS: surface property, liquid property, surface energy, fluid density measurement, calcium fluoride, copper

ABSTRACT: It is shown that the lying drop method can be used for an exact determination of the surface energy and density of liquids by forced formation of a symmetrical drop of the wetting liquid on a substrate even at contact angles less than  $45^\circ$ . The method was verified on  $\text{CaF}_2$  and Cu. The data obtained agree with the earlier determinations. 4 illustrations. Bibliography, 11 titles. (From RZH Fiz.) [Translation of abstract]

SUB CODE: 20, 11

Card 1/1

UDC: 669-154:532.61



ACC NR: AR6035408

SOURCE CODE: UR/0137/66/000/009/A007/A007

AUTHOR: Yeremenko, V. N.; Nizhenko, V. I.; Sklyarenko, L. I.

TITLE: Surface properties of chrome-nickel alloys

SOURCE: Ref. zh. Metallurgiya, Abs. 9A44

REF. SOURCE: Sb. Poverkhnost. yavleniya v rasplavakh i voznikayushchikh iz nikh tverd. fazakh. Mal'chik, 1965, 297-301

TOPIC TAGS: surface property, surface tension, nichrome alloy, temperature dependence, molten metal

ABSTRACT: The surface tension  $\sigma$  and the density of nichrome alloys were investigated by the large-drop method in a helium atmosphere as a function of the temperature and concentration. The chromium reduces the  $\sigma$  of liquid Ni, especially when the chromium content exceeds 10 at.%. A minimum is observed on the isotherm of  $\sigma$  at concentrations near 50 at.% Cr. A study was made of the temperature and time dependence of the contact angle when  $Al_2O_3$  is wetted by molten nickel or Cr-Ni. The best adhesion characteristics in the Cr-Ni melt +  $Al_2O_3$  system is possessed by nichromes containing up to 30 at.% chromium; with further increase of the chromium content, the temperature at which the contact angle becomes minimal increases. Therefore nichromes containing up

UDC: 669.24'26-154:532.61

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ACC NR: AR6035408

to 30 at.% of chromium are the most suitable binders in cermets of the Me-Al<sub>2</sub>O<sub>3</sub> type up to 1550°. 5 illustrations. Bibliography, 9 titles. A. Granovskaya. [Translation of abstract]

SUB CODE: 20, 11

Card 2/2;

ACC NR: AR7000858

SOURCE CODE: UR/0058/66/000/009/E011/E011

AUTHOR: Yeremenko, V. N. ; Nizhenko, V. N. ; Sklyarenko, L. I.

TITLE: Temperature dependence of the free surface energy of molten iron

SOURCE: Ref. zh. Fizika, Abs. 9E92

REF SOURCE: Sb. Poverkhnostn. yavleniya v rasplavakh i vznikayushchikh iz nikh tverd. fazakh. Nal'chik, 1965, 287-292

TOPIC TAGS: temperature dependence, molten metal, carbonyl iron, free surface energy, surface energy

ABSTRACT: The surface tension ( $\sigma$ ) of molten iron in the 1540—1750C temperature range is measured by the lying-drop method. The object of the investigation was carbonyl iron, annealed in hydrogen at 1000—1200C and remelted in a  $10^{-4}$  mm Hg vacuum. Consideration of all possible measurement errors leads to the expression  $\sigma = 1856 \pm 2,3 - 0,23 \pm 0,02 (t - 1534)$ . The thermodynamic characteristics of the molten iron surface are computed from the data of  $\sigma$  and  $\frac{\partial \sigma}{\partial T}$ . A. Vertman. [Translation of abstract] [NT]

SUB CODE: 20/

Card 1/1

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Moscow 20 JUN 1956

ZOZULYA, Yu.A.; SKLYARENKO, N.I.

Significance of complement fixation reactions with the cysticercosis antigen in the diagnosis of cerebral cysticercosis [with summary in English, p. 64]. Vop.neirokhir. 22 no.5:28-33 S-0 '58.

(MIRA 12:1)

1. Ukrainskiy nauchno-issledovatel'skiy institut neyrokhirurgii.

(BRAIN, dis.

cysticercosis, complement fixation (Rus))

(CYSTICERCOSIS, diag.

brain, complement fixation (Rus))

(COMPLEMENT,

fixation in cerebral cysticercosis (Rus))

SKLYARENKO, N.K.

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KOD'YEVA, Z.P.; SKLYARENKO, N.K. [translator]

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(France—Steel—Metallurgy)

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YASHCHENKO, Z.A., inzh., referent; SKLYARENKO, N.K. [translator]

Planetary rolling mill for hot strip rolling (from  
"La metallurgia italiana," no.4, 1961). Met. i  
gornorud. prom. no.4:95 J1-Ag '62.  
(Italy--Rolling mills)

SKLYARENKO, N.K. [translator]

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FEDOROVSKIY, N.V., inzh.; SKLYARENKO, N.K. [translator]

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