

MUR, V.I.

Inner complex salts of azo compounds. II. Reaction of copper salts with some *O*-monoaminoazo compounds. *V. I. Mur, Zhur, Obshchei Khim.* 25, 374-80; *J. Gen. Chem. U.S.S.R.* 28, 855-7(1955)(Engl. translation); cf. *C.A.* 49, 9535k. — Coupling of appropriate diazo compds. with amines gave the desired *o*-aminoazo compds. which were converted to Cu complexes by the previously described method (*loc. cit.*). Cu complex of *o*-methoxyphenylazo-2-naphthylamine, $C_{21}H_{19}ON_2ClCu$, brown-red, m. 197°, is cleaved by H_2SO_4 , yielding the original azo dye, m. 132-3°, and treatment with aq. alc. NH_3 caused a loss of 2 Cl and 1 Cu atoms per 2 mols. of complex, yielding a 1:2 complex, obtained also from the azo compd. and ammoniate of $CuSO_4$ in aq. alc. medium. 1-Phenyl-3-methyl-4-(*o*-methoxyphenylazo)-5-aminopyrazole, yellow, m. 93.5-4.5°, treated in EtOH with $CuCl_2$ gave a 1:1 complex, $C_{21}H_{19}ON_2ClCu$, yellow-brown, decomp. 220°, which with alc. NH_3 yields the 1:2 complex. An azo compd. refluxed with the $CuSO_4$ ammoniate in aq. alc. and the complex pptd. by addn. of H_2O and extd. with hot EtOH gave the following Cu salt *o*-chlorophenylazo-2-naphthylamine, $(C_{21}H_{17}N_2Cl)_2Cu$, greenish, m. 128° (which corresponds to the m.p. of 2-(*o*-chlorophenyl-1,3,4,5-naphthotriazole); Cu salt from *o*-carbamethoxyphenylazo-2-naphthylamine, $C_{21}H_{19}O_2N_2Cu$, red-brown, does not m. up to 360°; Cu salt of *m*-carbamethoxyphenylazo-2-naphthylamine, $(C_{21}H_{19}O_2N_2)_2Cu$, brown, reverting on heating to the corresponding triazole; Cu salt of *p*-carbamethoxyphenylazo-2-naphthylamine, brown needles behaving as above; 2-(*o*-nitrophenyl)-1,2,3,4,5-naphthotriazole, m. 124.3-5°; 2-(*o*-chlorophenyl)-1,2,3,4,5-naphthotriazole, m. 128-3.5°; 2-(*o*-carbamethoxyphenyl)-1,2,3,4,5-naphthotriazole, m. 217.5-18.6°; 2-(*m*-carbamethoxyphenyl)-1,2,3,4,5-naphthotriazole, m. 160-50.7°; 2-(*p*-carbamethoxyphenyl)-1,2,3,4,5-naphthotriazole, m. 181.5-2.5°. When the Cu salt of the *o*-aminoazo compd. was refluxed 1 hr. with aq. alc. NH_3 and the ppt. was sepd. (the Cu complex could be identified in the ppt.) the residue obtained on evapn. of the soln. gave the triazole and the residue obtained on evapn. of the soln. analyzed for Cu, which gave a measure of the decompn. of the Cu complex. With the indicated substituents in the phenyl ring of arylazo-2-naphthylamines the following percentages of the complex were destroyed: H 7.9, *o*-MeO 2.9, *o*-Me 3.2, *o*-HO 3.7, *m*-MeO 3.7, *p*-MeO 4.5, *o*-Cl 1.9, *o*-O₂N 1.5, *m*-O₂N 1.5, *p*-O₂N 1.9. Thus the oxidation of *o*-aminoazo compds. to triazoles may proceed through the hydrazone forms of the starting materials. The degree of electrophilic nature of the substituent is directly related to the ease of this oxidation. The formation of the triazoles can also take place by direct oxidation of the azo compds. used initially, or those formed from the decompn. of the complexes initially formed. G. M. Kosolapoff

Mue V I

inner complex salts of azo compounds. III. Reaction of copper salts with some *o*-hydroxy and *o*-amino, *o*-alkoxy and *o*-aryloxy azoazo compounds. V. I. Nur (K. E. Voroshilov Inst. Org. Synthesis, Acad. Sci., Moscow). *Dokl. Akad. Nauk SSSR*, 1956, 126, 384-9 (1956); cf. C.A. 50, 2486. *o*-Hydroxy-*o*-alkoxy azo compounds form equimolar complexes with Cu salts, while the *o*-aryloxy analogs do not form such complexes. The equimolar complexes in basic media yield the 1:2 complexes, while in acid media the 1:1 complexes are decomposed to the initial azo compounds, the 1:2 complexes are also decomposed in this manner in acids but less rapidly. The technique of preparation was described earlier (cf. loc. cit., C.A. 49, 6185). The following complexes are described: Cu salt of *o*-ethoxyphenylazo-2-naphthol, $C_{16}H_{13}O_2N_2ClCu$, yellow-brown, does not melt up to 360° (H₂SO₄ yields the original azo comp., m. 137.5°; treatment with NH₄OH in dil. EtOH gave red-brown $(C_{16}H_{13}O_2N_2)_2Cu$, m. 244.5°); Cu salt of 1-phenyl-3-methyl-4-(*o*-ethoxyphenylazo)-5-pyrazolone, $C_{17}H_{15}O_2N_2ClCu$, yellow, decomp. 207-8°; Cu salt of *o*-ethoxyphenylazo-2-naphthylamine, $C_{16}H_{13}ON_2ClCu$, red, decomp. 177-8°; Cu salt of 1-phenyl-3-methyl-4-(*o*-ethoxyphenylazo)-5-aminopyrazole, $C_{17}H_{15}ON_2ClCu$, yellow, m. 188-7° (the azo compd., orange-yellow, m. 89.5-91°). Mixing alc. solns. of *o*-phenoxyphenylazo-2-naphthol and CuCl₂ gave a dark greenish Cu salt of *o*-phenoxyphenylazo-2-naphthol, $(C_{16}H_{11}O_2N_2)_2Cu$, m. 200°, which could not be converted to the 1:1 complex. The following could not be converted to the 1:1 complex: Cu salt of 1-phenyl-3-methyl-4-*o*-phenoxyphenylazo)-5-pyrazolone, $(C_{22}H_{17}Cl_2N_2)_2Cu$, brown, m. 213.5-16°; Cu salt of *o*-phenoxyphenylazo-2-naphthylamine, $(C_{16}H_{11}ON_2)_2Cu$, brown, m. 164.5°; Cu salt of *o*-amino-*o*-methoxyphenyl ether azo compd. with 2-naphthol, brown, decomp.

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 210. (C₁₆H₁₀O₂N₂)₂Cu (free azo compd., red, in. 197.6-3°).
 The basic reagents follow the following descending series of
 rate of conversion of the 1:1 complexes to 1:2 complexes:
 NH₄OH, NaOH, Na₂CO₃, NaHCO₃, AcONa, H₂O. The
 1:1 complexes with pyridine yield 1:2 complexes; ethanol-
 amine acts similarly. Heating *o*-methoxyphenylazo-2-
 naphthol with CuSO₄ in ethanolamine gave red-brown
 needles of Cu complex of *o*-hydroxyphenylazo-2-naphthol and
 ethanolamine, (C₁₆H₁₀O₂N₂)(C₂H₅ON)Cu. Prolonged action
 of pyridine or ethanolamine on *o*-methoxy- or ethoxyphenyl-
 azo-2-naphthol 1:1 Cu complex gave Cu complex of *o*-
 hydroxyphenylazo-2-naphthol, which with concd. H₂SO₄
 gave *o*-hydroxyphenylazo-2-naphthol, in. 193.5-4.5°.

G. M. Kosolapoff

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inner complex salts of azo compounds. 14. Reaction of copper salts with some *o*-hydroxy and *o*-amino-*o*-methylthio azo compounds. V. I. Mur (K. E. Voronilov Org. Intermed. and Dye Inst., Moscow). *Zhur. Obshch. Khim.* 26, 3208-12 (1954); cf. *C.A.* 51, 26037. — Reactions of *o*-hydroxy or *o*-amino thio azo compds. with CuCl_2 in EtOH and tetraaminocuprosulfate were performed as previously reported (*loc. cit.*). Thus were prepd.: 1:1 Cu salt, $(\text{C}_{17}\text{H}_{11}\text{N}_2\text{OS})\text{CuCl}_2$ of 1,2-(*o*-MeSC₆H₄N₂)C₆H₄OH (I), brown, decomp. 280°, and 2:1 salt, $(\text{C}_{17}\text{H}_{11}\text{ON}_2\text{S})_2\text{Cu}$, greenish brown, m. 221.6-2.8°; 1:1 salt of 1-phenyl-3-methyl-4-(*o*-methylthio-benzeneazo)-5-pyrazolone, $\text{C}_{17}\text{H}_{11}\text{ON}_2\text{SCuCl}_2$, green-yellow, decomp. 265°, and 2:1 salt, $(\text{C}_{17}\text{H}_{11}\text{ON}_2\text{S})_2\text{Cu}$, bluish, m. 208-9°; 1:1 Cu salt of 1-(*o*-methylthio-benzeneazo)-2-naphthylamine, $\text{C}_{17}\text{H}_{11}\text{N}_2\text{SCuCl}_2$, decomp. 193°, red-brown; 1:1 Cu salt of 1-phenyl-3-methyl-4-(*o*-methylthio-benzeneazo)-5-aminopyrazole, $\text{C}_{17}\text{H}_{11}\text{N}_2\text{SCuCl}_2$, brown, decomp. 225°. The starting compds. were prepd. conventionally by diazo coupling. 1-Phenyl-3-methyl-4-(*o*-methylthio-benzeneazo)-5-pyrazolone, yellow, m. 148-9°; 1-(*o*-methylthio-benzeneazo)-2-naphthylamine, red, m. 143.6-5°; 1-phenyl-3-methyl-4-(*o*-methylthio-benzeneazo)-5-aminopyrazole, yellow, m. 146-7.5°; 5-(*o*-methylthio-phenyl)naphtho[1,2-*b*:4,5]triazole, colorless, m. 210-11.5°. I (2 g.) in 200 ml. EtOH treated with 2 g. $\text{CuSO}_4 \cdot 5\text{H}_2\text{O}$ in 50 ml. pyridine and 30 ml. H₂O, heated on a steam bath 4-40 hrs., dild., and neutralized with AcOH, gave a crude ppt. which was treated with concd. H₂SO₄ and pptd. by dild.; in short runs the starting material was recovered, but in long runs the product was [*o*-(2,1-HO)₂C₆H₄N₂)C₆H₄]₂S, m. 283-6°. This sulfide, also prepd. from (*o*-H₂NC₆H₄)₂S, gave with CuCl_2 in EtOH the

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1:1 Cu salt, $C_{12}H_{10}O_2N_2SCu$, brown ppt. The possible structures of the Cu salts, based on coordination of Cu with N atoms in the azo compds., are shown. The 1:1 Cu salts yield the 2:1 salts on treatment with pyridine or NH_4OH ; the salts with concd. H_2SO_4 yield the original azo compd. and liberate Cu ions.

G. M. Kosolapoff

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79-28-4-33/60

AUTHOR: Mur, V. I.

TITLE: On the Interior Complex Salts of Azo-Compounds (O vnutrennikh kompleksnykh solyakh azosoyedineniy) V. On the Problem of the Coppering Reaction of the o-Oxy-o'-Alkoxy-Azo-Compounds With Simultaneous Desalkylation (V. K vorozu o reaktsii omedneniya o-oksi-o'-alkoksiazosoyedineniy sodno-vremennym dezalkilirovaniyem)

PERIODICAL: Zhurnal Obshchey Khimii, 1958, Vol. 28, Nr 4, pp. 998-1002 (USSR)

ABSTRACT: In the present paper the author investigated the coppering reaction of the o-oxy-o'-methoxy-azo-compounds with simultaneous desalkylation. He also ascertained which part takes the complex formation in this process and examined whether the complexes (I) and (II) are an intermediate compound. He also watched the effect of the substituents in the molecules of the o-oxy-o'-methoxy-azo-compounds on the capability of desalkylation. These problems are not only of a theoretical but also of a practical importance as the described reaction is frequently applied for the production of azo-dyes fast to light. In order

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On the Interior Complex Salts of Azo-Compounds. V. On the Problem of the Coppering Reaction of the o-Oxy-o'-Alkoxy-Azo-Compounds With Simultaneous Desalkylation

to settle the mentioned problems the author has carried out the interaction of some o-oxy-o'-methoxy-azo-compounds and their copper complexes (I) and (II) with pyridine in the absence and presence of copper salts and has ascertained their degree of desalkylation. Summarizing, the results of the investigations: 1) The desalkylation, which takes place in the interaction of o-oxy-o'-methoxy-azo-compounds with an equivalent quantity of copper sulfate and pyridine as well as with corresponding complexes in the ratio 1 : 1 with the same quantity of pyridine and under further similar conditions, in every case proceeds equally easily; complexes of the ratio 1 : 2 alkylate with greater difficulty. 2) The substituents which are in the para-position to the methoxy group of the o-oxy-o'-methoxy-azo-compounds can be classified in a series: $\text{NO}_2 > \text{H} > \text{OCH}_3 > \text{CH}_3 > \text{Cl}$. This is connected with the degree of their influence on the desalkylation capability of azo-compounds during the process of interaction with copper sulfate and pyridine. The nitro group, which is in

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On the Interior Complex Salts of Azo-Compounds. V. On the Problem of the Coppering Reaction of the o-Oxy-o'-Alkoxy-Azo-Compounds With Simultaneous Dealkylation

meta-position to the methoxyl, renders the desalkylation more difficult. 3) The author has suggested a scheme for the reaction process of the coppering of o-oxy-o'-alkoxy-azo-compounds with simultaneous desalkylation. This latter desalkylation takes place during the interaction of the mentioned compounds with copper salts or similar organic bases. There are 1 table and 3 references, 2 of which are Soviet.

ASSOCIATION: Institut organicheskikh poluproduktov i krasiteley imeni K. Ye. Voroshilova
(Institute for Organic Intermediate Products and Dyes imeni K. Ye. Voroshilov)

SUBMITTED: March 5, 1957

Card 3/3

MUR, V.I.; MIKHAYLOVA, I.F.

Some azo dyes from 4,4'-diamino-diphenyl-3,3'-diacetic acid
and N-aryl-3-methyl-5-amino-pyrazoles. Zhur. prikl. khim. v. 31
no.5:805-807 My '58. (MIRA 11:6)

1. Institut organicheskikh poluproduktov i krasiteley imeni K.Ye.
Voroshilova.

(Azo dyes) (Acetic acid) (Pyrazole)

5 (3)

AUTHOR:

Mur, V. I.

SOV/79-29-7-35/83

TITLE:

Investigation in the Field of Triazine Derivatives (Issledovaniye v oblasti proizvodnykh triazina). I. On Some Substantive Triazinazo Dyes (I. O nekotorykh substantivnykh triazinovykh azok-rasitelyakh)

PERIODICAL:

Zhurnal obshchey khimii, 1959, Vol 29, Nr 7, pp 2267 - 2271 (USSR)

ABSTRACT:

It is known that the halogen atoms in 2,4,6-trihalogen triazines (cyanuric trichloride) may be gradually replaced by the residues of primary and secondary amines and amino azo compounds (Ref 1). Cyanuric trichloride was therefore used especially for the synthesis of the substantive azo-dyes as a "chromophore block" for the binding of the same or different amino azo compounds (Ref 2). In the binding of two azo dyes in a molecule by means of the triazine ring no uniform chromophore system is formed; the isolated chromophore systems, the components of a molecule, show additivity in light absorption. Owing to this circumstance, individual substantive green azo dyes may be synthesized which are obtained by step-wise condensation of cyanuric chloride with yellow and blue amino azo compounds (Ref 3).

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Investigation in the Field of Triazine Derivatives. SOV/79-29-7-35/83
I. On Some Substantive Triazinazo Dyes

In this connection also other triazine derivatives, especially methyl- and phenyl dichloro triazine may be used as "chromophore blocks" (Ref 4). Data on the utilization of o- and p-methoxy and o-oxyphenyl dichloro triazines have hitherto not been published. The author tried to synthesize green triazine dyes which are built up by means of one and the same blue and yellow component which differed, however, by the nature of the third, colorless component which is connected with the triazine ring. It was to be expected that the nature of these colorless components exercises no influence on the color of the entire system (within the visible range of the spectrum) if the triazine ring completely separated the systems which were connected with it. At the same time it was of interest to investigate the influence exercised by the nature of the substituents in the triazine ring on the mobility of the halogens with which it is connected. For this purpose green azo dyes were synthesized. In this connection cyanuric trichloride in which the third chlorine atom is replaced by the aniline residue, 2-phenyl-4,6-dichloro-1,3,5-triazine and its o- and p-methoxy and o-oxy-substituted compounds served as initial substances. It was shown

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Investigation in the Field of Triazine Derivatives. SOV/79-29-7-35/83

I. On Some Substantive Triazinazo Dyes

that the imino group between the triazine and phenyl only slightly intensifies the color. The methoxy- and oxy-groups which are in the ortho- or para-position of the phenyl directly linked with the triazine exert no influence on the color, they suppress, however, the mobility of chlorine atoms in the triazine derivatives mentioned. There are 2 tables and 11 references, 1 of which is Soviet.

ASSOCIATION: Institut organicheskikh poluproduktov i krasiteley (Institute of Organic Semi-Products and Dyes)

SUBMITTED: May 15, 1958

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5 (3)

AUTHORS:

Cherntsov, O. M., Mur, V. I.

SOV/79-29-7-36/83

TITLE:

The Reaction of Sulfur Monochloride With 1,2,4-Trichlorobenzene
(O reaktsii khloristoy sery s 1,2,4-trikhlorbenzolon)

PERIODICAL:

Zhurnal obshchey khimii, 1959, Vol 29, Nr 7, pp 2271-2275 (USSR)

ABSTRACT:

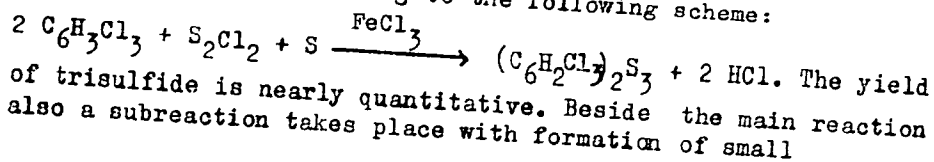
The transformation of sulfur monochloride with aromatic halogen derivatives is little investigated. Only two patents describe reactions with 1,2,3- and 1,2,4-trichlorobenzenes and 2,4-dichlorotoluene (Ref 1). These reactions take place in the presence of anhydrous iron chloride and lead to the formation of disulfides, which can be reduced to the corresponding halogen-substituted thiophenols by zinc-dust. According to this reaction the authors investigated the transformation of S_2Cl_2 with 1,2,4-trichlorobenzene. This was chosen because the product to be expected at a further reduction of trichlorothiophenol as a possible plasticizer of synthetic caoutchouc and as an activator for the regeneration of caoutchouc from rubber could come into consideration. Investigations showed that the above reaction does not take place without catalysts, even with extended heating up to boiling temperature; it takes place only in the

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The Reaction of Sulfur Monochloride With
1,2,4-Trichlorobenzene

SOV/79-29-7-36/83

energetic way in presence of $FeCl_3$ according to patents. The present paper indicates that all kinds of metallic iron exert the same effect. This reaction takes place under formation of HCl already at 35 to 40° , and at 50 to 55° even very energetically within 5 to 6 hours. At 70 to 80° a considerable resinification of the reaction product results. In this case of transformation of S_2Cl_2 (together with Fe) with 1,2,4-trichlorobenzene a mixture of disulfide, trisulfide and monosulfide is formed which is difficult to be separated. A practically similar product, e.g. the hexachloro diphenyl-trisulfide with some monosulfide can be obtained by transformation of S_2Cl_2 and elementary S with 1,2,4-trichlorobenzene in quantities corresponding to the following scheme:



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The Reaction of Sulfur Monochloride With 1,2,4-Tri-
chlorobenzene

SOV/79-29-7-36/83

quantities of 1,2,4,5-tetrachlorobenzene (experimental part).
The convenient synthesis method of 2,4,5-trichlorothiophenol
by transformation of 2,4,5,2',4',5'-hexachloro diphenyl-trisul-
fide was worked out with caustic alkali lyes. There are 2 Soviet
references.

ASSOCIATION: Nauchno-issledovatel'skiy institut organicheskikh poluproduktov
i krasiteley imeni K. Ye. Voroshilova (Scientific Research Insti-
tute for Organic Semiproducts and Dyes imeni K. Ye. Voroshilov)

SUBMITTED: May 15, 1958

Card 3/3

MUR, V.I.; VOROZETSOV, G.M.

Triazine derivatives. Part 2: Data on the spectral color of
some triazine monoazo dyes possessing active chlorine atoms.
Zhur.ob.khim. 30 no.6:1981-1985 Je '60.
(MIRA 13:6)

1. Institut organicheskikh poluproduktov i krasiteley imeni
K.Ye.Voroshilova.
(Triazine) (Azo dyes)

KOROLEV, A.I.; MUR, V.I.

Investigation in the field of asymmetric synthesis. Org. poluprod.
i kras. no.2:77-87 '61. (MIRA 14:11)
(Chemistry, Organic--Synthesis)

MUR, V.I.

Internal complex salts of some azo dyes and copper. Org. poluprod.
i kras. no.2:151-163 '61. (MIRA 14:11)
(Azo dyes) (Copper)

MUR, V.I.; GORBUNOVA, Zh.A.; KOROLEV, A.I.

Description of reactive dyes. Zhur.VKHO 6 no.5:586-587 '61.

(MIRA 14:10)

1. Nauchno-issledovatel'skiy institut organicheskikh poluproduktov
i krasiteley imeni K.Ye.Voroshilova.
(Dyes and dyeing)

MUR, V. I., GORBUNOVA, Zh. A.; KOROLEV, A. I.

Study of the mechanism of hydrolysis of esters. *Dokl. Vses. Khim. Nauch. Akad. Nauk SSSR* 6
no. 2:232 '63. (MIRA 16:4)

1. Nauchno-issledovatel'skiy institut organicheskikh poluproduktov i krasiteley.

(Esters) (Hydrolysis)

MUR, V. I., GORBUNOVA, Zh. A., KOROLEV, A. I.

Hydrolysis of esters of cyanuric acid and some of its derivatives. Zhur. V KHO 8 no.2:235 '63. (MIRA 16:4)

1. Nauchno-issledovatel'skiy institut organicheskikh poluproduktov i krasiteley.

(Cyanuric acid) (Hydrolysis)

№ 1, 1961.

Cyanuric acid and its derivatives. I. Synthesis and properties of
no. 2:182-202. P. 162.

1. Nauchno-issledovaniya po fiziko-khimii i biologicheskoy aktivnosti
duktov i krenolizov.

MUR, V.I.; KRASNOVSKAYA, L.S.; MASALOVA, Ye.A.

Reaction of phosphorus pentachloride with 2-benzyl-4,6-dioxy-
1,3,5-triazine. Zhur. ob.khim. 34 no.12:4125 D '64
(MIRA 1821)

1. Nauchno-issledovatel'skiy institut khimicheskikh poluproduk-
tov i krasiteley.

MURACH, Nikolay Nikiiforovich

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MURACHEV, A., komandir kerablya.

Moscow - Tirana. Grazhd.av.13 no.7:38-39 J1 '56. (MLRA 9:9)
(Air lines)

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S/084/60/000/006/010/020
A104/A029

AUTHORS: Murachev, A., Captain of Il - 18 and Ryabov, V., Senior Navigator

TITLE: On Orthodromy

PERIODICAL: Grazhdanskaya Aviatsiya, 1960, No. 6, pp. 13 - 16.

TEXT: The authors discuss respective merits of orthodromic and loxodromic courses and point out numerous advantages of the former with respect to jet aircraft. Their own group covers long-distance flights by Il-18 (Il-18) with the aid of directional gyro. This method shortens the airline and increases the accuracy and safety of the flight, influencing favorably the performance of NI-50 navigational indicators. The following instruments are used: gyromagnetic or gyroinduction distant reading compass ДГМК (DGMK) or ГМК (GK); distant-reading astro-compass ДАК (DAK); distant-reading directional gyro ГК-52 and АПК (ARK). Magnetic course, true course, radio-set course angle КУР (KUR) and magnetic azimuth МГР (MPR), true luminary and gyroscopic courses are determined by this system. Orthodromic longdistance flights with GPK were introduced by GosNII FVF scien

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On Ortnodromy

tists T. Asatur'yan and S. Fedchin. A number of new navigational terms has been established for calculation purposes: orthodromic route or the line connecting starting and destination points as shown in Figure 1; assigned course (ZLP); basic meridian (OM) and orthodromic course angle (OPU) shown in Figures 2 and 3, the latter also including orthodromic aircraft course (OK). УШМ (USHM) meridian indicator scale facilitates the orthodromic course calculation at any desired point. Detailed instructions on course calculation, charts and flying performance are given. Figure 4 shows east and west flight courses and Figure 5 corrections on bending courses. A marked orthodromic course chart is shown in Figure 6 and the distribution of aircraft location azimuths in Figure 7. Best results were achieved by flying along orthodromic magnetic angle courses. It is suggested that switching to magnetic or astronomical corrections to match the subsequent GPK regime is best performed just before reaching a basic meridian. Particular emphasis is placed upon a well-organized cooperation of all crew members. There are 7 figures.

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MURACHEV, A.; SHAKHOVA, V.; KUZNETSOV, V.

Aeronautical kaleidoscope. Grazhd. av. 21 no.5:16-17 My '64.
(MIRA 18:4)

MURACHEV, A. S. P. 1941

1941-1942.
1943.

MURACHEV, I.

Radio - Exhibitions - Krasnoyarsk

Krasnoyarsk radio amateurs are preparing for an exhibition. Radio No. 3, 1953.

Monthly List of Russian Accessions, Library of Congress, June 1953. Uncl.

MURACHEV, I., predsedatel' soveta.

Radio amateurs aid in rural radio development. Radio no.9:16 S '53.
(MLRA 6:8)

1. Krasnoyarskiy krayevoy radioklub. (Radio clubs)

MURACHEV, I

BASKAKOV, P., (g. Gor'kiy); ABRAMYAN, S.; MURACHEV, I., predsedatel' soveta radiokluba; KOCHEGAROV, N., nachal'nik radiokluba; LATKIN, V., predsedatel' soveta radiokluba; SHISHUKOV, P., rukovoditel' konstruktorskoy sekcii kluba; RAHBIN, G., chlen radiokluba; BUDANTSOV, V., predsedatel' soveta radiokluba; GODUNOV, P., nachal'nik radiokluba; TEVELEV.

Provide parts for radio amateurs. Radio no.12:14-17 D '53. (MLRA 6:12)

1. Nachal'nik radiokluba Vsesoyuznogo dobrovol'nogo obshchestva sodeystviya armii, aviatsii i flotu (for Baskakov). 2. Nachal'nik Vil'nyusko-
skogo radiokluba Vsesoyuznogo dobrovol'nogo obshchestva sodeystviya armii, aviatsii i flotu (for Tevelev).

(Radio--Apparatus and supplies)

MURACHEV, P.P.

Responsibilities of builders of the North and the West. Transp.
stroitel. 14 no.1:4 Ja '64. (MIRA 17:8)

1. Nachal'nik Glavnogo upravleniya zheleznodorozhnogo stroitel'-
stva Severa i Zapada.

1ST AND 2ND QUANT		TOP AND 2ND QUANT	
PROCESSES AND PROPERTIES INDEX			
S MURACHEVA, V. I.		21	
DETERMINATION OF SELENIUM IN STEEL. N. A. Tananov and V. I. Muracheva. (Journal of Analytical Chemistry, U.S.S.R., 1948, vol. 3, Jan.-Feb., pp. 3-6, (in Russian); (Abstract) Metals Review, 1948, vol. 21, July, p. 22). A new gravimetric method is described which utilizes slightly heated 1 : 4 sulphuric acid for dissolution of the steel.			
METALLURGICAL LITERATURE CLASSIFICATION		CENTRAL INDEX	
FROM SYNOBIS		FROM SYNOBIS	
SEARCHED BY		SEARCHED BY	
INDEXED BY		INDEXED BY	

ABBASOV, A.A., kand.tekhn.nauk; MURACHKOVSKAYA, N.K., inzh.

Distribution of rates in consecutive flowing of two viscoplastic
fluids in a vertical circular pipe in structural flow. Nauch.zap.-
Ukrniiproekta no.4:42-45 '61. (MIRA 15:1)
(Oil well cementing)

I 5325-66 EMP(a)/EMP(m)/ETC/EMG(m)/T/EMP(t)/EMP(k)/EMP(z)/EMP(h)/EWA(c)
ACC NR: AP5026269 IJP(c) JD/HW UR/0226/65/000/010/0005/0010

AUTHOR: Pozin, Yu. M.; Murachkovskiy, A. P.; Bondarenko, O. I.
44.55 *44.55* *44.55*

TITLE: Production of storage-battery electrodes by rolling of carbonyl-nickel powder
6.2
5.8
B

SOURCE: Poroshkovaya metallurgiya, no. 10, 1965, 5-10
27 *27*

TOPIC TAGS: electrode, storage battery, battery component, powder metallurgy, powder metal sintering, metal rolling
44.55 *18*

ABSTRACT: Electrodes of this kind represent plates sintered from carbonyl nickel powder and filled with Ni and Cd hydroxides. Normally, they are fabricated by the powder-pressing method. In this connection, the authors describe a study performed with the object of augmenting the porosity of these electrodes by rolling a continuous strip of carbonyl powder with a filler (urea) which can be subsequently removed during sintering. The rolled strip (60% Ni, 40% urea), reinforced with a supporting grid, was cut into blanks and sintered in a hydrogen atmosphere. The rolled powder edge of the strip projected 1-2 mm beyond the edge of the supporting grid, and the porosity of the strip was ~75%, which meets the requirements for storage-battery electrodes. It is established that the porosity of the electrode is a function of not only the sintering regime but also the roll pressure, and that, compared with the production of powdered-metal electrodes by the pressing method rolled pow-

Card 1/2

0901 0273

L 5325-66

ACC NR: AF5026269

4
dered-metal strip displays greater homogeneity of thickness and porosity. Orig. art.
has: 5 figures, 1 table.

ASSOCIATION: Nauchno-issledovatel'skiy akkumulyatornyy institut (Scientific Re-
search Institute of Storage Batteries)

SUBMITTED: 01Nov64

ENCL: 00

SUB CODE: MM, EE

NO REF SOV: 004

OTHER: 000

Powder rolling 18

Card

2/2 *hkd*

MURADIAN, Z.

The AD-10 and the AD-12 ceramic fluxes for automatic welding; flux submitted and tested in the Mao Tze-dun Plants of Bucharest.

p. 52 (Metalurgia Si Constructia De Masin . Vol. 9, no. 4, Apr. 1957. Bucaresti, Rumania)

Monthly Index of East European Accessions (MIEA) 11. Vol. 7, no. 2, February 1958

STASENKOV, V.V.; SHUSTEF, I.N.; MURADIMOV, Z.I.

Regularities in the distribution of certain reservoir parameters.
Trudy VNII no.43:119-130 '65. (MIRA 18:6)

MURADINOV, E.M.

Penetration of a peptic ulcer in an anastomosis into the
transverse colon. Kaz. med. zhur. no.1:68 Ja-P '62. (MIRA 15:3)

1. Leninogorskaya gorodskaya bol'nitsa (vlavnyy vrach - N.Sh.
Khasanov) Tatarskoy ASSR.

(PEPTIC ULCER)
(COLON--ULCERS)

ACC NR: AP7000310 (N) SOURCE CODE: UR/0413/66/000/022/00100010

AUTHOR: ogly Melik-Aslanov, Kh. S.; Shabanbekov, Z. M.; ogly Muradkhanov, G. A. S.;
ogly Sa'edov, A. A. A.

ORG: None

TITLE: A base for drilling wells at sea. Class 5, No. 188414

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 22, 1966, 10

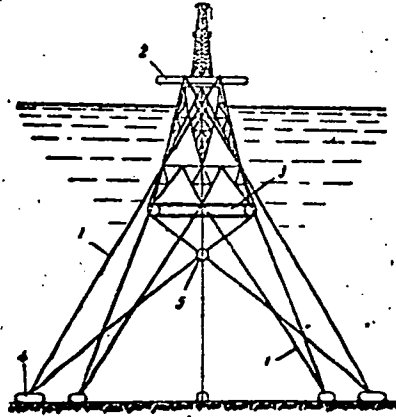
TOPIC TAGS: well drilling, machinery, marine equipment

ABSTRACT: This Author's Certificate introduces: 1. A base for drilling wells at sea. The installation is a working platform with a superstructure resting on a pontoon submerged at a level where it is not affected by waves and fastened to the sea bottom by flexible supports with anchors. Stability is improved by making the flexible supports in the form of a system of cables fastened to the working platform and pontoon. The cables which pass over the pontoon and those which go from the working platform to the anchors form triangles in the vertical plane, while those going from the pontoon to the anchors form triangles in the projection on the horizontal plane. 2. A modification of this base in which a ball catch is used for fixing the cables at the point where they intersect.

Card 1/2

UDC: 621.242.3.002,54:624.15

ACC NR: AP7000310



1--cables; 2--working platform; 3--pontoon; 4--anchor; 5--catch

SUB CODE: 13, 08/ SUBM DATE: 28May63

Card 2/2

MUSTAFABEYLI, M.A.; KHESIN, H.F.; MURADZHANOV, S.A.; ALIYEV, V.V.

Prospecting for complex metal deposits on the southern slope of
the Greater Caucasus using geophysical methods. Izv. Akad. Nauk
neдр 30 no.9:30-38 1964. (USSR 1964)

1. Upravleniye geologii i okhrany neдр Azerb. S.S.R.

MKRTCHYAN, Zh., inzh.; MURADKHANYAN, E., inzh.

Universal source of constant voltage in semiconductor devices.
Prom.Arm. 6 no.1:32-35 Ja '63. (MIRA 16:4)

1. Institut matematicheskikh mashin.
(Electric power supply to apparatus)

MURADIMOV, Z.I.; SHUSTEF, I.N.

Statistical study of the thickness of strata. Nauch.-tekh. sbor. po
dob. nefti no.24:8-14 '64. (MIRA 17:10)

1. Vsesoyuznyy neftegazovyy nauchno-issledovatel'skiy institut.

MURADKHANYAN, L.K., kandidat sel'skokhozyaystvennykh nauk.

Stage harvesting of grain. Zemledelie 4 no.6:68-72 Je '56.

(MLRA 9:8)

1. Tsentral'naya mashinoppytatel'naya stantsiya.
(Harvesting)

USSR/Cultivated Plants - Grains.

W-4

Abs Jour : Ref Zhur - Biol., No 9, 1958, 39178

Author : Muradkhanyan, L.K., Kapitanenko, N.N.

Inst : -

Title : The Seed Qualities of Grain When it is Harvested Separately.

Orig Pub : Seleksiya i senenovolstvo, 1957, No 3, 53-55.

Abstract : Data supplied by kollektives as to the absolute weight, germination, energy of sprouting, nature, glassiness, and seed moisture of grain crops are given in this paper. The quality of seeds was higher when a separate harvest took place than when the harvest was combined.

Card 1/1

MURADKHANYAN, L.K., kandidat sel'skokhozyaystvennykh nauk; ZAYTSEVA, A.I.
nauchnyy sotrudnik.

Machines for preparing peat-humus pots. Nauka i pered.op.v sel'khoz.
7 no.1:21-24 Ja '57. (MLBA 10:2)
(Agricultural machinery)

MURADKHANYAN, L.K.; KAPITANENKO, N.N.

Harvesting by stages improves the quality of grain. Nauka i pered.
op.v sel'khoz. 7 no.9:55-56 S '57. (MIRA 10:10)
(Grain--Harvesting)

ИУРАДЕХАНЫАН, Т.А., 1900; ОИЭИ, 1.1, 1900.

ИУРАДЕХАНЫАН, Т.А., 1900; ОИЭИ, 1.1, 1900.

Начало работы в 1900 г. в качестве инженера.

(ИУРАДЕХАНЫАН)

1. Работа в качестве инженера на станции.

(ИУРАДЕХАНЫАН)

(Harvesting machine)

OMUTOV, A.; MURADKHANYAN, L. K .

FS-0,7 electric rotary cultivator. Tekh. v sel'khoz. 20 no.6:85
Je '60. (MIRA 13:10)

1. Tsentral'naya mashinospytatel'naya stantsiya.
(Cultivators)

MURADKHANYAN, L.K., kand.sel'skokhozyaystvennykh nauk

Preparation of seeds and the sowing of forage beans. Zemledelie
24 no.3:42-45 Mr '62. (MIRA 15:3)

(Beans)

MURADKHANYAN, L.K., kand. sel'skokhoz. nauk; DROZDOV, V.N.; KOVALEV, A.P.;
KALINCHENKO, V.I.

Machines and attachments for the placement of mineral fertilizers.
Zemledelie 27 no.4:32-36 Ap '65. (MIRA 18:4)

1. Nauchno-issledovatel'skiy institut sel'skogo khozyaystva
tsentral'nykh rayonov nechernozemnoy polosy.

MURADINOV, E.M.

Three cases of injury to the heart. Kaz. med. zhur. no.6:
44-46 N-D '63. (MIRA 17:10)

1. Zaveduyushchiy khirurgicheskim otdeleniyem Leninogorskoy
gorodskoy bol'nitsy (glavnyy vrach - N.Sh. Khasanov).

Muradov, A.A.

TSATURYANTS, A.B.; MURADOV, A.A.

Method for determining the saturation pressure. Azerb.neft.khoz.
36 no.3:27-28 Mr '57. (MLRA 10:5)
(Oil wells)

MURADOV, A.A.; TSATURYANTS, A.B.

~~_____~~
Viscosity of petroleum saturated with methane [in Azerbaijani with
summary in Russian]. Izv. AN Azerb. SSR. Ser.fiz.-tekh. i khim.
nauk no.6:83-89 '58. (MIRA 12:2)
(Viscosity) (Petroleum) (Metane)

TSATURYANTS, A.B.; MURADOV, A.A.

Effect of the composition of dissolved gas on the viscosity of saturated crudes [in Azerbaijani with summary in Russian]. Izv. AN Azerb. SSR. Ser. fiz. tekhn. i khim. nauk no.2:75-82 '59.

(MIRA 12:8)

(Petroleum) (Viscosity) (Gas, Natural)

MURADOV, A.A.

p 3

PHASE I BOOK EXPLOITATION

SOV/4726

Kiyev. Gosudarstvennyy nauchno-issledovatel'skiy i proyektnyy institut ugol'noy rudnoy, neftyanoy i gazovoy promyshlennosti

Nauchnyye zapiski, vyp. 1: Dobycha i pererabotka nefti (Scientific Reports of the State Scientific Research and Project Institute for the Coal, Mining, Oil, and Gas Industries, No. 1: Extraction and Processing of Petroleum) Kiyev, 1960. 91 p. 1,000 copies printed.

Sponsoring Agencies: UkrSSR Gosudarstvennaya planovaya komissiya Soveta Ministrov; Gosudarstvennyy nauchno-issledovatel'skiy i proyektnyy institut ugol'noy, rudnoy, neftyanoy, i gazovoy promyshlennosti "Ukrniiprojekt."

Editorial Council: V. P. Aksenov, S. Ye. Anushin, S. I. Balinskiy, V. Ya. Volchanskiy, D. I. Gol'tsev, V. S. Grinshteyn (Resp. Secretary), B. V. Dzbanovski, M. M. Zherbin (Chairman), A. F. Kotov, M. I. Logvinov, Yu. M. Ostrovskiy, L. M. Orzhekhovskaya, G. V. Prisedskiy, V. T. Sklyar (Deputy Chairman), N. Yu. Stasiv, and V. V. Tsaritsyn; Resp. Ed. for this Collection: V. T. Sklyar, Candidate of Chemical Sciences; Ed.: A. Novik.

~~Card 1/5~~

Scientific Reports (Cont.)

SOV/4726

PURPOSE: This collection of articles is intended for petroleum researchers, engineers, and refiners.

COVERAGE: The collection of articles deals with the production and refining of petroleum. Individual articles discuss the effect of bound water on the depletion of petroleum deposits under dissolved gas conditions, the effect of pressure on the viscosity of degasified petroleum, the structure of high-molecular petroleum hydrocarbons, the asphaltene and tar components of Carpathian crudes and menilite shale asphalts, and the aliphatic composition of alcohols produced by selective hydrogenation of the CO and H₂ product of synthesis. Other articles describe the carbamide dewaxing method for filtrates of wax distillates, the production of flotation agents with the use of oxidized petrolatum, and the investigation of six-membered aromatic and naphthenic hydrocarbons by means of infrared absorption spectra. The remaining articles are on the relations of pressure-volume-temperature-ethylene and on the phase equilibrium in ethylene-n-hexane, ethylene-cyclohexane, and ethylene-benzene systems. Specific volumes and compression coefficients at

~~Card 2/5~~

TSATURYANTS, A.B.; KHITEYEV, A.M.; MURADOV, A.A.

Studying methods of the production of condensate pools to be
used in the Karadag field. Trudy AzNII DN no.9:223-228 '60.
(MIRA 14:5)

(Karadag region—Condensate oil wells)

MURADOV, A.S.

Quantitative discharge of salts by drainage waters of the Mugan-Sal'yan Massif. Dokl. AN Azerb. SSR 19 no.7:51-55 '63. (MIRA 17:12)

1. Institut pochvovedeniya i arkheologii AN AzerSSR.

MURADOV, A.S.

Salt composition of the drainage waters of the Mugen-Sal-yan
massif. Dokl. AN Azerb. SSR 19 no.10:63-68 '63.

(MIRA 1706)

1. Institut pochvovedeniya i agronomii AN AzSSR. Predstavleno
akademikom AN Azerbaydzhanskoy SSR V.R. Volobuyevym.

MURADOV, A.V., assistant

Water and salt metabolism in Botkin's disease in Ashkhabad.
Zdrav.Turk. 2 no.1:10-14 Ja-F '58. (MIRA 12:6)

1. Iz propedevticheskoy kliniki Turkmenskogo gosudarstvennogo
meditsinskogo inistituta im. I.V.Stalina (direktor - dots. M.G.
Berdyklychev).

(ASHKHAHAD--HEPATITIS, INFECTIOUS) (SALT IN THE BODY)
(WATER IN THE BODY)

MURADOV, D. M.

Muradov, D. M. "Use of the initial sectors of existing irrigation canals as a basis for the construction of hydroelectric plants," Doklady (Akad, nauk Azerbaydzh. SSR), 1949 p. 167-70, No. 4, (Resume in Azerbaijani)

SO: U-5241, 17 December 1953, (Letopis 'Zhurnal 'nykh Statey, No. 26, 1953)

MURADOV, D.M.

Reservoirs and canals and their possible use in the Azerbaijan
SSR. Trudy ~~ENIN~~ AN Azerb. SSR 13:157-166 '56. (MLRA 10:4)
(Azerbaijan--Irrigation)

I. 62264-65

ACCESSION NR: AT5015793

UR/0000/65/000/000/0089/0092

AUTHOR: Muradov, Dzh. 44

14
BT1

TITLE: Solar domestic around-the-clock refrigerator, and a study of its operation on an electrically-heated model

SOURCE: AN SSSR. Energeticheskiy Institut. Ispol'zovaniye solnechnoy energii v narodnom khozyaystve SSSR (Use of solar energy in the economy of the U.S.S.R.). Moscow, Izd-vo Nauka, 1965, 89-92

TOPIC TAGS: refrigerator, solar refrigerator

ABSTRACT: The solar ⁴⁴refrigerator (see Enclosure 1) comprises a circulation loop with a parabolic-cylindrical reflector, an absorption-diffusion unit, and a solid-adsorbent periodic refrigeration machine with 10-hr charging and 14-hr discharging periods. Placed in the focus of reflector 1, tubular boiler 2 carries glycerine at 150-170C which is fed into heat exchanger 3 which heats up refrigerator unit 4 containing a water-ammonia solution. Further, the glycerine

Card 1/3

I 62264-65

ACCESSION NR: AT5015793

at 110-120C passes adsorber 5 where the ammonia is evaporated from $\text{CaCl}_2 \cdot 8\text{NH}_3$. The ammonia vapor is liquefied in condenser 10, and the liquid ammonia at room temperature is stored in receiver 9 during the daytime. During the 10 sunshine hrs, absorption part 4, 7 operates and charges adsorption part 5, 8, 9, 10. After sunset, the absorption part becomes inoperative, and the accumulated ammonia evaporates. No moving part is involved in the refrigerator. The thermal efficiency of the absorption-diffusion unit was found to be 0.2; its refrigerating capacity, 18 kcal/hr; inertia, 1.5-2 hrs. A reflector with an area of 1.2-1.5 m^2 functioning at an average solar radiation intensity of 700 kcal/ m^2 . hr was found to be sufficient for refrigerator operation. Orig. art. has: 4 figures.

ASSOCIATION: none

SUBMITTED: 12Feb65

ENCL: 01

SUB CODE: IE, EE

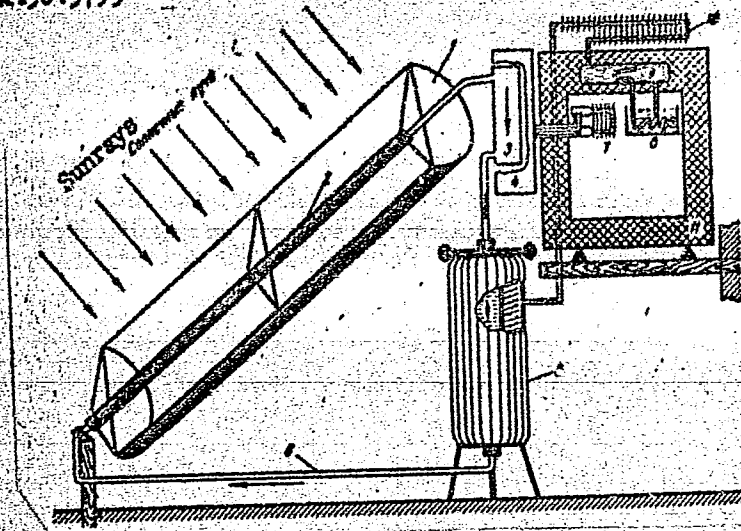
NO REF SOV: 003

OTHER: 002

Card 2/3

L 62264-65
ACCESSION NR: AT5015793

ENCLOSURE: 1



Solar-energy refrigerator

dm
Card 3/3

I. 62263-65

ACCESSION NR: AT5015794

UR/0000/65/000/000/0093/0096

AUTHOR: Muradov, Dzh.

7
B+1

TITLE: Experimental investigation of the operation of a solar domestic around-the-clock refrigerator

SOURCE: AN SSSR. Energeticheskiy institut. ⁴⁴ Ispol'zovaniye solnechnoy energii v narodnom khozyaystve SSSR (Use of solar energy in the economy of the U.S.S.R.). Moscow, Izd-vo Nauka, 1965, 93-96

TOPIC TAGS: refrigerator, ⁴⁴ solar refrigerator

ABSTRACT: A solar-energy refrigerator (see Abstract AT5015793) was tested with an electric heater substituted for the solar reflector. Operation with 500-800-w heater capacities and a constant time of 10 hrs a day was investigated. These findings are reported: (1) A periodic refrigerating outfit ("machine") with a solid adsorbent, ammonia as a working medium, and calcium chloride as an

Cerd 1/2

L 62263-65

ACCESSION NR: AT5015794

absorbent is feasible; (2) With 800-w heating, the overall diurnal refrigerating efficiency is 4.7%; the accumulator refrigerating capacity is 175 kcal per cycle and its thermal efficiency, 6.2% Orig. art. has: 3 figures, 1 formula, and 1 table.

ASSOCIATION: none

SUBMITTED: 12Feb65

ENCL: 00

SUB CODE: IE, EE

NO REF SOV: 005

OTHER: 000

dm
Card 2/2

MURADOV, Islam, fel'dsher

Treatment of simple dyspepsia with streptomycin. Fel'd. i akush.
26 no.5:49 My '61. (MIRA 14:5)

1. Kolkhoz imeni Voroshilova Georgiyevskogo rayona Yuzhno-
Kazakhstanskoy oblasti.
(STREPTOMYCIN) (DYSPEPSIA)

MURADOV, I.M.; MARTIROSOV, M.A., redaktor.

[Two-hole method of drilling] Dvukhstvol'noe burenie. Baku, Gos.
nauchno-tekhn.izd-vo neftianoi i gorno-toplivnoi lit-ry, 1952. 51 p.
(Oil well drillin;) (MIRA 8:4)

TER-GRIGOR'YAN, A.I., inzh.; AVETISYAN, A.A., inzh.; GASAN-DZHALALOV,
A.B., inzh.; GUKHMAN, M.I., inzh. [deceased]; DAVTYAN, S.Kh.,
inzh.; DADASHEV, B.B., kand.tekhn.nauk [deceased]; DAHIYELYANTS,
A.A., inzh.; DEDUSENKO, G.Ya., kand.tekhn.nauk; IOANESYAN, R.A.,
inzh.; KARASIK, F.Ye., inzh.; KULIYEV, I.P., kand.tekhn.nauk;
KULI-ZADE, K.N., kand.tekhn.nauk; LANGLEBEN, M.L., kand.tekhn.
nauk; MADERA, R.S., inzh. [deceased]; MIKHAYLOV, V.R., inzh.;
MURADOV, I.M., inzh.; POLYAKOV, Z.D., inzh.; PROTASOV, G.N., kand.
tekhn.nauk; SAROYAN, A.Ye., kand.tekhn.nauk; SEID-RZA, M.K., kand.
tekhn.nauk; TARANKOV, V.V., inzh.; FRIDMAN, M.Ye., inzh.; SENEYDEROV,
M.R., kand.tekhn.nauk; YAISHNIKOVA, Ye.A., kand.tekhn.nauk; SFFEYN-
GEL', A.S., red.izd-va

[Driller's handbook] Spravochnik burovogo mastera. Izd.2., ispr.
1 dop. Baku, Azerbaidzhanskoe gos.izd-vo neft.i nauchno-tekhn.lit-ry,
1960. 783 p. (Oil well drilling) (MIRA 13:5)

DIKENSHTSEYN, G.Kh.; KUTUZOVA, V.V.; MASHRYKOV, K.K.; BABAYEV, A.G.;
POL'STER, L.A.; YUFEREV, R.F.; SHISHOVA, A.I.; BAREYEV,
R.A.; MAKAROVA, L.N.; MURADOV, K.; PYANOVSKAYA, I.A.;
SEMOV, V.N.; SIROTINA, Ye.A.; TURKINA, I.S.; FEL'DMAN,
S.L.; KHON, A.V.; KUNITSKAYA, T.N.; GOLENKOVA, N.P.;
ROSHINA, V.M.; FARTUKOV, M.M.; SHCHUTSKAYA, Ye.K.;
ALTAYEVA, N.V.; BYKADOROV, V.A.; KOTOVA, M.S.; SMIRNOV,
L.M.; IBRAGIMOV, M.S.; KRAVCHENKO, M.F.; MARKOVA, L.P.;
ROZYIYEVA, T.R.; UZAKOV, O.; SLAVIN, P.S.; NIKITINA, Ye.A.;
MILOGRADOVA, M.V.; BARTASHEVICH, O.V.; STAROBINETS, I.S.;
KARIMOV, A.K.

[Splicing of the wires of overhead power transmission lines]
Soedinenie provodov vozdukhnykh liniy elektroperedachi. Mo-
skva, Energiia, 1964. 69 p. (Biblioteka elektromontera,
no.132) (MIRA 17:9)

MURADOV, K.M.

"New Fodder Crops for the Fallow Lands of the Amu-Dar'ya River Bottom." Cand Biol Sci, Inst of Botany imeni V. L. Komarov, Acad Sci USSR (Apr-Jun 54). (Vest Ak Nauk, Nov 54)

Survey of Scientific and Technical Dissertations Defended at USSR Higher Educational Institutions (11)

SO: Sum. No.521, 2 Jun 55

KOZLOV, Ya.I.; MURADOV, K.M., kand. biol. nauk, otv. red.;
NASIBOVA, S.G., red.; IVONT'YEVA, G.A., tekhn. red.

[Cultivation of lemon in Turkmenistan] Kul'tura limona v
Turkmeniskoi SSR. Otv. red. K.M.Muradov. Ashkhabad, Izd-
vo Akad. nauk Turkmeniskoi SSR, 1963. 26 p. (MIRA 16:4)
(Turkmenistan--Lemon)

MURADOV, K.M.

History of plant introduction in Turkmenia. Izv. AN Turk. SSR. Ser.
biol. nauk no.5:36-38 '64. (MIRA 18:2)

1. Botanicheskiy sad AN Turkmenskoy SSR.

BIKHURIN, T.N.; IBATULLIN, R.Kh.; KOZLOV, F.A.; MURADOV, M.F.

Means for increasing the efficiency of operations in
turbodrilling. Neft. khoz. 43 no.8:29-36 Ag '65. (MIRA 78:12)

L 08089-67

ACC NR: AP7001163 /AN/ SOURCE CODE: UR/0439/66/045/008/1264/1266

AUTHOR: Muradov, Sh. M.

ORG: Turkmenian Scientific Research Institute of Animal Breeding and Veterinary Science Ashkhabad (Turkmenskiy nauchno-issledovatel'skiy institut zhivotovodstva i veterinarii)

TITLE: Nocturnal activity of Culicoides biting midges (Diptera, Ceratopogonidae) in Turkmenia

SOURCE: Zoologicheskiy zhurnal, v. 45, no. 8, 1966, 1264-1266

TOPIC TAGS: fly, fly reproduction, biting fly, biting fly activity, disease vector, cattle

ABSTRACT: Turkmenian Culicoides (Diptera, Heleidae) show maximum nocturnal activity in relation to the lunar phases: during the full moon the biting flies are active in the evening and in the morning. No activity is noted between 10 pm and 4 am. During the first quarter of the lunar cycle the Culicoides are active till 1 am or 2 am. Thereafter the ensuing darkness inhibits their activity, which is resumed prior to sunrise. At the full moon the Culicoides are active throughout the night

Card 1/2

UDC: 595.771 Culicoides:591.5(575.4)

L 08089-67

ACC NR: AP7001163

although their activity never reaches the peak observed for the intermittent light-dark phases. Orig. art. has: 1 table. [Based on author's abstract] [WA-50]

SUB CODE: 06/SUBM DATE: none/ ORIG REF: 003/

Card 2/2

L 38818-66 EWP(t)/ETI/EW (m) IJP(c) JD

ACC NR: AR6021036

SOURCE CODE: UR/0058/66/000/002/ED33/ED33

AUTHOR: Muradov, V. G. 27 378

TITLE: Measurement of the saturated vapor tension of solid calcium using spectral analysis of the condensate

SOURCE: Ref zh.Fiz, Abs. 2E243

REF SOURCE: Uch. zap. Ul'yanovskiy gos. ped. in-t, v. 18, no. 5, 1964, 74-77

TOPIC TAGS: calcium, vapor pressure, spectral analysis

ABSTRACT: The saturated vapor tension of Ca was measured in the temperature interval 641 - 837K by the Knudsen method, using spectral analysis to determine the amount of matter condensed on the receiver. The results are described by the formula $\log p$ (mm Hg) = $8.29 - 8994/T$ and agree well with the data of Yu. A. Priselkov and A. N. Nesmeyanov. L. Filippov. [Translation of abstract]

SUB CODE:07,20

Card 1/1 P

MURADOV, V.G.

Applicability of the classical Knudsen formula for
measuring the saturated vapor pressure in a mean free
path λ of effusion chamber dimensions. Zhur.fiz.
khim. 39 no.11:2851-2853 N '65.

(MIRA 18:12)

1. Ul'yanovskiy pedagogicheskiy institut imeni I.N.
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L 05900-67 EMP(k)/ENT(m)/EMP(t)/ETI TJP(c) JD

SOURCE CODE: UR/0137/66/000/001/A005/A005

ACC NR: AR6017478

AUTHOR: Muradov, V. G.; Kocherov, P. V.

TITLE: Measuring the pressure of saturated calcium vapor above Al-Ca alloys in the region of the intermetallic compound Al_2Ca 27 27

SOURCE: Ref. zh. Metallurgiya, Abs. 1A30

REF SOURCE: Uch. zap. Ul'yanovskiy gos. ped. in-t, v. 18, no. 5, 1964, 78-80

TOPIC TAGS: calcium, vapor pressure, aluminum base alloy, calcium alloy, intermetallic compound

ABSTRACT: Aluminum-calcium alloys were melted in a vacuum induction furnace in a purified argon atmosphere at pressures of 400-500 mm Hg and temperatures above 700°C. The diffusion method was used for determining the pressure of saturated calcium vapor. The vapor pressure above an alloy containing 41% Ca was measured in the 700-650°C region where Al_2Ca is in equilibrium with solid Al_4Ca rather than with the melt. It is assumed that Al_4Ca crystals are stable even in the liquid phase up to 850°C. Transition to an alloy with 43% Ca causes a smooth increase in calcium vapor pressure by approximately $\frac{1}{2}$ an order of magnitude. This indicates that there is a definite region of homogeneity in the compound Al_2Ca where the vapor pressure is a function of both temperature and alloy composition. The vapor pressure above an alloy with 50% Ca co-

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incides with the pressure above the pure metal in both the liquid and solid phases.
 $\ln P_{Ca} (41\% Ca) = 9.65 - 13655/T$; $\ln P_{Ca} (43\% Ca) = 8.33 - 11880/T$; $\ln P_{Ca} (50\% Ca) = 8.18 - 9086/T$.
The heat of sublimation for calcium in alloys with 41 and 43% is 58.5 kcal/hr-atom
while the heat of sublimation for an alloy with 50% Ca is the same as for the pure
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SUB CODE: 20744

kh

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