

USSR

UDC 541.49:547.354.9'131:547.1'  
118

PETROSYAN, V. S., BASHILOV, V. V., and REUTOV, O. A., Moscow State University imeni M. V. Lomonosov, Moscow

"A Complex of Trans- $\beta$ -Chlorvinylmercury Chloride and Hexamethyl-triamidophosphate"

Moscow, Izvestiya Akademii Nauk SSSR, Seriya Khimicheskaya, No 2, 1973, p 481

Abstract: The addition of 0.489 g of hexamethyltriamidophosphate (HMTAP), in 1.5 ml petroleum ether, to 0.807 g of trans- $\beta$ -chlorvinylmercury chloride (CVMC) (1 ml petroleum ether) -- 1:1 molar ratio -- results in the formation of white crystals which, after washing with 3 ml hexane and filtration, are obtained in a 1.2 g (100%) yield, and have a m.p. of 45-46 $^{\circ}$ . According to analytical data and PMR spectra the complex has the following composition:  $C_2H_2HgCl_2 \cdot [(CH_3)_2N]_3PO$ . The complex is highly soluble in HMTAP, DMSO, and dioxane. Proton shifts indicate that in solution the complexes dissociate into the components. Analogous conclusions were previously reached with CVMC-pyridine complexes in ether and DMSO.

1/1

USSR

## Organometallic Compounds

UDC 547.242+542.957

MIKUL'SHINA, V. V., NESMEYANOV, N. A., and REUTOV, O. A., Academician, Moscow  
State University imeni M. V. Lomonosov

"Reactions of Arsonium Salts With Organolithium Compounds"  
Moscow, Doklady Akademii Nauk SSSR, Vol 205, No 3, 1972, pp 596-598

Abstract: In reactions of arsonium salts with organolithium compounds, the initial arsonium salt alkylates the ylide and is regenerated upon completion of the reaction. Heating decomposes the ylide. A 50% to 100% excess of  $C_6H_5CH_2Li$  reacted with  $(C_6H_5)_4As^+Br^-$  in tetrahydrofuran to yield diphenylmethane; 1,2-diphenylethane; diphenyl; triphenylarsine (80%); and benzene. An excess of methyllithium with tetraphenylarsonium bromide yields methane, trimethylarsine, dimethylphenylarsine, methyldiphenylarsine, triphenylarsine, as well as diphenylmethane, 1,2-diphenylethane, diphenyl, and benzene. Butyllithium heated with benzyltriphenylarsonium iodide yields triphenylarsine, *trans*-stilbene, diphenyl, diphenylmethane, 1,2-diphenylethane, butyldiphenylarsine, and dibutylphenylarsine. Thus, unlike analogous phosphorus compounds, compounds of pentavalent arsenic do not decompose into hydrocarbon and ylide.

1/1

UNCLASSIFIED

Name: Institute of Biophysics, Puchkino  
SECTION III  
S.G. Serebrennikov  
Pechenkin  
P.S. - 88  
June 91  
D.I.V.E.

*Biophysics*

(U) During this quarterly reporting period, 13 new articles were located from the Institute of Biophysics at Puchkino. On the basis of these articles, it was possible to associate 19 new persons with the Institute. These persons are listed below together with the subjects and dates of the articles:

Baranovskiy, O. K.	all-bio/phys	1970(19)
Berezostovskiy, G. N.	endocrine system	1970(19)
Gaziyev, A. I.	phospholipids	1970(19)
Ivanukhova, A. G.	DNA	1970(19)
Klatshev, Ye. Ye.	plant physiology	1970(19)
Kravchenko, N. A.	muscle physiology	1970(20)
Murmanov, A. A.	EPR spectra	1970(23)
Panov, A. A.	radiation effects	1970(23)
Passyan, V. G.	endocrine system	1970(23)
Porotikov, V. I.	EPR spectra	1970(17)
Postnikova, G. B.	muscle physiology	1970(23)
Razhin, V. D.	chromatography	1970(21)
Revin, A. F.	phospholipids	1970(24)
Sukhoruchkina, L. V.	radiation effects	1970(16)
Telnicher, K. S.	chromatography	1970(23)
Vasiliy, Yul. Y.	plant physiology	1970(24)
Zakrin, A. N.	radiation effects	1969(20)
Zakharovskaya, D. T.	hydrogen peroxide	1970(23)
Zurin, A. M.	DNA	1970(25)
	DNA	1970(19)
	DNA	1970(19)

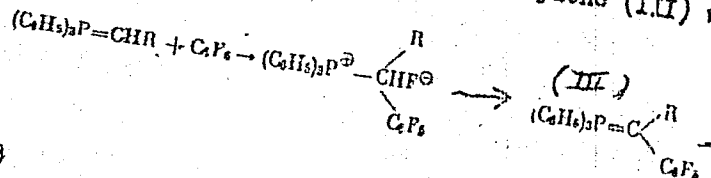
U.S.R.

UDC 542.91:547.341:547.539.16

NESMEYANOV, N. A., BERMAN, S. T., and ~~REUTOV, O. A.~~ <sup>REUTOV, O. A.</sup>, Moscow State University  
Imeni N. V. Lomonosov

"Reaction of Phosphorus Ylids with Perfluorobenzene"  
Moscow, Izvestiya Akademii Nauk SSSR, Seriya Khimicheskaya, No 3, 1972,  
pp 605-606

Abstract: Perfluorobenzene is known to lose one of the fluorine atoms during nucleophilic attack. Five compounds were prepared; chemical equations and NMR data are presented for several of the compounds. All the reactions were carried out in anhydrous solvents in an atmosphere of dry pure nitrogen. For the nmr data, a working frequency of 60 MHz and a CF<sub>3</sub>COOH standard were used. Triphenylphosphinepentafluorophenylmethylene (III) was prepared as follows:



1/3

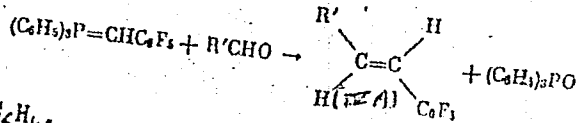
REVIEW

USSR

UDC 542.91:547.341:547.539.16

NESMEYANOV, N. A., et al., Izvestiya Akademii Nauk SSSR, Seriya Khimicheskaya, No 3, 1972, pp 605-606

From (III), 2,3,4,5,6-pentafluorobenzyltriphenylphosphonium iodide was prepared; nmr data gave  $\delta$ , m.d.: 58.5 (multiplet), 72.7 (triplet) and 82.2 (multiplet). Compound (IVA), 2,3,4,5,6-pentafluoro-4'-nitrostilbene was synthesized from (III) by the reaction



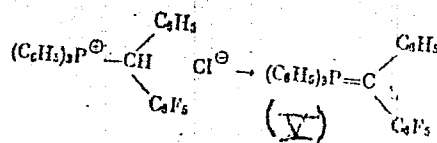
where  $R' = p - NO_2C_6H_4$ .

There are three peaks (2:1:2),  $\delta$ , m.d.: 66.0 (multiplet), 78.5 (triplet), 86.2 (multiplet). Compound (IVB), 2,3,4,5,6-pentafluoro-4'-chlorostilbene was prepared using an analogous reaction for which  $R' = p - ClC_6H_4$ . The nmr characteristics were similar, with the triplet shifting to 79.2 the former multiplets to 66.2 and the latter remaining at 86.2. Compound (V), triphenylphosphine-(2,3,4,5,6-pentafluorophenyl)phenylmethane, was prepared by the reaction

2/3

USSR

NESMEYANOV, NA. et al., Izvestiya Akademii Nauk SSSR, Seriya Khimicheskaya,  
No 3, 1972, pp 605-606



The nmr spectra of  $^{19}\text{F}$  has three multiplets,  $\delta$  m.d., 58.3, 81.4, and 86.6,

3/3

USSR

UDC 547.416:141:547.435:141

REUTOV, O. A., GUDKOVA, A. S., and PETROSYAN, I. V., Moscow State University  
Imeni M. V. Lomonosov

"Hydrobromides of 2-Bromo-1-Amino-2-Methylpropane and 1-Amino-2-Methylpropanol-2"  
Moscow, Izvestiya Akad. Nauk SSSR, Seriya Khimicheskaya, No 1, Jan 72,  
p 213

Abstract: (letter to editor); The writers claim to have obtained the hydrobromide of 2-bromo-1-amino-2-methylpropane by several methods; heating of 1-amino-2-methylpropanol-2 in a sealed ampoule with 48% HBr at 70-80°, and substitution of the hydroxyl in the hydrobromide of 1-amino-2-methylpropanol-2 by bromine with the help of PBr<sub>3</sub> in various solvents; also without a solvent, or with SOBr<sub>2</sub> in CHCl<sub>3</sub>.

1/1

- 76 -

USSR

UDC 547.484.34

KURTS, A. L., MASIAS, A., BELETSKAYA, I. P., and REUTOV, O. A.,  
"Reactivity of Ambident Anions. Selective Solvation of Acetoacetic Ester  
Anion in Alkylation Reactions"

Leningrad, Zhurnal Organicheskoy Khimii, Vol 7, No 11, Nov 71, pp 2233-2236

Abstract: Kinetics of the O-alkylation and C-alkylation of potassium enolate of the acetoacetic ester with ethyltosylate in a binary mixture hexamethylphosphotriamide-ethanol was studied. It was established that the reaction rate of both of these reactions increases with increasing quantity of the dipolar aprotic solvent in the mixture. It has been shown that when a change is made from alcohol to hexamethylphosphotriamide [hexametapol], the O-alkylation rate is increased 400-fold, while the C-alkylation is increased only about 25-fold. This is due to the selective solvation of the oxygen center of the anion with the proton containing solvent. Substituting deuterioethanol for ethanol is reflected only in overall reaction rate, the ratio of isomers remaining unchanged.

1/1



UNCLASSIFIED

PROCESSING DATE--30OCT70

TITLE--<sup>029</sup>INSTANCE OF PROTON ELIMINATION FROM A HOMOMERCURINIUM ION -U-

AUTHOR--(03)--SOKOLOV, V.I., BASHILOV, V.V., REUTOV, O.A.

COUNTRY OF INFO--USSR

SOURCE--ZH. ORG. KHIM. 1970, 6(4), 883-4

DATE PUBLISHED--70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--NUCLEAR MAGNETIC RESONANCE, SPECTROSCOPIC ANALYSIS, BENZENE DERIVATIVE, CYCLOPROPANE, ORGANOMERCURY COMPOUND, FLUORINATED ORGANIC COMPOUND, CHEMICAL REACTION MECHANISM, CHEMICAL SYNTHESIS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--2000/2160

CIRC ACCESSION NO--AP0125743

STEP NO--UR/0366/70/006/004/0883/0884

UNCLASSIFIED

2/2 024

CIRC ACCESSION NO--AP0125743

UNCLASSIFIED

PROCESSING DATE--30OCT70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE TREATMENT OF  
 1,1-DIPHENYLCYCLOPROPANE WITH I<sup>2</sup> SUB3 CCO SUB2) SUB2 HG IN MECH GAVE PH  
 SUB2 C=CHCH SUB2 HGO SUB2 CCF SUB3 (I) IDENTIFIED BY NMR SPECTROSCOPY,  
 BUT NOT ISOLATED. TREATMENT OF I WITH EXCESS IODINE GAVE PH SUB2 C=CHCH  
 SUB2 I. THE MECHANISM OF I FORMATION INVOLVES THE ELIMINATION OF A  
 PROTON FROM THE INTERMEDIATE "HGMOMERCURIUM" ION.

UNCLASSIFIED

013  
 UNCLASSIFIED  
 PROCESSING DATE--20NOV70  
 TITLE--RADICAL EXCHANGE REACTIONS BETWEEN ORGANOMERCURY COMPOUNDS -U-  
 AUTHOR--(04)-BELETSKAYA, I.P., BUTIN, K.P., SHISHKIN, V.N., REUTOV, O.A.  
 COUNTRY OF INFO--USSR  
 SOURCE--J. ORGANOMETAL. CHEM. 1970, 23(1), 31-9.  
 DATE PUBLISHED-----70  
 SUBJECT AREAS--CHEMISTRY  
 TOPIC TAGS--EXCHANGE REACTION, ORGANOMERCURY COMPOUND, NITRILE,  
 CHLORINATED ORGANIC COMPOUND, CHEMICAL REACTION RATE  
 CENTRL MARKING--NO RESTRICTIONS  
 DOCUMENT CLASS--UNCLASSIFIED  
 PROXY REEL/FRAE--2000/2112  
 CIRC ACCESSION NO--AP0125696  
 STEP NO--NE/0000/70/023/001/0031/0039  
 UNCLASSIFIED

R

2/2 013

UNCLASSIFIED

PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0125696

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. REACTIONS OF PH SUB2 HG WITH R  
SUB2 HG (WHERE R EQUALS CN, CCL SUB3, C TRIPLE BOND CPH) IN DMF (STUDIED  
BY A POLAROGRAPHIC METHOD) GAVE PHHGR, OBEYING SECOND ORDER KINETICS.  
ADUN. OF IODIDE HAS NEGLIGIBLE EFFECT ON THE REACTION RATES. WHEN R  
EQUALS CFCLOCC SUB2 ET, CF SUB2 CO SUB2 ET, CH SUB2 CO SUB2 ME, OR PHCH  
SUB2 THE REACTION OF PH SUB2 HG WITH R SUB2 HG DOES NOT OCCUR. P,OME  
GROUPS IN THE DIPHENYLMERCURY INCREASE THE REACTION RATES. THE RESULTS  
OBTAINED ARE DISCUSSED IN TERMS OF AN S<sub>2</sub> MECHANISM.  
FACILITY: DEP. CHEM., MOSCOW STATE UNIV., MOSCOW, USSR.

UNCLASSIFIED

172 014

UNCLASSIFIED

PROCESSING DATE--13NOV70

TITLE--ISOTOPIC EXCHANGE OF HYDROGEN IN SUBSTITUTED BENZYL MERCURY  
CHLORIDES -U-  
AUTHOR--(03)-BUNDEL, YU.G., KOZENBERG, V.I., REUTOV, O.A.

COUNTRY OF INFO--USSR

SOURCE--IZV. AKAD. NAUK SSSR, SER. KHIM. 1970, (4), 918-20

DATE PUBLISHED-----70

*R*

SUBJECT AREAS--CHEMISTRY, NUCLEAR SCIENCE AND TECHNOLOGY

TOPIC TAGS--ISOTOPE EXCHANGE, HYDROGEN, BENZENE DERIVATIVE, ORGANIMERCURY  
COMPOUND, DEUTERIUM COMPOUND, CONJUGATE BOND SYSTEM

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3006/1011

STEP NO--UR/0062/70/000/004/0918/0920

CIRC ACCESSION NO--AP0134723

UNCLASSIFIED

014  
 CIRC ACCESSION NO--AP0134723 UNCLASSIFIED PROCESSING DATE--13NOV70  
 ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. H<sub>2</sub>O EXCHANGE WAS REPORTED FOR ARCH  
 SUB2 HGLL (TEMP. SHOWN IN PARENTHESES) AND UCL IN DRY DIOXANE (RATE  
 CONSTS. SHOWN AS K TIMES 10 PRIME2, MIN PRIME NEGATIVE1): PH 1.4  
 (120DEGREES), 0.4 (100DEGREES); O,MEC SUB6 H SUB4 1 (100DEGREES); P,MEC  
 SUB6 H SUB4 0.88 (100DEGREES); M,MEC SUB6 H SUB4 10 (100DEGREES); 3,5,ME  
 SUB2 C SUB6 H SUB3 1.31 (20DEGREES); 2,6,ME SUB2 C SUB6 H SUB3, 0.5  
 (120DEGREES); AND 2,4,5,ME SUB3 C SUB6 H SUB2 0.6 (120DEGREES). THE  
 EFFECT OF SUBSTITUENTS ON THE RATE OF H<sub>2</sub>O EXCHANGE WAS CORRELATED WITH  
 THE EFFECT ON THE RATE OF DEMETALATION. THIS INDICATED A SIMILARITY  
 BETWEEN THESE REACTIONS WHICH INCLUDE A TRANSFER OF THE REACTION CENTER  
 FROM THE ADJACENT C ATOM INTO THE AROMATIC RING. THE H<sub>2</sub>O EXCHANGE IN  
 THE 2,4,6,TRIMETHYLBENZYL MEMBER, SHOWN ABOVE, PROBABLY FOLLOWS A  
 MECHANISM DIFFERENT FROM THOSE OF THE OTHER ANALOGS AND THE EXCHANGE  
 OCCURS AT THE M POSITION RELATIVE TO THE HG.GROUPING, INDEPENDENTLY OF  
 ANY CONJUGATION EFFECT IN THE C,HG BOND, WHICH DOES TAKE PART IN THE  
 REACTION OF OTHER MEMBERS OF THE CLASS. FACILITY: MOSK. GOS.  
 UNIV. IM. LOMONOSOVA, MOSCOW, USSR.

UNCLASSIFIED

TITLE--DETERMINATION OF THE ANGLES OF ROTATION OF OPTICALLY PURE  
2, HALOHEXANES -U-  
AUTHOR--(03)-UGLOVA, E.V., KHROMOV, V.N., REUTOV, O.A.

UNCLASSIFIED

PROCESSING DATE--13NOV70

COUNTRY OF INFO--USSR

SOURCE--ZH. ORG. KHIM. 1970, 6(4), 655-7 (RUSS)  
DATE PUBLISHED-----70

*R*

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--HALOGENATED ORGANIC COMPOUND, HEXANE, CALCULATION, OPTIC  
PROPERTY, ORGANIC SULFUR COMPOUND

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAE--2000/2041

STEP NO--UR/0366/70/006/004/0655/0657

CIRC ACCESSION NO--AP0125629

UNCLASSIFIED

2/2 016

UNCLASSIFIED

PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0125629

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE STEREOSPECIFIC REACTIONS METHOD (M. R. HOFFMANN, 1964) WAS USED TO CALC. THE MAX. OPTICAL ROTATION ANGLES (SHOWN ON MICROFICHE). THE REACTIONS OF I WITH ETSNA GAVE MEBUCHSET (II) WITH INVERSION. THE CALCD. (ALPHA) PRIME20 SUBD MAX. OF II IS 17.8 DEGREES. THESE DATA DIFFER CONSIDERABLY FROM THE REPORTED (ALPHA) SUBD PRIME T VALUES.

UNCLASSIFIED



1/2 011 UNCLASSIFIED PROCESSING DATE--30OCT70  
TITLE--DEHYDRATION OF CYCLOPENTANECARBINOL, 1, PRIME13 C --U-  
AUTHOR--(05)--LOVTSOVA, A.N., REUTOV, O.A., LIPPMAN, E., PEHK, T., SHATKINA,  
T.N.  
COUNTRY OF INFO--USSR  
SOURCE--IZV. AKAD. NAUK SSSR, SER. KHIM. 1970, (3), 726  
DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--DEHYDRATION, CYCLOPENTANE, CARBON ISOTOPE, METHYLENE,  
CYCLOHEXENE, CHEMICAL REACTION MECHANISM

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRA--1999/1885

STEP NO--UR/0062/70/000/003/0726/0726

CIRC ACCESSION NO--AP0123673

UNCLASSIFIED

2/2 011

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0123673

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. DEHYDRATION OF CYCLOPENTYL CARBONIL  
TAGGED WITH PRIME13 C AT THE METHYLENE GROUP, BY HEATING TO 340 DEGREES  
WITH H SUB3 80 SUB3, GAVE MIXED OLEFINS CONTG. 70PERCENT CYCLOHEXENE,  
14PERCENT 1,METHYLCYCLOPENTENE, 12PERCENT METHYLENE CYCLOPENTANE AND  
4PERCENT UNIDENTIFIED MATERIAL. THE CYCLOHEXENE COMPONENT CARRIED THE  
TAGGED ATOM TO THE EXTENT OF 8PERCENT IN THE 4, AND 5, POSITIONS,  
INDICATING THAT THE INITIALLY FORMED CYCLOHEXENE IS ISOMERIZED TO SOME  
30-5PERCENT. THE DEHYDRATION MECHANISM IS DISCUSSED. FACILITY:  
INST. ELEMENTOORG. SOEDIN., MOSCOW, USSR.

UNCLASSIFIED

1/2 012 UNCLASSIFIED PROCESSING DATE--30OCT70  
TITLE--NUCLEOPHILIC REARRANGEMENT WITH 1,2,MIGRATION OF CHLORINE DURING  
THE DEAMINATION OF 2,CHLOROETHYLAMINE -U-  
AUTHOR-(03)-REUTOV, O.A., SMOLINA, T.A., POLEVAYA, O.YU.  
COUNTRY OF INFO--USSR  
SOURCE--DOKL. AKAD. NAUK SSSR 1970, 191(2), 366-8 (CHEM)  
DATE PUBLISHED-----70  
SUBJECT AREAS--CHEMISTRY  
TOPIC TAGS--CHLORINATED ORGANIC COMPOUND, AMINE, CARBON ISOTOPE, THIONYL  
CHLORIDE, CHEMICAL REACTION MECHANISM  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAME--2000/0700 STEP NO--UR/0020/70/191/002/0366/0368  
CINC ACCESSION NO--AT0124372  
UNCLASSIFIED

2/2 012

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AT0124372

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. DEAMINATION OF  
2,CHLOROETHYLAMINE,1, PRIME14 C IN HCL AT ODEGREES WITH 1 MOLE NANO SUB2  
WAS FOLLOWED BY RADIOTRACING OF THE PRODUCTS FORMED FROM THE AMINE  
PREPD. EITHER VIA N PRIME14 CCH SUB2 OH TREATMENT WITH LIALH SUB4, OR  
IWTH PCL SUB5. THE 1ST METHOD RESULTED IN SOME 3-4PERCENT MORE  
REARRANGED PRODUCT IN THE DEAMINATION REACTION THAN FOUND IN THE  
PRODUCTS FROM THE 2ND METHOD OF SYNTHESIS. IT WAS SHOWN THAT CONVERSION  
OF HOCH SUB2 CH SUB2 NH SUB2 WITH SOCL SUB2 TO CICH SUB2 CH SUB2 NH SUB2  
RESULTS IN 9PERCENT MIGRATION OF THE NH SUB2 GROUP, SO THAT THE PRIME14  
C TAG APPEARS TO THAT EXTENT IN THE POSITION ADJACENT TO THE CL ATOM.  
TWO ALTERNATE GENERAL SCHEMES OF REACTION WERE SUGGESTED.  
FACILITY: MOSK. GOS. UNIV. IM. LOMONOSOVA, MOSCOW, USSR.

UNCLASSIFIED

1/2 013 UNCLASSIFIED PROCESSING DATE--20NOV70  
 TITLE--SOLVENT EFFECTS OF PMR SPECTRA OF METHYL DERIVATIVES OF SILICON,  
 GERMANIUM, TIN, LEAD, AND MERCURY -U-  
 AUTHOR-(03)-PETROSYAN, V.S., REUTOV, G.A., VOYAKIN, A.S.  
 CCUNTRY OF INFO--USSR  
 SOURCE--ZH. ORG. KHIM. 1970, 6(5), 889-93  
 DATE PUBLISHED-----70  
 SUBJECT AREAS--CHEMISTRY  
 TOPIC TAGS--SPECTROSCOPIC ANALYSIS, PROTON MAGNETIC RESONANCE, ORGANIC  
 SOLVENT, ORGANOTIN COMPOUND, ORGANOCERMANIUM COMPOUND, ORGANOSILICON  
 COMPOUND, ORGANOLEAD COMPOUND, ORGANOMERCURY COMPOUND  
 CONTROL MARKING--NO RESTRICTIONS  
 DOCUMENT CLASS--UNCLASSIFIED  
 PROXY REEL/FRAE--3002/0421 STEP NO--UR/0366/70/005/005/0889/0893  
 CIRC ACCESSION NO--AP0127992  
 UNCLASSIFIED

2/2 013

UNCLASSIFIED

PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0127992

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. PMR SPECTRA WERE OBTAINED OF SIM  
SUB4, GEFE SUB4, SNME SUB4, AND HGME SUB2 IN ET SUB2 O DIMETHOXYETHANE,  
PYRIDINE, DICXANE, HCONME SUB2 ACETONE, POINME SUB2) SUB3, CYCLOHEXANE,  
CCL SUB4, CHCL SUB3, CH SUB2 CL SUB2, THIOPHENE, ME SUB2 SO SUB2,  
TETRAMETHYLETHYLENEDIAMINE, ET SUB2 S, PET SUB3, TETRAHYDROFURAN, OR NET  
SUB3. THE CHEM. SHIFTS OF ME GROUP PROTONS COULD NOT BE CORRELATED WITH  
THE SOLVATING ABILITY OF THESE SOLVENTS. HOWEVER, A CORRELATION WAS  
FOUND BETWEEN THE SPIN SPIN CONSTS. OF METAL ME GROUP PROTONS  
INTERACTIONS AND THE ELECTRON DONOR PROPERTIES OF THE SOLVENTS.  
FACILITY: MOSK. GOS. UNIV. IM. LOMENOSOVA, MOSCOW, USSR.

UNCLASSIFIED

Acc. Nr:

AP0053769

Abstracting Service:  
CHEMICAL ABST.

5-76

Ref. Code:  
UR0366

110862b Possible synthesis of isomeric methylcyclohexyl chlorides and bromides from the corresponding methylcyclohexanols under the influence of phosphorus pentahalides and hydrohalic acids. Bundel, Yu. G.; Yuldashev, A. M.; Reutoy, O. A. (USSR). *Zh. Org. Khim.* 1970, 6(2), 321-5 (Russ). The action of PCl<sub>5</sub> on *cis*-2-methylcyclohexanol (*cis*-I) gave a mixt. of products contg. 1-chloro-1-methylcyclohexane, the *cis* and *trans* isomers of 1-chloro-2-methylcyclohexane (II), and  $\alpha$ -chloroethylcyclopentane (III). *trans*-I gave with PCl<sub>5</sub> II and III only. *cis*-I or *trans*-I analog with PBr<sub>5</sub> gave different product distribution, including 1-methylcyclohex-1-enes. *cis* or *trans*-3-Methylcyclohexanols or 4-methylcyclohexanols gave only isomeric methylcyclohexyl halides and no cyclopentane derivs. The reactions of 4-methylcyclohexanols proceed 80-90% with inversion of configuration. The action of concd. HCl or HBr on the above methylcyclohexanols gave complex mixts. from which *cis*- and *trans*-2-methylcyclohexyl chlorides were sepd. by gas chromatog.

CPJR

REEL/FRA  
19830832

7

Acc. Nr:

AP0041509

Abstracting Service: R

CHEMICAL ABST.

Ref. Code:

4/70 UR0366

89562s Rearrangement of carbonium ions during the deamination of some primary alkylamines. Bundel, Yu. G.; Levina, I. Yu.; Reutor, O. A. (USSR). Zh. Org. Khim. 1970, 6(1), 3-5 (Russ). isobutylamine (I), 1-amino-2-methylbutane (II), and 1-amino-2-ethylbutane (III) were deaminated at 0° in HClO<sub>4</sub> soln. The product distribution (in vol. %), detil. by gas chromatog. was as follows: I → 24.5 iso-BuOH + 22.5 sec-BuOH + 53 *tert*-BuOH; II → 14.5 2-methylbutanol + 8.5 2-pentanol + 6.5 3-pentanol + 72 2-methyl-2-butanol; III → 12 2-ethylbutanol + 3-hexanol + 3-methyl-3-pentanol. The isomerizations involve not only the migration of H<sup>+</sup>, but also Me and Et group migrations. Et group migrates in preference to Me group due to steric factors and relative stability of the transition carbonium ions.

CPJR

*me*

4

7

REEL/FRA  
19751377



REUTOV, P.A.

MEDICAL SERVICE

U-9605

25

Re: [unclear]

SOME SPECIAL PROBLEMS IN THE TREATMENT OF FRACTURES  
OCCURRING WITH LONG PRESSURE ON THE AFFECTED EXTREMITY  
P. A. Reutov, Doctor, Lieut.-Colonel, Medical Service

UDK 616.716-001.51616-001-22  
501 Military Medical Academy  
Nov 1990

Severe closed injuries to the extremities resulting from traumatic compression, and the characteristic clinical situation of traumatic toxicosis due to such injuries have been described by numerous researchers (A. Ya. Prival, 1944; G. R. Salimov, 1950; N. Ya. Kurin, 1951; R. Ya. Ushakov, 1953; Gerasimov and Ibrail, 1954; and others). In case of prolonged compression of an extremity, besides changes to soft tissues, bone fractures are also noted in 10 percent of the cases. Among all forms of injuries to the extremities, combined fractures of bones are the most serious ones and, from the standpoint of treatment, they have not been sufficiently studied.

In order to analyze the detailed progress of fractures in the presence of sustained compression, and to assess the chances of saving the extremity in question in such cases, we set up seven series of experiments (the first two being control cases) on 56 mongrel dogs, weighing from 8 to 20 kg. The methodology of the experiments consisted of the following: before the experiments began, the dogs were given injections of methine hydrochloride on the basis of 0.5 to 1 milliliter of 1 percent solution per kilogram of weight of the animal. After 20 to 40 minutes, the dog's hip was subjected to sustained compression in a manual press, with the simultaneous recording of the diastolic of the hip bone. On the basis of data available in literature (V. A. Ilyukov et al, 1961; I. K. Krut, 1957, etc.), we planned that in order to obtain a pronounced traumatic toxicosis in a dog, it is necessary to compress the soft tissue of a single hip with a force of from 500 to 1200 kilograms, for a duration of from 4 to 8 hours. We have accordingly constructed a press, with special levers, enabling us to carry out simultaneously a closed fracture and a measured hip compression with a force of from 700 to 1,000 kilograms over an area of from 200 to 250 cm<sup>2</sup>. The duration of the compression in each series of experiments was from 4 to 16 hours.

During the period of compression of the extremity, the animals developed a characteristic shock-like reaction. After the pressure removed, there were pronounced general and local manifestations of the syndrome of continued crushing. The animals became ataxic, showed little mobility, and declined food. After 2 to 4 hours following decompression, the damaged extremity developed considerable edema, which reached its maximum during the second 24 hours. The hip swelled normally to 3 to 4 times its original size, and the tissue became dense and taut. The skin showed pink, blue and white spots, typical of a marbled appearance. The sensitivity of the skin was reduced. A week later, often, a total absence of arterial pulse could be observed. A break in the hip bone could be established both clinically and radiologically, with displacement of bone fragments.

In the surgery room where the experimental animals were taken, the principal anti-shock measures were taken: an enclosed narcotic blockade of the proximal sector of the damaged extremity was administered; cold was applied to the hip, and there was intravenous introduction of

J-9505

26

polythene, physiological saline solution, 5-percent solution of glucose, 3-percent solution of bicarbonate of soda, etc. After 6 to 12 hours, when the condition of the animal improved and there was a normalization of its hemodynamic indicators, surgery was carried out under anesthesia, using either or sodium chloroformal.

To reduce the edema and tissue tension, the skin and the sections of the muscle were sutured with strip incisions. These the hematomas and free bits of bone fragments not connected with soft tissues, were likewise removed. With the aid of intramedullary introduction of a special matrix, firm osteosynthesis was performed as far as possible — using the remaining fragments of the hip. The wound was externally washed with physiological solution. Its edges were soaked with a solution of novocaine and antibiotics (penicillin, 300,000 i.u., streptomycin, 200,000 i.u.) and the operation was completed by stretching the wound and suturing the skin.

To study the period required for consolidation of the fracture, X-rays were taken periodically. After the animal's death or the end of the experiment, tissue from the point of fracture was subjected to histological investigation. The results of the treatment of hip fractures combined with lengthy compression. In all of the series of these experiments, are shown in the table below.

Series of experiments	Duration of hip compression, hrs.	Number of animals	Complications and outcome					Average period of consolidation, in months
			healed, no complications	necrosis, suppuration, etc.	died	consolidation of fracture	did not take place	
I	Fracture without compression	5	5	-	-	5	-	2-2.5
II	4-6 hrs. (without treatment)	6	-	6	3	-	3	-
III	4-6	10	6	4	-	10	-	3-3.5
IV	6-8	10	2	6	2	8	-	3-4
V	8-10	10	2	8	4	5	1	4-5
VI	10-12	9	-	9	5	3	1	5-6
VII	12-14	6	-	6	5	-	1	-

Acc. Nr:

**N0048208**

Abstracting Service:

CHEMICAL ABST. 5-70

Ref. Code:

GE 9006

R

102097r Basic trends of technical advances in comminuting and grinding equipment. Korenkov, G. I.; Reutov, S. V.; Smirnova, T. N. (Tech. Hochsch. Otto von Guericke, Magdeburg, E. Ger.). *Chem. Tech. (Leipzig)* 1970; 22(2); 77-83 (Ger). A review is given with 39 refs. on primary and fine crushers and mills made in the USA.

BVJG

42

1/1

REEL/FRAME  
19791921

18

1/2 029 UNCLASSIFIED PROCESSING DATE--23OCT70  
TITLE--PREPARATION OF SAMPLES FROM LARGE OBJECTS FOR ELECTRON MICROSCOPIC  
STUDIES -U-  
AUTHOR--REUTOV, V.F. *R*  
COUNTRY OF INFO--USSR  
SOURCE--ZAVOD. LAB. 1970, 36(3), 304-5  
DATE PUBLISHED-----70  
  
SUBJECT AREAS--MATERIALS, MECH., IND., CIVIL AND MARINE ENGR  
TOPIC TAGS--ELECTRON MICROSCOPY, STAINLESS STEEL, METAL ELECTROLYTIC  
POLISHING, METAL TUBE, METALLOGRAPHY/(U)KH16N15M38 STAINLESS STEEL,  
(U)OKH18NIOT STAINLESS STEEL  
  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAME--1996/1886 STEP NO--UR/0032/70/036/003/0304/0305  
CIRC ACCESSION NO--AP0118848  
UNCLASSIFIED

2/2 029

UNCLASSIFIED

PROCESSING DATE--230CT70

CIRC ACCESSION NO--AP0118848

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. IN THE DESCRIBED APP. ELECTROLYTIC POLISHING AND JET POLISHING ARE DONE SIMULTANEOUSLY. THUS, A DISK OF 3-MM DIAM. AND 0.05-0.5 MM. THICK CUT FROM THE SPECIMEN IS FASTENED IN A TEFLON HOLDER AND IMMERSSED IN THE ELECTROLYTE. THE PRESSURE OF THE JET IS SO SLECTED THAT IT COVERS THE ENTIRE DISK. THE CATHODE IS PLACED NOT IN THE JET AS USUAL BUT IN THE ELECTROLYTE. BY THIS ARRANGEMENT SIMULTANEOUS ELECTROLYTIC AND JET ELECTROLYTIC POLISHING ARE OBTAINED. THIS METHOD WAS USED FOR SPECIMENS OF TUBE STEEL OKH18N10T AND PLATE STEEL KH16N15M3B DESIGNATED FOR MECH. TESTING. THE ELECTROLYTE USED WAS 60PERCENT H SUB2 PO SUB4 PLUS 40PERCENT H SUB2 SO SUB4 AT 70V, C.D. 10A-CM PRIME2, AND TEMP. 70-80DEGREES.

UNCLASSIFIED

USSR

UDC 669.24:620.187

IBRAGIMOV, SH. SH., and REUTOV, V. F. *R*

"Electron Microscopic Investigation of Alpha-Particle-Irradiated Nickel"

Sverdlovsk, Fizika Metallov i Metallovedeniye, Vol 29, No 6, Jun 70, pp 1268-1273

Abstract: Results are presented of the electron microscopic investigation of nickel irradiated with 42-44-Mev alpha-particles with an integral flow of  $3.8 \cdot 10^{17}$  alpha-particle/cm<sup>2</sup>. After irradiation, the formation of dislocation loops with a diameter of 100-1000 Å and an average density of  $10^{15}$  loops/cm<sup>2</sup> are observed on nickel. Heating of the object by an electron beam leads to the appearance of helium pores, the first appearing on the grain boundaries and dislocation lines. The shifting of gas pores and the growth connected with it are observed. The rate of shifting of pores in the presence of a temperature gradient is inversely proportional to their radius. The helium pores interact effectively with dislocations and hinder their movement. The authors thank V. M. Agranovich and E. YA. Mikhlin for useful advice and remarks in the course of the work and discussion of the results.

1/1

AA0052663

REUTOV

Y.M.M.  
UR 0482

Soviet Inventions Illustrated, Section III Mechanical and General,  
Derwent, 2-76

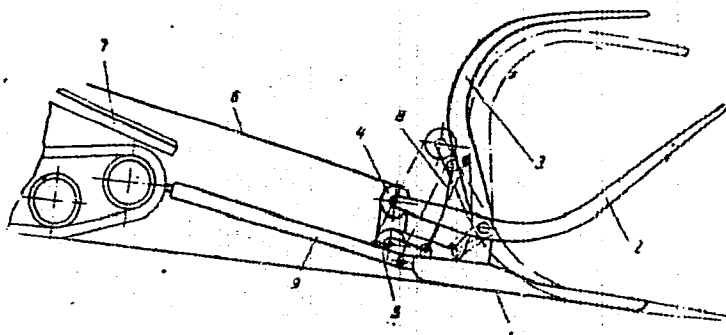
244184 TIMBER ROLLING MECHANISM comprises a chassis and a grab with a compound pulley for covering the grab. There are also log grabs for tractors and hoists which are used for rolling timber into water. In order to retain efficiently the bundles of timber during the movement of the mechanism over uneven surfaces, the movable blocks (4) of the pulley system are fixed in the lower jaw (2) of the grab, whilst the end of the rod of the pulley system is fixed on the upper jaw (3) of the grab which is connected to the chassis by a rod (8) regulated according to length. By means of the compound pulleys of the grab the bundle of timber is compressed by the jaws of the mechanism and is retained by them during transportation. The mechanism can be coupled to any hauling tractor.

29.12.67. as 1206439/29-33, LESHKEVICH, A.I. et al.  
Timber Ind. Mech. & Energetics Res. & Design Inst.  
(8.10.69) Bul. 17/14.5.69. Class 81e, Int. Cl.  
B 65g.

19821411

AA0052663

Leshkevich, A.I.; Levitskiy, Ya.Ye.; Reutov, Yu.M.; Baurin, I.P.;  
Korolev, V.Ye.; Tsentral'nyy Nauchno-Issledovatel'skiy i Proyektno-  
Konstruktorskiy Institut Mekhanizatsiy i Energetiki Lesnoy Promyshlennosti



2/2

19821412



USSR

UDC 669.71'721.048

REUTOVA, G. A., and KUKASHENKO, E. YE.

"Composition and Properties of Salt Baths for Two-layer Processes of Vacuum Distillation"

V. sb. Vakuumn, protsessy v tsvetn. metallurgii (Vacuum Processes in Non-ferrous Metallurgy -- Collection of Works), Alma-Ata, "Nauka," 1971, pp 144-149 (from Referativnyy Zhurnal -- Metallurgiya, No 6, Jun 71, Abstract No 6G158)

Translation of Abstract: According to results of tests and calculations, optimum composition of a "hot" bath was selected and successfully operated for a two-layer process of vacuum distillation for alloys on Al and Mg bases. The composition of the fusion recommended was  $\text{CaCl}_2$  with 15-20%  $\text{CaF}_2$  for alloys on a Mg base and a mixture of  $\text{MgF}_2$ ,  $\text{CaF}_2$ , and  $\text{BaF}_2$  in a 40:18:42 ratio for alloys on an Al base. (three illustrations; 3 bibliographic entries)

1/1

- 3 -

Acc. Nr:

AF0034074

Abstracting Service:

CHEMICAL ABST. 4-70

Ref. Code:

UR 0078

R

71424p Saturated vapor pressure and entropies of mixing of calcium chloride calcium fluoride melts. Lukashenko, E. E.; Reznova, G. A. (Krasnoyarsk. Inst. Tsvet. Metal. im. Kalinina, Krasnoyarsk, USSR). *Zh. Neorg. Khim.* 1970, 15(1), 244-5 (Russ). Fused CaCl<sub>2</sub>-CaF<sub>2</sub> system shows a pos. deviation from Raoult's law. Satd. vapor pressure of the system with compn. changes from 90 to 45 mole % CaCl<sub>2</sub> changed from  $5.77 \times 10^{-3}$  to  $1.77 \times 10^{-3}$  torr. The partial molar entropy of mixing for mixts. contg. 20 mole % CaF<sub>2</sub> is: for CaCl<sub>2</sub>, 0.971 and for CaF<sub>2</sub>, 5.548 cal/mole-degree and for mixts. contg. 50 mole % CaF<sub>2</sub>: for CaCl<sub>2</sub>, 3.088 and for CaF<sub>2</sub>, 1.832 cal/mole-degree. The excess integral entropy of mixing of melts reaches +0.9 cal/mole-degree.

HMJR

REEL/FRAME

19710717

18

di

1/2 015

UNCLASSIFIED

PROCESSING DATE--20NOV70

TITLE--SATURATED VAPOR PRESSURE AND ENTHALPIES OF  
SUBLIMATION AND VAPORIZATION -U-  
AUTHOR-(C2)-LUKASHENKO, E.YE., REUTOVA, G.A.

R

COUNTRY OF INFO--USSR

SOURCE--Zh. Fiz. Khim. 1970, 44(3), 600-2

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY, PHYSICS

TOPIC TAGS--ENTHALPY, CALCIUM CHLORIDE, SUBLIMATION, VAPORIZATION, VAPOR  
PRESSURE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3001/0461

STEP NO--UR/0076/70/044/003/0600/0602

CIRC ACCESSION NO--AP0126213

UNCLASSIFIED

2/2 015  
CIRC ACCESSION NO--AP0126213  
ABSTRACT/EXTRACT--(U) GP-0-

UNCLASSIFIED

PROCESSING DATE--20NOV70

AND LIQ. CAL SUB2 HAS BEEN MEASURED AT 973-1273 DEGREE SK. EXPRESSIONS  
FOR THE TEMP. DEPENDENCE OF THE SATD. VAPOR PRESSURE AS WELL AS THE  
SUBLIMATION (DELTA H EQUALS 338.48 KJ-MOLE) AND EVAPN. (DELTA H EQUALS  
226.43 KJ-MOLE) ENTHALPIES ARE PRESENTED. FACILITY:  
KRASNOYARSK, INST. TSNET. METAL. IM. KALININA, KRASNOYARSK, USSR.

UNCLASSIFIED

Acc. Nr.:

AP0032015

Ref. Code: UR 0475

PRIMARY SOURCE: Vrachebnoye Delo, 1970, Nr 1, pp 37-38

SIGNIFICANCE OF HEREDITARY FACTORS IN THE DEVELOPMENT OF TRANSITORY DISORDERS OF CEREBRAL BLOOD CIRCULATION

G. V. Reutov (Zhdanov)

It is suggested that hereditary factors play a major part in the development of vascular disorders generally and transitory disturbances of the cerebral blood circulation in particular.  
In hereditarily aggravated patients transitory disturbances of the cerebral blood circulation have as a rule a more severe course and are characterized by marked functional nervous disorders as compared with patients showing no hereditary vascular aggravation.

MK

REEL/FRAME  
19700167

2

USSR

UDC 621.43.011:533;621.5:533

REUTOVICH, L. N., SHATS, V. M., ARTMANOVA, V. T., SKOPINA, S. N.

"Hydrodynamics of Submerged Combustion Equipment (Gas Distribution)"

Tr. Leningr. n.-i. i provekt. in-ta osnovn. khim. prom-sti (Works of the Leningrad Scientific Research and Design Institute of the Basic Chemical Industry), 1972, No. 6, pp 127-132 (from RZh-Mekhanika, No 3, Mar 73, Abstract No 3B423)

Translation: Results of studies of the degree of uniformity of the distribution of gas flow in a liquid as a function of the gas rate, the area of the useful cross section of the gas distribution device, and the depth of its immersion in the liquid are presented. Authors' abstract.

1/1

- 59 -

USSR

R

UDC 681.327.12

VOLOKHOV, V. S., LEMISHEVSKIY, G. A., REUTSKIY, V. YE., Institute of Cybernetics, Academy of Sciences of the Ukrainian SSR

"An Image Conversion Device"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 12, 1970, Author's Certificate No 267213, filed 11 Apr 68, p 125

Abstract: This Author's Certificate introduces a device for image conversion which contains a rotating Dove prism, a TV transmitting camera, and a band-pass frequency filter module. As a distinguishing feature of the patent, the converter is designed to eliminate error in the initial reading of the image spectrum redistribution functions and increase the speed by locating the Dove prism in the hollow rotor of a step-by step motor and connecting the vertical sweep unit of the TV camera through a control circuit to the phases of the step-by-step motor.

1/1

USSR

Radiobiology

UDC 577.1:615.787:612.8.015:616-001.28

SNISAR', I. A., REVA, A. D., Biochemistry and Biophysics Department of  
Dnepropetrovsk University

"Synthesis of Acetylcholine in Functionally Different Areas of the Spinal Cord  
in the Dynamics of Acute Radiation Sickness"

Kiev, Ukrains'kiy Biokhimichnyi Zhurnal, Vol 44, No 4, 1972, pp 497-499

Abstract: A study was made of the intensity of acetylcholine synthesis in morphologically and functionally different areas of the lumbar enlargement of the spinal cord of cats -- the gray matter of the anterior and lateral horns, the gray matter of the posterior horns and the white matter -- and also in the anterior and posterior cerebrospinal radix at different times after total x-radiation with a dosage of 1,200 roentgens.

A significant increase in the intensity of acetylcholine synthesis in the investigated tissues is detected during the initial periods of acute radiation sickness on the 5th and 6th days, and in the terminal stage (8th to 10th days) its inhibition is observed.

1/1



TITLE--OXIDATIVE PHOSPHORYLATION IN THE SPINAL CORD OF IRRADIATED ANIMALS  
UNCLASSIFIED  
PROCESSING DATE--04DEC70  
-U-  
AUTHOR--(02)-DVORETSKIY, A.I., REVA, A.D.

COUNTRY OF INFO--USSR

SOURCE--RADIOBIOLOGIYA 1970, 10(2), 309-10

DATE PUBLISHED-----70

R

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--PHOSPHORYLATION, SPINAL CORD, CAT, MITOCHONDRION, RADIATION  
BIOLOGIC EFFECT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY FICHE NO-----FD70/605004/B10 STEP NO--UR/0205/70/010/002/0309/0310

CIRC ACCESSION NO--AP0139605

UNCLASSIFIED

2/2 032

CIRC ACCESSION NO--AP0139605  
ABSTRACT/EXTRACT--(U) GP-0-

UNCLASSIFIED

PROCESSING DATE--04DEC70

PHOSPHORYLATION IN THE SPINAL CORD HAS BEEN STUDIED IN CATS. OXIDATIVE PHOSPHORYLATION WAS ESTD. IN POOR AND OPTIMUM INCUBATION MEDIA, AND THE DEPENDENCE ON MEDIUM AND SUBSTRATE WAS FOUND. A LOWER RADIORESISTANCE WAS OBSD. IN THE POOR INCUBATION MEDIUM. AN INHIBITION OF OXIDATIVE PHOSPHORYLATION WAS OBSD. 5 DAYS AFTER IRRADN. WITH A DOSE OF 1.2 KR USING ALPHA KETOGLUTARATE AS SUBSTRATE. SINGLE IRRADN. WITH A DOSE OF 6 KR INHIBITED OXIDATIVE PHOSPHORYLATION WITHIN 48 HR USING ALPHA KETOGLUTARATE, GLUTAMINE AND SUCCINATE, AND INCREASED THE PERMEABILITY OF NADH INTO THE SPINAL CORD MITOCHONDRIA. THE ADDN. OF K PRIME POSITIVE (4.5 TIMES 10 PRIME NEGATIVE 4 M) TO THE OPTIMUM INCUBATION MEDIUM DID NOT AFFECT OXIDATIVE PHOSPHORYLATION IN THE IRRADIATED SPINAL CORD.  
USSR. FACILITY: DNEPROPETROVSK, GOS. UNIV., DNEPROPETROVSK,

UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--20NOV70

TITLE--THE CHOLINESTERASE ACTIVITY OF THE SPINAL CORD OF ANIMALS AFTER X RAY IRRADIATION -U-

AUTHOR--(G2)-SNISAR, I.A., REVA, A.D.

R

COUNTRY OF INFO--USSR

SOURCE--BYULLETEN' EKSPERIMENTAL'NOY BIOLOGII I MEDITSINY, 1970, VOL 49, NR6, PP 47-49

DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--SPINAL CORD, CHOLINESTERASE, X RAY RADIATION BIOLOGIC EFFECT, RADIATION USAGE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3004/0705

STEP NO--UR/0219/70/049/006/0047/0049

CIRC ACCESSION NO--A0131304

UNCLASSIFIED

029  
CIRC ACCESSION NO--AP0131304 UNCLASSIFIED PROCESSING DATE--20NOV70  
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE TOTAL CHOLINESTERASE ACTIVITY  
OF DIFFERENT STRUCTURES OF THE SPINAL CORD IS DISSIMILAR: IT IS HIGHEST  
IN THE GREY MATTER OF THE ANTERIOR AND POSTERIOR HORNS. PHASIC CHANGES  
IN THE LE ENZYMIC ACTIVITY ARE SEEN 1, 24 AND 48 HOURS AFTER WHOLE BODY  
X RAY IRRADIATION WITH A SINGLE DOSE OF 1200 R. FACILITY: CHAIR OF  
BIOCHEMISTRY AND BIOPHYSICS OF THE ONEPROPETROVSK STATE UNIVERSITY.

UNCLASSIFIED

R

USSR

UDC 612.83.015.34.014.481.1

SNISAR', I. A. and REVA, A. D., Chair of Biochemistry and Biophysics, Dnepropetrovsk University

"Spinal Cord Cholinesterase Activity in X-ray irradiated Animals"

Moscow, Byulleten' Eksperimental'noy Biologii i Meditsiny, No 6, 1970, pp 47-49

Abstract: Total cholinesterase activity undergoes phase changes in various structures of the cat spinal cord after whole-body X-ray irradiation with a single dose of 1200 r; it decreases in the gray matter of the anterior and posterior horns an hour after exposure, returns to the original level after 24 hours, and again decreases after 48 hours. Phase changes also take place in cholinesterase activity in the white matter and substance of the anterior and posterior roots after irradiation, but they are less pronounced and in the opposite direction of the changes in the gray matter.

1/1

USSR

Radiobiology

UDC 577.153:612.8.015:616.001.28

SNISAR, I. A., and REVA, O. D., Chair of Biochemistry and Biophysics, Dnepropetrovsk University

"Cholinesterase Activity of the Spinal Cord in the Dynamics of Radiation Sickness"

Kiev, Ukrainskiy Biokhimicheski, Zhurnal, Vol 42, No 4, 1970, pp 469-471

Abstract: Total cholinesterase activity was studied in functionally and morphologically different regions of lumbar enlargement of the cat spinal cords, including the gray matter of the frontal and lateral horns (motor zone), gray matter of the posterior horn (sensory zone), white matter representing the neural conductivity network, and frontal and posterior roots consisting principally of cell axons of the motor centers of spinal ganglia. Cholinesterase activity was determined by the electrometric method. Animals were subjected to whole-body irradiation of 1200 r. Considerable inhibition of enzymatic activity was noted 1 hour after irradiation and again 5-6 days later. Cholinesterase activity 24 and 48 hours and 9-10 days after irradiation was somewhat lower but still in the range of normal values. Local irradiation of the lumbar-sacral region only produced the same changes after 1 hour as the total dose. Intramuscular injection of cysteine before irradiation exerted a protective effect.

1/1

USSR

REVA, T. L., Kiev

UDC 534.374

"Biharmonic Solutions of Problems for Elastic-Plastic Bodies"

Kiev, Prikladnaya Mekhanika, Vol VII, No 4, 1971, pp 130-133

Abstract: A study is made of elastic-plastic problems for a plane weakened by a round hole to the outline of which a normal force and a tangential force equal to zero are applied. At infinity the plane is stretched by two unequal forces. It is assumed that the plane comprises a homogeneous material in the elastic zone and possibly an inhomogeneous material in the plastic zone. The investigated material can be hardening. In addition, it is considered that the stress function in the plastic zone satisfies the biharmonic equation. Under the assumptions made, the boundary separating the elastic and plastic zones is an ellipse, and with forces equal at infinity, it is a circle.

1/1

- 120 -

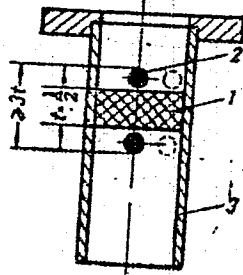
AA0046396 REVA, V.I.

UR 0482

Soviet Inventions Illustrated, Section II Electrical, Derwent,

2/70

242248 WAVEGUIDE PORT for UHF consisting of a ceramic block (1) of a thickness equal to half a wavelength, and two compensating ceramic rods placed in close proximity to block (1) parallel to the wide wall of the waveguide. The construction increases the width of transmission.



4

27.6.67 as 1167567/26-25.R.N.TUMAKOVA et al.(16.9.69)  
Bul 15/25.4.69. Class 21a<sup>4</sup> Int.Cl. H 01 p.

1/2

gc

19781584



AA0046396

AUTHORS: Tumakova, R. N.; Reva, V. I.; Kostyurgin, Ye. A.; Gabyshev, V. G.

18 8/2  
19781585

USSR

ZUEV, Yu. S., REVAZOVA, M. A., BUKHINA, M. F.

"Influence of Morphology of Elastomers on Strength Properties Under Various Deformations"

Tr. Mezhdunar. Konf. Po Kauchuki i Rezine [Works of International Conference on Cautchouc and Rubber], Moscow, Kimiya Press, 1971, pp 146-152. (Translated from Referativnyy Zhurnal Mekhanika, No 1, 1972, Abstract No 1V1497 by I. M. Kershteyn).

Translation: The influence of the size of crystalites and degree of crystallinity on the strength properties of elastomers is studied. Films about 10  $\mu$  thick of regular structure polychloroprene (type NP nairite) and urethane rubber (type SKU-8) are studied. The rate of crack propagation is used as the strength characteristic, allowing the restructuring occurring during deformation of the polymer to be considered. Specimens with various initial spherulite dimensions (60-100, 10-30 and 1-3 $\mu$ ) were stretched to a predetermined deformation level and subjected to corrosive media: ozone-containing air and mixtures of isoamyl alcohol and water. The birth and growth of microcracks and macrocracks were observed in a microscope. At relatively low deformation (less than 100% for nairite and less than 25% for SKU-8) transverse macrocracks were formed, while at high deformations (over 400% for nairite, over 300% for SKU-8) longitudinal cracks formed. At intermediate deformations, both types

- 95 -

USSR

UDC: 669.71.472

REVAZYAN, A. A., GARIBYAN, A. O.

"Study of the Inertial Nature of the Formation of emf"

Tr. Arm. N.-I. i Proyeckt. In-ta Tsvet. Metallurgii [Works of Armenian Scientific Research and Planning Institute for Nonferrous Metallurgy], 1972, No 1(10), pp 197-201 (Translated from Referativnyy Zhurnal Metallurgiya, No 8, 1973, Abstract No 8G173, by G. Svodtseva).

Translation: The formation of the emf of Al electrolyzers is inertial in nature. This property results from the inertial nature of the potential of the carbon anode. Hindering or facilitating the process of transfer of potential-determining ions may influence the potential of the carbon anode and, consequently, the formation of the emf. The emf is greater, the greater the difference in concentration of potential-determining ions at the electrode and in the volume of the electrolyte.

1/1

- 77 -

USSR

UDC 669.713.7.01

REVAZYAN, A. A., MELKONYAN, V. A., AGASIYEV, L. I., and VOSKANYAN, G. M.

"Anode Diffusion in Aluminum Electrolysis"

Moscow, Tsvetnyye Metally, No 10, Oct 70, pp 38-40

Abstract: The existence of diffused hydrogen in aluminum is discussed on the basis of available data. An experiment on the electrolysis of a cryolite aluminum oxide melt in a sintered corundum cell, conducted with the purpose of establishing whether the hydrogen comes from water electrolysis, is described. The possibility of hydrogen anode diffusion and its cathode emanation was verified by laboratory tests in the sintered corundum cell. The absence of a cathode aluminum formation process was demonstrated by conducting the electrolysis with a hydrogen-saturated anode.

1/1

Thorium and Uranium Refining

USSR

UDC: 669.822.053.2

VLASOV, V. G., REVEBTSOV, V. V., KISELEV, V. A.

"Carbon-Thermal Reduction of Mixtures of Uranium and Zirconium Dioxides"


Nauch. Tr. N.-I. i Proyekt. In-t Redkomet. Prom-sti [Scientific Works of Scientific Research and Planning Institute for the Rare Metals Industry], 1972, No 42, pp 106-115 (Translated from Referativnyy Zhurnal Metallurgiya, No 8, 1973, Abstract No 8G260, by G. Svodtseva).

Translation: Carbon-thermal reduction of mixtures of  $ZrO_2$  and  $UO_2$  begins at 1600-1650° K. At 1870° K, reduction is completed in one hour. The rate of the reaction depends on temperature, apparent activation energy with low degrees of reduction amounting to 170-210 kJ/mol, at the end of the process 230-250 kJ/mol. The probabilities of various mechanisms of the interaction are studied. The leading interaction is that involving the vapor-phase oxide. The combined reduction of U and Zr oxides occurs with the formation of a solid solution of UC and ZrC. 3 figures.

1/1

USSR

UDC: 669.822.053.2

VLASOV, V. G., ZHUKOVSKIY, V. M., SEMAVIN, Yu. N., REVEBTSOV, V. A., V. 

"Some Singularities in the Reduction of Uranium Oxides"

V sb. Mekhanizm i kinetika vosstanovl. met. (Mechanism and Kinetics of Metal Reduction--collection of works), Moscow, "Nauka", 1970, pp 126-131 (from RZh-Metallurgiya, No 10, Oct 70, Abstract No 10 G187)

Translation: An investigation is made into the kinetic singularities of reduction of uranium oxides ( $UO_3$  in various modifications,  $U_3O_8$ ,  $U_4O_9$ , and  $UO_2$ ) by the gases  $CO$ ,  $H_2$ ,  $NH_3$ ,  $H_2+N_2$ ,  $CH_4$  and also by  $C$ . The adsorption-catalytic theory is taken as a basis for a detailed examination of the mechanism of interaction of oxides with gaseous reducing agents. The mechanism of high-temperature interaction of  $UO$  with  $C$  is discussed. One illustration, bibliography of nine titles. Authors' abstract.

1/1

USSR

UDC 621.382.002

REVELEVA, M. A., MARTYNOVA, N. A., NIFONTOV, N. G.

"Effect of Some Nonorganic Protective Coatings on the Surface Properties of Silicon"

V sb. Vopr. mikroelektroniki (Problems of Microelectronics -- Collection of Works), Kiev, "Nauk. dumka," 1971, pp 103-110 (from RZh--Elektronika i yeye primeneniye, No 10, October 1971, Abstract No 10B490)

Translation: Films of SiO<sub>2</sub>, which are not inferior in their characteristics to the thermally grown, are produced by the reactive sputtering method. The effect of reactive sputtering of films on the surface properties of Si is studied. At the SiO<sub>2</sub>--Si boundary an accumulation of holes is discovered in the space-charge layer of both n- and p-Si. It is assumed that in contrast to thermal SiO<sub>2</sub>, the reactive SiO<sub>2</sub> contains a negative charge. The density of this charge is equal to  $(2-5) \cdot 10^{11} \text{ cm}^{-2}$ . Drift of the charge is not discovered. The small changes of the characteristics with prebreakdown fields are explained by polarization of the dielectric. A test of the passivating properties of the films obtained showed their reliability for protection and creation of non-housed semiconductors. 3 ill. 5 ref. I.M.

1/1

USSR

UDC 632.95

BEVEL'SKIY, I. A., IOONSON, V. A., IL'MOYA, K. A., BELOV, V. M., KARAVAYEVA, V. G., LOOG, E. P., SOVAKOVA, T. M.

"The Sensitivity of a Flame-Photometric Detector to Certain Pesticides as a Function of Temperature"

Tr. 2-go Vses. soveshch. po issled. ostatkov pestitsidov i profilakt. zagryazneniya imi produktov pitaniya, kornov i vnesn. sredy (Works of the Second All-Union Conference on the Investigation of Pesticide Residues and Preventive Contamination of Food Products, Fodder and Environment), Tallin, 1971, pp 102-107 (from RZh-Khimiya, No 12, Jun 72, Abstract No 12N448)

Translation: On a chromatograph of the Melpar Company, a Study was made of the behavior of a single and double-channel flame photometric detector as a function of the temperature of the detector and the thermostat of the columns. The separation of the artificial mixture of pesticides is carried out in a glass column 2 meters long with an inside diameter of 4 mm filled with NR chromosorb with a 3% phase of OV-1. The column was heated for 50 hours in advance at 250°. The evaporator temperature was 250°, the thermostat temperature of the columns and the detector was 75-220°. The flow rates of N2 (the gas-carrier), H<sub>2</sub>O<sub>2</sub> and air are 80, 150, 20 and 10 cm<sup>3</sup>/min respectively. In checking the sensitivity of the flame photometric detector, a mixture of methyl parathion, parathion, methylthion and ethion in hexane was used. The amount

1/2



USSR

REVEL'SKIY, I. A., et al., Tr. 2-go Vses. soveshch. po issled. ostatkov pes-titsidov i profilakt. zaeryazneniya imi produktov pitaniya, kornov i vnesh.sredv. Tallin, 1971, pp 102-107

of each component was  $10^{-9}$  in a microliter of solution. For a decrease in background current and the noise level it was necessary to operate at low temperatures of the flame-photometric detector (but not less than  $80-100^{\circ}$  to avoid condensation of moisture), or with additional cooling of the photomultiplier and filter. It is expedient to study the dependence of the background current and noise level for each new column. The phosphorus channel is more sensitive than the sulfur channel to temperature variations of the detector and columns. The background current and noise level for it are  $\sim 10$  times higher than for the sulfur channel. For the two-channel flame photometric detector, the background current and noise level as functions of the column temperature were somewhat greater than for the single channel, and as functions of the detector temperature, somewhat less. The basic deficiencies of the investigated flame photometric detector are as follows: the filters and photomultipliers are under the effect of the detector housing temperature; as a result of internal reflections of light, variation in the parameters is observed on transition to operation with a two-channel detector. The detector developed at the Special Design Office of the Estonian SSR Academy of Sciences does not have these deficiencies.

2/2

- 58 -

USSR

UDC 632.95

REVEL'SKIY, I. A., IOONSON, V. A., IL'MOYA, K. A., KARAVAYEVA, V. G., LOOG,  
E. P., SIROIA, I. S.

"Sensitivity of Flame Photometric Detector for Phosphorus-Containing Pesticides  
as a Function of the Experimental Parameters"

Tr. 2-go Vses. soveshch. po issled. ostatkov pestitsidov profiakt. zagryaz-  
neniya imi produktov pitaniya, kormov i vnesh. sredy (Works of the Second All-  
Union Conference on the Investigation of Pesticide Residues and Preventive  
Contamination of Food Products, Feeds and Environment), Tallin, 1971, pp  
108-111 (from RZh-Khimiya, No 12, Jun 72, Abstract No 12N422)

Translation: In studying the dependence of the sensitivity of the two-channel  
flame-photometric detector to phosphorus-containing pesticides on the experi-  
mental parameters, a solution of triethyl phosphate (I) in alcohol is used.  
The optimal  $O_2$  flow rate (20-40  $cm^3/min$ ),  $N_2$  and  $H_2$  flow rates were found from  
the point of view of sensitivity of the two-channel flame photometric detector.  
For an amount of I on the order of  $10^{-7}$  grams, the signal of the phosphorus  
channel exceeds the signal of the sulfur channel approximately 400 fold.

1/1

USSR

UDC 632.95

AAVIK, KH. E., KALLASORG, R. A., REVEL'SKIY, I. A.

"Study of the Conditions Required for Microcoulometric Analysis of Phosphorus Containing Compounds"

Tr. 2-go Vses. soveshch. po issled. ostatkov pestitsidov profilakt. zagryazneniya imi produktov pitaniya, kormov i vnesh. sredy (Works of the Second All-Union Conference on the Investigation of Pesticide Residues and Preventive Contamination of Food Products, Fodder and Environment), Tallin, 1971, pp 23-27 (from RZh-Khimiya, No 12, Jun 72, Abstract No 12N423)

Translation: In analyzing organophosphorus compounds in a gas flow by means of a microcoulometric detector, a quartz tube (280 × 2 mm) at 950° and a titration cell with 35% AcOH are used. The degree of detection of the organophosphorus compounds is 70%, and the sensitivity is  $5 \times 10^{-9}$  grams.

1/1

USSR

UDC 632.95

AAVIK, KH. E., KABUN, A. V., KALLASORG, R. A., REVEL'SKIY, I. A.

"Study and Development of the Method of Microcoulometric Detection of Halogen and Sulfur Containing Compounds"

Tr. 2-go Vses. soveshch. po issled. ostatkov pestitsidov profilakt. zagryazneniya imi produktov pitaniya, kormov i vnesh. sredy (Works of the Second All-Union Conference on the Investigation of Pesticide Residues and Preventive Contamination of Food Products, Feeds and Environment), Tallin, 1971, pp 16-22 (from RZh-Khimiya, No 12, Jun 72, Abstract No 12N421)

Translation: The conditions of 100% conversion of Cl and S-containing compounds in a gas flow into HCl and H<sub>2</sub>S are found, and a titration cell is developed which permits detection (by chlorine) of ~10<sup>-9</sup> grams of substance. The selectivity coefficient with respect to hydrocarbons is ~10<sup>5</sup>.

1/1

- 45 -

1/2 018 UNCLASSIFIED PROCESSING DATE--04DEC70  
 TITLE--CALCULATION OF THE INTENSITY OF BREMSSTRAHLUNG FOR X RAY TUBES -U-  
 AUTHOR--(05)-AFONIN, V.P., LOSEV, N.F., PAVLINSKIY, G.V., GUNICHEVA, T.N.,  
 REVENKO, A.G.  
 COUNTRY OF INFO--USSR  
 SOURCE--ZAVOD. LAB. 1970, 36(4), 431-4  
 DATE PUBLISHED-----70  
 SUBJECT AREAS--PHYSICS  
 TOPIC TAGS--BREMSSTRAHLUNG, X RAY, SPECTRUM, RADIATION INTENSITY  
 CONTROL MARKING--NO RESTRICTIONS  
 DOCUMENT CLASS--UNCLASSIFIED  
 PROXY REEL/FRA--3008/2032  
 STEP NO--UR/0032/70/034/004/0431/0434  
 CIRC ACCESSION NO--AP013886  
 UNCLASSIFIED

2/2 018

UNCLASSIFIED

PROCESSING DATE--04DEC70

IRC ACCESSION NO--AP0138886

ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. THE FORMULA BY CRAMERS IS COR. FOR THE CALC. OF THE SPECTRUM OF BREMSSTRAHLUNG. THE DERIVED FORMULA IS THE CORRECTION FOR DISPERSION AND ABSORPTION OF ELECTRONS OF BREMSSTRAHLUNG IN AN ANODE. THE CALC. OF CORRECTION COEFF. IS BASED ON THE IDEA OF TWO STREAMS OF ELECTRONS IN THE ANODE, ONE IS DIRECT MOVEMENT AND THE SECOND REVERSED. BY USING THE COR. FORMULA THE INTENSITY WAS CALCD. OF BREMSSTRAHLUNG FOR AL, CU, MO, AG, AND W ANODES. THE RESULTS ARE COMPARED WITH EXPTL. DATA. GOOD AGREEMENT WAS FOUND IN THE LONGWAVE SPECTRAL REGION.

FACILITY: INST. GEOKHIM., IRKUTSK, USSR.

UNCLASSIFIED

USSR

UDC 678.674-419:677.521:667.622.3]01:53

REVENKO, Z. G., KUTEPOV, D. F.

"Effect of Pigments on the Properties of PN-1 Polyester Resin and Fiberglass Based on It"

Moscow, Plasticheskiye Massy, No 1, 1973, pp 57-58

Abstract: A study was made to determine the effect of certain light and dark weather-resistant organic pigments on the strength characteristics of PN-1 polyester resin and fiberglass based on it. The maximum strength of the PN-1 polyester resin and the fiberglass was reached for a pigment content of 1-2%. Graphs are presented for the ultimate bending strength and specific impact toughness of polyester fiberglass as a function of the pigment content.

Data are also given for the adsorption of polyethyleneglycol maleate resin on some organic pigments. The chemical adsorption is higher for three of the pigments than for the other three which leads to an increase in the strength indexes of the PN-1 resin and the fiberglass based on it and painted by these pigments.

1/1

- 70 -

USSR

UDC 619:576.34:616.988.43

REVENKOV, A. G., Candidate of Biological Sciences, All Union Institute of  
Experimental Veterinary Medicine

"Carbohydrate Metabolism in Cells Infected With Foot-and-Mouth Disease Virus"  
Moscow, Veterinariya, No 9, 1971, p 43

Abstract: A beef peptone culture with lactalbumin hydrolysate was used to study the metabolism of glucose, lactic and pyruvic acids, and inorganic phosphorus in kidney cells of cattle infected with 0.1 ml of foot-and-mouth disease (FMD) virus type 0, strain Or-13. Virus was passaged 23-28 times in the culture. The culture was then incubated at 37°C for 6, 12, 18, 24, and 48 hr. Noninfected cultures were used as controls. Within 5 hours the glucose content in infected and control cultures decreased 19 and 15 mg% respectively. Within 24 hours the concentration of glucose in infected and control cultures was reduced by 50 and 39 mg% respectively. Accumulation of lactic acid in infected and control cultures increased to 28 and 23 mg%, respectively within 6 hours, and to 94 and 71 mg% respectively within 24 hours. Only a slight change in accumulation of pyruvic acid -- 4-5 mg% -- in both cultures was noted 24 hours after beginning of incubation. No change

1/2



USSR

REVENKOV, A. G., Veterinariya, No 9, 1971, p 43

in assimilation of inorganic phosphorus was noted in cultures during the first 18 hours of incubation; the inorganic phosphorus content then began to increase in both cultures, probably as a result of the decomposition of phosphorylated organic compounds.

2/2

- 90 -

Veterinary Medicine

USSR

UDC 636.2:616.988.4

LEBEDEV, A. I., AVILOV, V. S., KOVALEV, L. V., and REVENKOV, A. G., Candidates of Veterinary Science All Union Institute of Experimental Veterinary Medicine

"Virus-Neutralizing Activity of Extracts of Tongue Epithelial Tissue and Serum From Animals Recovered From Foot-and-Mouth Disease"

Moscow, Doklady Vsesoyuznoy Ordena Lenina Akademii Sel'skokhozyaystvennykh Nauk imeni V. I. Lenin, No 1, 1971, pp 39-40

Abstract: A definite relationship was observed between the results of the virus-neutralization reaction with tongue epithelial tissue extracts and serum obtained from animals 4 months after recovering from foot-and-mouth disease caused by the type A22 strain 20/432 virus. The index of neutralization was comparatively high in both cases - 2.5 to 4.5 lg LD<sub>50</sub>. On the other hand, no such relationship was found 9 to 12 months after the animals recovered. A high level of virus-neutralizing antibodies was found in the serum at this time, but the tissue extracts had virtually no virus-neutralizing capacity. Titration of the type A22 virus grown in a culture of cattle tongue epithelium revealed that the accumulation of virus in epithelium obtained 9 to 12 months after the disease was on the average 2 logarithmic units higher than in epithelium obtained after 4 months.

1/2

USSR

LEBEDEV, A. I., et al, Doklady Vsesoyuznoy Ordena Lenina Akademii Sel'skokhozyay-  
stvennykh Nauk imeni V. I. Lenin, No 1, 1971, pp 39-40

Based on the results of their experiments and on the literature data, the  
authors concluded that the type-specific immunity of epithelial tissue from  
animals recovering from foot-and-mouth disease is largely attributable to  
specific cellular (tissue) factors.

2/2

- 63 -

1/2 020

UNCLASSIFIED

PROCESSING DATE--30OCT70

TITLE--X RAY BACKGROUND IN THE LONGWAVE SPECTRAL REGION -U-

AUTHOR--(04)--REVENKO, A.G., PAVLINSKIY, G.V., LOSEY, N.F., AFONIN, V.P.

COUNTRY OF INFO--USSR

SOURCE--ZAVOD. LAB. 1970, 36(2), 166-9

R

DATE PUBLISHED-----70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--FLUORESCENCE, X RAY, SPECTRUM

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1989/0919

STEP NO--UR/0032/70/036/002/0166/0169

CIRC ACCESSION NO--AP0107448

UNCLASSIFIED

2/2 020

UNCLASSIFIED

PROCESSING DATE--30OCT70.

CIRC ACCESSION NO--AP0107448

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. INFLUENCE OF SEVERAL EFFECTS ON THE BACKGROUND INTENSITY FOR X RAY FLUORESCENCE IN THE LONGWAVE SPECTRAL REGION 2-10 ANGSTROM ( SUBALPHA LINES OF TI, FE, SI, AND MG) IS DISCUSSED. NONE OF THE DISCUSSED PHENOMENA IS THE DOMINATING ONE FOR EXPLANATION OF THE BACKGROUND; THUS OTHER EFFECTS NEED TO BE CONSIDERED.

FACILITY: INST. GEOKHIM., IRKUTSK, USSR.

UNCLASSIFIED

Acc. Nr: AP0051937

R

Ref. Code: UR 0219

3

PRIMARY SOURCE: Byulleten' Eksperimental'noy Biologii i Meditsiny, 1970, Vol 69, Nr 2, pp 112-114

AMINO ACID COMPOSITION OF MYOSIN AND ACTINE IN THE MUSCLES OF EXPERIMENTAL ANIMALS WITH HEREDITARY MYOPATHY

L. O. Badalyan, Ye. S. Bondarenko, Ye. I. Gusev, Yu. Ye. Lukouanov, G. G. Reutch, P. A. Temin, Yu. D. Sharets

N. I. Pirogov II Moscow Medical Institute

Amino acid composition of myosin and actine was analyzed in 10 healthy, 12 sick and 12 heterozygous mice of the 129/RE line with hereditary myopathy. Increased leucin with isoleucin, valine, alanine and lowered tyrosine and histidine content was found in the amino acid spectrum of myosin in sick mice. In heterozygous animals higher valine and lowered tyrosine and histidine levels were recorded. In the amino acid composition of actine in the sick and heterozygous mice glycine was up and histidine down.

//

REEL/FRAME  
19820420

lc 2

Miscellaneous

USSR

REVICH, V.

"Hundred Percent Guarantee"

Moscow, Khimiya i Zhizn', No 10, Oct 70, pp 31-32

Abstract: Utilization of anti-aircraft artillery equipment for seeding clouds to prevent hail storms is connected with several problems. The fuse and the shell must be made of material which upon explosion in air would practically disintegrate. Such shells were developed: they are made of highly brittle cast iron. The fuse must not only be able to break down into minuscule particles, it must give a 100% assurance of exploding. Such a fuse was developed; it was made of reinforced plastic and included several supplementary charges.

1/1

USSR

UDC 615.33.012.6:697.9427.036.8

MOTINA, G. L., PASHANOV, P. I., and REVIN, A. A., All-Union Scientific Research Institute of Antibiotics, Moscow

"Method of Determining the Effectiveness of Filter Materials for the Sterilization of Air"

Moscow, Khimiko-farmatsevticheskiy Zhurnal, Vol 5, No 12, Dec 71, pp 28-31

Abstract: An experimental technique is described for testing air filter materials based on the standard testing of protective gas mask canisters modified by the use of oil mist. The essence of the method lies in determining the oil mist aerosol concentration ratio after passage through the filter to the concentration prior to filtering. Diagrams are presented of the test stand and the equipment for measuring the filtering properties. The units have been effectively used for testing a variety of filters and filter materials. Experimental data on tests of two commercial filters for airtightness, productivity and efficiency are cited in a table. (Two illustrations, one table, 10 biblio. references).

1/1

- 3 -



1/2 022

UNCLASSIFIED

PROCESSING DATE--13NOV70

TITLE--STABILIZATION OF ELECTRONS AND IONIC REACTIONS IN IRRADIATED KETONES -U-

AUTHOR-(04)-REVINA, A.A., BORISENKO, G.L., BAKH, N.A., KOSTIN, A.K.

COUNTRY OF INFO--USSR

SOURCE--DOKL. AKAD. NAUK SSSR 1970, 191(4), 845-8 (CHEM)

*R*

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY, NUCLEAR SCIENCE AND TECHNOLOGY

TOPIC TAGS--GAMMA RADIATION, ALIPHATIC KETONE, EPR SPECTRUM, ALCOHOL, ELECTRON INTERACTION, ELECTRON RADIATION, ION INTERACTION, COBALT ISOTOPE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRA--3006/1216

STEP NO--UR/0020/70/191/004/0845/0848

CIRC ACCESSION NO--AT0134890

UNCLASSIFIED

2/2 022

UNCLASSIFIED

PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AT0134890

ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. EPR SPECTRA ARE REPORTED FOR

ALIPHATIC KETONES WHICH HAD BEEN IRRADIATED (GAMMA PRIME60 CO) IN THE DARK AT 77DEGREESK. ALL PRODUCED A SHARP SINGLET LINE TYPICAL OF STABILIZED ELECTRONS IN POLAR MEDIA. THE TOTAL CONC. OF THE RADICALS IN D SUB2 IS LOWER THAN IN VACUO; THE RELATIVE INTENSITY OF THE BROAD SIGNAL IS ALSO LOWER. EVIDENTLY THE ORIGINAL CATION RADICAL RESULTS FROM THE LOSS OF AN ELECTRON FROM THE O OF THE CO GROUP AND THESE ELECTRONS ARE CAPTURED BY THE MEDIUM. H TRANSFER TO THIS O ATOM RESULTS IN CATIONS SUCH AS RC PRIMEPOSITIVE MECH OR CATION RADICALS SUCH AS RC PRIMEPOSITIVE (OH)CH SUB2., WHICH UNDERGO THE USUAL EXPECTED CHANGES. A PULSE TECHNIQUE WAS USED FOR ELECTRON IRRADN. AND OPTICAL SPECTRA OF TYPICAL IRRADIATED KETONES ARE SHOWN. ALL GAVE MAX. IN THE 330-40 NM REGION 50 HUSEC AFTER PULSING. THE YIELDS OF ALCS. AT 77-360DEGREESK ARE TABULATED FOR THE ME-PR, ME-BU, DI-ET, AND DI-BU KETONES. G VALUES ARE 0.3-0.8.

FACILITY: INST. ELEKTROKHM., MOSCOW, USSR.

UNCLASSIFIED

031

UNCLASSIFIED

PROCESSING DATE--27NOV70

TITLE--MODELING OF NUCLEAR REACTIONS OF COSMIC RAY INTERACTION WITH THE MATERIAL OF STONY METEORITES -U-  
AUTHOR--(05)-LAVRUKHINA, A.K., REVINA, L.D., MALYSHEV, V.V., YUKINA, L.V., SATAROVA, L.M.  
COUNTRY OF INFO--USSR

R

SOURCE--GEOKHIMIYA 1970, (5), 531-9

DATE PUBLISHED-----70

SUBJECT AREAS--NUCLEAR SCIENCE AND TECHNOLOGY, ATMOSPHERIC SCIENCES, ASTRONOMY, ASTROPHYSICS, PHYSICS  
TOPIC TAGS--METEORITE, COSMIC RAY, NUCLEAR REACTION, ISOTOPE, BERYLLIUM ISOTOPE, IRON ISOTOPE, OXYGEN ISOTOPE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAME--3007/0911

STEP NO--UR/0007/70/000/005/0531/0539

CIRC ACCESSION NO--AP0136343

UNCLASSIFIED

2/2 031

CIRC ACCESSION NO--AP0136343  
ABSTRACT/EXTRACT--(U) GP-0-

UNCLASSIFIED

PROCESSING DATE--27NOV70

ABSTRACT. A POSSIBLE USE OF THE SEMI EMPIRICAL EQUATIONS OF RUDSTAM (1966) AND V. SCHWARTZ-H. DESCHGER (1967) FOR CALCG. THE CROSS SECTION OF ISOTOPE FORMATION IN TARGETS OF COMPLICATED CHEM. COMPN., IRRADIATED BY PROTONS WITH E EQUALS 660 MEV AND 19.2 GEV, WAS INVESTIGATED. THE CROSS SECTIONS FOR REACTION OF THE PRIME7 BE FORMATION FROM THE PRIME16 O NUCLEI AND BY PRIME56 FE(P, PN) AND PRIME55 FE REACTIONS WERE EVALUATED. THE MATERIAL OF THE ZAISAN LAKE AND KUNZSHAK STONY METEORITES WAS IRRADIATED BY PROTONS WITH ENERGIES OF 660 MEV AND 19.2 GEV, RESP. THE DIFFERENT FRACTION OF ELEMENTS WERE ISOLATED RADIOCHEM. THE MEASURED RADIOACTIVITIES WERE COMPARED WITH CALCD. VALUES. SATISFACTORY AGREEMENTS WERE OBSD. FOR MOST ISOTOPES. IN GENERAL THE AGREEMENT WAS BETTER AT E EQUALS 660 MEV THAN AT 3 EQUALS 19.2 GEV. THIS WAS POSSIBLE CAUSED BY AN APPEARANCE OF THE MECHANISM OF NUCLEI SPALLATION IN THE E IS CONGRUENT TO 10 GEV REGION WHICH WAS QUAL. DIFFERENT THAN THE CASCADE MECHANISM. THE DATA OBTAINED CAN BE USED FOR MODELING OF THE DISTRIBUTION OF RATES OF RATES OF COSMOGENIC ISOTOPE FORMATION IN COSMIC BODIES WHICH IS NECESSARY FOR QUAL. INVESTIGATIONS OF THE EFFECT OF COSMIC RAYS ON THE STONY METEORITES, SURFACE LAYERS OF THE MOON, AND ASTEROIDS.

FACILITY: V. I. VERNADSKII INST.  
GEOCHEM. ANAL. CHEM., MOSCOW, USSR.

UNCLASSIFIED

USSR

Miscellaneous

UDC 669.35'26'296:621.78

REVINA, N. I., NOVIKOV, A. I., NIKOLAYEV, A. K., and  
ROZENBERG, V. M., State Scientific Research and Planning  
Institute of Alloys and Nonferrous Metal Processing

"Investigation of the Properties of Low Alloys of Cu - Cr - Zr  
System"

Ordzhonikidze, Izvestiya Vysshikh Uchebnykh Zavedeniy,  
Tsvetnaya Metallurgiya, No 6, 1973, pp 106-110

Abstract: A study was made of the properties of alloys of the  
Cu - Cr - Zr system with different correlation of alloying com-  
ponents at their total content of 0.4 mass%. Test results on  
wire (1.5 mm in diam.) and thin-plate (0.15 mm thick) specimens  
are discussed by reference to diagrams showing the change of  
mechanical properties after different treatments, the annealing  
effect at different temperatures, and the testing temperature  
effect on strength and plasticity. Anomalous property changes  
at Cr and Zr concentrations corresponding to the formation of  
ZrCr<sub>2</sub> were not observed. The highest strengthening after strain-

USSR

REVINA, N. I., et al., Izvestiya Vysshikh Uchebnykh Zavedeniy, Tsvetnaya Metallurgiya, No 6, 1973, pp 106-110

-hardening and aging was attained in Cu - Cr alloys with up to 0.1 wt% Zr. The ultimate strength of Cu alloy with 0.33 % Cr and 0.07 % Zr, after strain-hardening and aging, was 60 kg/mm<sup>2</sup> at not less than 90 % of Cu electroconductivity. The plasticity of ternary alloys remained high in the whole temperature interval of tests. Four figures, one table, six bibliographic references.

2/2

- 60 -

Physiology

USSR

SARATIKOV, A. S., VOLOSHINA, E. I., REVINA, T. A., and SAKHAROVA, S. A.,  
Tomsk State Medical Institute, Tomsk

"Energy Metabolism of the Brain in Acute Hypoxic Hypoxia"

Novosibirsk, Izvestiya Sibirskogo Otdeleniya Akademii Nauk SSSR, Seriya  
Biologicheskikh Nauk, No 5, Apr 71, pp 119-126

Abstract: Hypoxia was produced in rats by placing individual animals into a chamber with a capacity of 1.5 liters in which CO<sub>2</sub> was absorbed by a 20% solution of NaOH. Severe hypoxia, as indicated by slowed respiration and spasmodic gasping for air, developed in approximately one hour. At that time the O<sub>2</sub> pressure in the chamber was 40-60 mm and the CO<sub>2</sub> content in it less than 0.2%. As a result of the hypoxia that developed, the content of ATP, ADP, AMP creatine phosphate, glucose, and glycogen in the brain tissue of the animals decreased. The decrease in the level of macroergic phosphates was due to an inadequate resynthesis of the latter in consequence of a distributed conjugation between oxidation and phosphorylation and also to an increased rate of decomposition because of activation of the mitochondrial ATP-ase. The disturbance of conjugation was established on the basis of a decrease of

1/2

USSR

SARATIKOV, A. S., et al., Izvestiya Sibirskogo Otdeleniya Akademii Nauk USSR, Seriya Biologicheskikh Nauk, No 1, Apr 71, pp 119-126

the P/O index in experiments on mitochondria separated by centrifuging and a drop in the respiratory control of phosphorylation in the mitochondria. The relative increase in free oxidation was apparently associated with damage to the ultrastructure of mitochondria of the brain tissue. The fact that the mitochondrial ATP-ase was activated followed from an increase in the amount of inorganic phosphate that was formed on incubation with ATP. The intensification of anaerobic glycolysis in the brain in hypoxia evidently did not offset to a sufficient degree the depletion of energy resources in brain tissue.

2/2



Welding

USSR

UDC 621.791.053.002.612:658.386

8  
BOTINOV, S. N., KAZENKOV, YU. I., AGAPOVA, N. P., ~~PALISHIN, N. M.~~ (Candidates of Technical Sciences), PROKHOROV, V. I., ~~REVENNIKOV, L. I.~~, BOBYLEV, A. P., KRASINA, T. A., KRYLOV, YE. A., BALASHOV, V. D. ZINKOVSKIY, V. I., SYCHEV, R. S. (Engineers)

"Effect of Irradiation on the Properties of Welds of High-Alloy Steels and Alloys"  
Moscow, Svarochnoye Proizvodstvo, No 3, Mar 70, pp 4-6

Abstract: The effect of neutron irradiation on the short-term mechanical properties of basic metals and welds from 00Kh16N15M3B, 0Kh16N15M3B, and 0Kh20N40B austenitic steels and LKh132BFR ferrite-martensite steel was investigated. The mechanical properties were determined on samples cut in the longitudinal direction from argon-arc welds using an infusible electrode. The samples were irradiated in the active zone of a reactor at about 100°C. The theoretical neutron flux density was  $10^{15}$  neutron/cm<sup>2</sup>. sec. Some samples received a dose of  $2.8 \times 10^{21}$  neutron/cm<sup>2</sup>, while others received a dose of  $4.3 \times 10^{21}$  neutron/cm<sup>2</sup>. The mechanical properties were determined on UMD-5 tensile testing machines at air temperatures of 20, 350, and 650°C.

1/2

USSR

BOTINOV, S. N. et al, Svarochnoye Proizvodstvo, No 3, Mar 70, pp 4-6

Tests conducted at 20°C showed that strength properties of all samples increased after irradiation; plasticity decreased. The tensile and yield strengths of weld metals with an austenitic structure increased to a lesser degree than those of the base metals. The mechanical properties of all samples at 350° did not differ from those of the base metals. A decrease in tensile and yield strength with a simultaneous decrease in plasticity was observed in samples with an austenitic structure in tests conducted at 650°C. These decreases were especially noticeable in irradiated samples made from 40% Ni steel. The possible cause of the sharp decline in the intergrain strength and plasticity observed at 650°C in the irradiated metal with high nickel content is suggested. Orig. art. has: 2 figures, 4 tables, and 5 references.

2/2

AA0036148

Revkov, I. P.

UR 0482

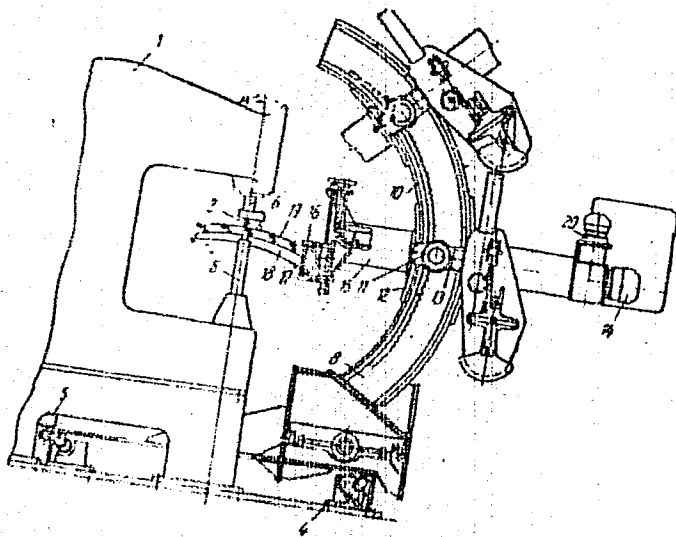
Soviet Inventions Illustrated, Section I Chemical, Derwent, 1-70

239464 UNIVERSAL SETTING UP STAND for spot welding of two-dimension curved plates. The work is welded between the electrodes 6 of a stationary welding machine 1. The work 19 is attached to a table 18 and is manipulated along four guiding ways till the work is perpendicular to the electrodes. A rotary table 4 turns the work with respect to the electrodes in the horizontal plane. Other two guides 7 and 12 rock it in two vertical planes which are perpendicular one to the other. Finally, straight slides 15 enable the work to be brought forward or taken back. All the drives are powered by electric motors which are operated by a single programmed controller.

19720952

18

A0036148



28.5.65 as 1011647/25-27. I. A. REVKOV (24.7.69)  
Bul 11/18.3.69. Class 21h. Int. Cl. B 23k.

19720953

USSR

UDC 537.324

OSIPOV, E.V., KISLOVSKIY, YE.N., REVUK, M.YA.

"To The Problem Of The Technology Of Production Of Galvanomagnetic Cooling Elements"

Elektron.tekhnika.Nauch.--tekhn.sb. Kriogen.elektronika (Electronics Technology. Scientific-Technical Collection. Cryogenic Electronics), 1971, Issue 1(3), pp 167-171 (from RZh:Elektronika i yeye primeneniye, No 10, Oct 1972, Abstract No 10B221)

Translation: The structure of the surface layers of single crystals of bismuth after electro-spark processing of the facets was determined by the metallographic method. The small pits [yamka] of etching were used to determine a defective layer. The thickness of the disturbed layer after electro-spark cutting amounted to 120 micron which is smaller than with diamond cutting. 5 ill. 10 ref.N.K.

1/1

USSR

*Polymers and Polymerization*

UDC 678.06:631.459

REVUT, I. B., ROMANOV, I. A., and MARTYNOV, V. P.

"Effectiveness of the Utilization of Latexes in Preventing Soil Erosion"  
Moscow, *Plasticheskiye Massy*, No 11, 1973, pp 26-28

Abstract: The preventive action of several latexes on wind erosion of the soil has been studied. In particular the attention was directed towards the serial divinylstyrene latex SKS-50FG and SKS-65GP. Both formed durable film covers within a very short time, which were able to withstand hurricane force winds both on sandy soils as well as on clay surfaces. No particular changes were noted in water permeability temperature of the soil or in biological processes after treatment with the latex. The yield of the products increased principally on account of decreased losses due to wind effect and seeds being blown away with top soil surface.

1/1

USSR

REVUTSKIY, Ye. I.; et al

"Prestripping Section of a Linear Accelerator of Multicharged Ions"

Leningrad, Zhurnal Tekhnicheskoy Fiziki; March, 1971; pp 591-7

ABSTRACT: The article describes the characteristics of the prestripping section of a linear accelerator of multicharged ions with an energy of 10 Mev per nucleon. The outstanding feature of the accelerator described is the realization of the quadrupole focussing of a beam of multicharged ions with  $m/e \leq 4$  and high-frequency oscillations with a wave length of 2.1 meters. This appears to be made possible by the use of an accelerating structure with double drift.

The article includes 9 equations, 7 figures, and 3 tables. There are 6 bibliographic references.

1/1

USSR

UDC 669.295.48

REVITSKIY, Ye, Ya.

"System for Automatic Regulation of Consumption of High-Temperature Titanium-containing Melt"

Tr. Vses. N.-i. i Proekt. In-ta Alyumin., Magn. i Elektrod. Prom-sti [Works of All-Union Scientific Research and Planning Institute for the Aluminum, Magnesium and Electrode Industry], No 79, 1971, pp 154-161, (Translated from Referativnyy Zhurnal, Metallurgiya, No 5, 1972, Abstract No 5 G268 by G. Svodtseva).

Translation: During thermal refining of Ti wastes, during reduction of the lower chlorides, it is necessary to measure and regulate the consumption of a medium consisting of melted Ti salts mixed with  $MgCO_2$  and KCl. A method of indirect determination of consumption was used: measurement of the level in a graduated container with subsequent differentiation of the signal proportional to the level. The level was differentiated using discrete methods. A structural diagram of the discrete-differentiating devices is presented. A system of automatic regulation of the process of reduction of the alloy was installed and tested. The basic perturbations for the system are the pressure drop between the container and the reactor, the level in the graduated container, and 1/2

- 46 -



USSR

UDC 669.295.48

REVUTSKIY, Ye. Ya., Tr. Vses. N.-i. i Proekt. In-ta Alyumin., Magn. i Elektrod.  
Prom-sti, No 79, 1971, pp 154-161.

random changes in hydraulic resistance in the system. Statistical processing of diagrams shows that the system stabilizes the mean consumption of melt over the vibration interval with a mean square error of 6.5-7.5% and a statistical error of 2.5-3% of the assigned level of 300 kg/hr. 3 Figures; 6 Biblio. Refs.

2/2

USSR

UDC 669.295.053.28

DIOMIDOVSKIY, D. A., LEVIDOV, V. A., REVUTSKIY, Ye. Ya., TSIVIRKO, G. P.

"Device for Recording the Rate of Level Changes of a Liquid Electrically Conducting Medium"

Tr. Vses. N-i. i Proyektn. In-ta. Alyumin., Magn. i Elektrodn. Prom-sti [Works of All-Union Scientific Research and Planning Institute of the Aluminum, Magnesium and Electrode Industry], 1970, No. 72, pp. 163-169. (Translated from Referativnyy Zhurnal Metallurgiya, No. 5, 1971, Abstract No. 5 G216 by the authors).

Translation: The design of a discrete differentiator with inductive output for determination of the rate of level changes of a liquid electrically conducting medium by measurement of the first finite difference in the level of the medium is described. The total error of the device is calculated and the quantization level which minimizes it is determined, for example in measuring the consumption of a mixture of fused salts of Ti with  $MgCl_2$ . 1 fig; 6 biblio refs.

1/1

- 24 -

USSR

KRASNOSHTANOV, A. B., REVYAKIN, A. V.

UDC 629 78:536.27

"Practical Methods for Organizing Heat Exchange Under a Change in the Aggregate State Under Conditions of Weightlessness"

Tr. Mosk. vyssh. tekhn. uch-shcha im. N. E. Baumana (Works of Moscow Higher Technical School imeni N. E. Bauman), 1972, No. 149, pp 36-58 (from RZh-41. Raketostroyeniye, No 11, Nov 72, Abstract No 11.41.129)

Translation: The advance of technology leads to the necessity of developing and studying heat exchange equipment achieving the transition of a coolant from the liquid to the gas phase and the reverse under conditions of gravitation different from terrestrial. Technical, experimental and practical aspects of the development of evaporators and condensers intended for operation under conditions of weightlessness are considered. 2 ill., 29 ref.  
T. A. Ye.

1/1

- 28 -

USSR

REVYAKIN, A. V.

UDC 621.316.56

"A Pulse Counter"

USSR Author's Certificate No 296165, Filed 22/10/68, Published 9/04/71  
(Translated from Referativnyy Zhurnal Avtomatika, Telemekhanika i Vychislitel'naya Tekhnika, No 11, 1971, Abstract No 11 A19 P).

Translation: The author suggests a pulse counter containing an electromagnet with excitor and control windings, the gap of which contains a labyrinth containing a magnetically controlled contact consisting of a ball. In order to increase the operational reliability of the pulse counter, the labyrinth is made of a nonmagnetic material in the shape of a slot, the sidewalls of which have a sawtooth profile. The teeth of one side are shifted with respect to the teeth of the other side by one-half tooth length and have the opposite slant. 2 Figures.

1/1

UNCLASSIFIED

PROCESSING DATE--27NOV70

TITLE--DEOXIDIZING POWER OF CARBON IN MOLTEN MOLYBDENUM -U-  
AUTHOR--(03)-KOZINA, L.N., REVYAKIN, A.V., SAMARIN, A.M.

COUNTRY OF INFO--USSR

SOURCE--IZVEST. AKAD. NAUK SSSR, METALLY, MAR.-APR. 1970, (2), 116-118

DATE PUBLISHED-----70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--MOLYBDENUM, LIQUID METAL, METAL DEOXIDATION, CARBON, CARBON MONOXIDE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRA--3003/1445

STEP NO--UR/0370/70/000/002/0116/0118

CIRC ACCESSION NO--AP0130378

UNCLASSIFIED

025  
 CIRC ACCESSION NO--AP0130378 UNCLASSIFIED  
 ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. PROCESSING DATE--27NOV70  
 MOLTEN MO IS DISCUSSED THEORETICALLY AND ON THE BASIS OF AN ANALYSIS OF  
 EXPERIMENTAL DATA, WITH SPECIAL REF. TO THE INTERACTION BETWEEN GASEOUS  
 CO AND THE MOLTEN METAL AT TEMP. CLOSE TO THE M.P. THE EQUILIBRIUM  
 CONSTANT OF THE REACTION CO EQUALS C PLUS O IS 1.5 TIMES 10 PRIME  
 NEGATIVES (AT. PARTS-ATM) PRIME2. THE PRODUCT OF THE ACTIVITY COEFF. OF  
 C AND O IN MOLTEN MO IS 0.045.

UNCLASSIFIED

UNCLASSIFIED  
 THERMODYNAMIC ANALYSIS OF THE DEOXIDATION OF MOLTEN MOLYBDENUM -U-  
 PROCESSING DATE--18SEP70  
 AUTHOR--(03)--KOZINA, L.N., REYAKIN, A.V., SAMARIN, A.M.  
 COUNTRY OF INFO--USSR  
 SOURCE--DOKL. AKAD. NAUK SSSR, 1970, 190(4), 909-11  
 DATE PUBLISHED-----70  
 SUBJECT AREAS--MATERIALS, PHYSICS  
 TOPIC TAGS--THERMODYNAMIC ANALYSIS, METAL DEOXIDATION, MOLYBDENUM,  
 PLASTICITY, ALLOY ADDITIVE, CARBON, ZIRCONIUM OXIDE, ALUMINUM OXIDE,  
 TITANIUM DIOXIDE, CERIUM OXIDE, NIOBIUM OXIDE, LANTHANUM OXIDE  
 CONTROL MARKING--NO RESTRICTIONS  
 DOCUMENT CLASS--UNCLASSIFIED  
 PROXY REEL/FRAE--1984/0279  
 CIRC ACCESSION NO--AT0055072  
 STEP NO--UR/0020/70/190/004/0909/0911  
 UNCLASSIFIED

CIRC ACCESSION NO--AT0055072 UNCLASSIFIED PROCESSING DATE--18SEP70  
 ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. AT HIGH TEMPS. MO-O SYSTEM FORMS  
 MOO, MOO SUB2, AND MOO SUB3 HAVING DELTA HDEGREES SUBO 99.30, 12.80, AND  
 MINUS 78.20 KCAL-MOLE, RESP., AND HAVING MINUS(F SUBTDEGREES MINUS H  
 SUBODEGREES)-T EQUAL 71.45, 84.38, 90.31 CAL-DEGREE-MOLE. COMPN. OF  
 VAPOR PHASE ABOVE MO-O SYSTEM AT DIFFERENT O CONCNS. IS GIVEN. DEOXIDN.  
 OF MO-O SYSTEM WAS STUDIED IN THE PRESENCE OF MANY ADDITIVES (NB SUB2 O  
 SUB5, CEO SUB2, TIO SUB2, AL SUB2 O SUB3, CE SUB2 O SUB3, ZRO SUB2, LA  
 SUB2 O SUB3, AND C). IN GENERAL, THE MENTIONED METAL OXIDES INCREASE  
 PLASTICITY OF MO METAL OWING TO THEIR INTERACTION IN THE PROCESS OF MO  
 CRYSTN. AND NOT OWING TO MO DEOXIDN. PROCESS. C IS THE BEST DEOXIDIZING  
 ELEMENT.

UNCLASSIFIED



Acc. Nr.:

AP0046499

R

Ref. Code:

7AR0066

USSR

UDC 621.576

ANTONOV, YU. V., REVYAKIN, A. V., and TARASOV, V. S.

"Characteristics of a Vortex Tube With Cooling of the Hot End"

Moscow, Kholodil'naya Tekhnika (Refrigeration Engineering), No 1, 1970, pp 15-17

Translation: A description is given of an experimental unit on which tests were conducted of vortex tubes cooled by a bubbling method. Formulas are presented for calculating the reduced temperature drop and specific refrigerating capacity of tubes and the dependence of the reduced temperature drops and specific refrigerating capacity in operation with and without cooling on the cold air fraction. It was established that the refrigerating capacity of tubes only slightly depends on the length of their hot end. (1 table, 7 biblio. ref., 4 illustrations)

57

Reel/Frame

19781752

AP0043723

R

Abstracting Service: 5/70  
INTERNAT. AEROSPACE ABST.

Ref. Code:  
UR0370

A70-23784 = Solubility of oxygen in liquid molybdenum (O  
 rastvorimosti kisloroda v zhidkom molibdene). L. N. Kozina, A. V.  
 Revlakin, and A. M. Samarin. *Akademiia Nauk SSSR, Izvestiya  
 Metall.*, Jan.-Feb. 1970, p. 56-64. 8 refs. In Russian.  
 Development of a method of determining the solubility of  
 oxygen in liquid molybdenum in the presence of volatile oxides. It is  
 shown that the oxygen concentration at the surface of the metal can  
 be determined on the basis of an analysis of the mass transfer  
 processes occurring during oxidation of molybdenum. The  
 equilibrium constant of the reaction of dissolution of oxygen in  
 liquid molybdenum at 3000 K is determined.  
 A.B.K.

1/1

AL 5

REEL/FRAME  
19770129

18

USSR

Heat Treatment

UDC 659.14.018.298:  
:621.78:621.17

DOLOTOVA, T. S., KUCHERYAVYY, V. I., REVYAKINA, O. K.,  
RYZHAK, S. S., SACHKOV, V. V., and UL'YANOVA, N. V., Moscow  
Higher Technical School imeni N. E. Bauman, All-Union  
Scientific Research Institute of Aviation Materials

"Influence of the Conditions of Heat Treatment on the  
Properties of OOKh11N1OM2T Steel"  
Moscow, Metallovedeniye i Termicheskaya Obrabotka Metallov,  
No 12, 1973, pp 9-13

Abstract: The conditions developed for the heat treatment  
of OOKh11N1OM2T steel make it possible to produce on the  
initial large-grained metal properties close to those of semi-  
finished goods of small section with low temperature at the  
end of hot deformation and possessing small grains and suffi-  
cient high plasticity and viscosity at up to -70°C temperatures.  
After the heat treatment according to the schedule 1220°C for

USSR

DOLOTOVA, T. S., et al., Metallovedeniye i Termicheskaya Obrabotka Metallov,  
No 12, 1973, pp 9-13

2 hr, water + threefold austenitization at  $1010 \pm 10^{\circ}\text{C}$  for 1-3 hr,  
water +  $600^{\circ}\text{C}$  for 15 hr, air +  $850^{\circ}\text{C}$  for 1 hr, air +  $500^{\circ}\text{C}$  for  
2 hr, the following satisfactory complex of mechanical proper-  
ties could be obtained: at  $20^{\circ}\text{C}$  - tensile strength  $\bar{\sigma}_t = 155 \text{ kg/mm}^2$ ,  
specification yield point  $\bar{\sigma}_{0.2} = 149.5 \text{ kg/mm}^2$ , residual relative  
elongation  $\delta = 12\%$ , relative narrowing  $\psi = 56.5\%$ , impact ductility  
 $a = 5.5 \text{ kg}\cdot\text{m/cm}^2$ , and at  $-70^{\circ}\text{C}$  -  $\bar{\sigma}_t = 179 \text{ kg/mm}^2$ ,  $\gamma = 43\%$ ,  $a = 3.5 \text{ kg}\cdot\text{m/cm}^2$ .  
Six figures, three bibliographic references.

2/2