YESAYAN, G.T.; GALOYAN, G.A.; BABAYAN, A.A.; POSTOYAN, N.R.

Interaction of sulfochlrides with dimedon. Dokl. AN Arm. SSR 38
no.5:301-304 '64.   (MIRA 17:6)

1. Institut organicheskoy khimii AN Armyanskoy SSR. Predstavlenc
akademikom AN Armyanskoy SSR V.I.Isagul'yantsem.

YESAYAN, G.T.; OGANESYAN, E.Ye.; ASOYAN, E.L.

Transformations of disulfonyl chlorides. Part 1: Interaction of alkanedisulfonyl chlorides with phenols and aromatic amines containing a halogen and a nitro group. Izv.AN Arm.SSR. Khim. nauki 17 no. 3:339-344 '64.   (MIRA 17:7)

1. Institut organicheskoy khimii AN Armyanskoy SSR.

YESAYAN, G.T.; OGANESYAN, E.Ye.; ASOYAN, E.L.

Transformations of disulfuryl chlorides. Part 2: Synthesis
of 4-methyl-7-coumaryl and 8-quinolyl esters of some disulfo
acids. Izv. AN Arm. SSR. Khim. nauki 18 no.3:309-312 '65.
(MIRA 18:11)

1. Institut organicheskoy khimii AN ArmSSR. Submitted May 15,
1964.

USSR/Cultivated Plants. Fruits. Berries.   H

Abs Jour : Ref Zhur-Biol., No 15, 1958, 68324

Author   : Yesayan, G. Ye.
Inst   : Armenian Scientific Research Institute of
            Viniculture, Wine Production, and Fructicul-
            ture.
Title   : Research Results of Agricultural Engineering
            Techniques Applied for Fruits.

Orig Pub : Byul. nauchno-tekhn. inforn. Arm. n.-i. in-ta
            vinogradarstva, vinodeliya i plodovodstva,
            1957, No 1, 41-43

Abstract : Between 1953 and 1955, the Armenian Scientific
            Research Institute of Viniculture, Wine Produc-
            tion, and Fructiculture conducted some research
            which was aimed at finding a system for main-

Card   : 1/2

                        154

YESAYAN, M.A.

State of the coronary circulation in rheumatic fever. Trudy
Inst. klin. i eksper. kard. AN Gruz. SSR 8:481-486 '63.
(MIRA 17:7)

1. Institut kardiologii AN Armyanskoy SSR, Yerevan.

YESAYAN, H.A., nl.nauchn. sotrudnik

Hemodynamic changes in neurogenic cardiopathies. Vop.kardiol.
no.1:156-161 '56.   (MIRA 12:9)

1. Iz Sektora meditsiny AN Armyanskoy SSR.
        (CARDIOVASCULAR SYSTEM--DISEASES) (BLOOD)

MKHITARYAN, V.G.; YESAYAN, N.A.

Effect of 2-chloro-1,3-butadiene (chloroprene) on the xanthine oxidase
activity of liver in white rats. Izv. AN Arm. SSR Biol. i sel'khoz.
nauki 11 no.6:13-20 Je '58.   (MIRA 11:7)
          (CHLOROPRENE) (XANTHINE OXIDASE)

YESAYAN, N.A.

Changes in the amount of adrenalinlike substances, histamine
and glucose in blood during conditioned adrenalin reflexes
and internal inhibition [in Armenian with summary in Russian].
Izv.AN Arm.SSR.Biol. i sel'khoz.nauki 11 no.11:55-66 N '58.
(MIRA 11:12)

(ADRENALIN) (BLOOD—ANALYSIS AND CHEMISTRY) (CONDITIONED RESPONSE)

YESAYAN, N.A.

Adrenalinelike substances in the blood during different functional
states of the central nervous system. Vop. biokhim. 1:83-99 '60.
                                                    (MIRA 14:12)

1. Department of Biochemistry, Academy of Sciences of Armenian S.S.R.,
Erevan.
            (ADRENALINE)   (BLOOD—ANALYSIS AND CHEMISTRY)
                (CONDITIONED RESPONSE)

YESAYAN, N.A.

Cortical regulation of the effect of adrenaline on metabolism.
Izv. AN Arm. SSR. Biol. nauki 13 no.12:41-52 D '60. (MIRA 13:12)
(ADRENALINE)   (METABOLISM)   (CEREBRAL CORTEX)

YESAYAN, N.A.   (USSR)

"Cortical Regulations of the Secretion and Function of Adrenaline."

Report presented at the 5th Int'l. Biochemistry Congress,
Moscow, 10-16 Aug 1961.

YESAYAN, N. A.

Cand Bio Sci, Diss -- "The secretion and action of adrenaline under various functional states of the brain". Yerevan, 1961. 36 pp, 21 cm (Acad Sci ArmSSR. Biochem Dept), 150 copies, Not for sale (KL, No 9, 1961, p 179, No 24305). /61-51146/

YESAYAN, N.A.; ROSTOMYAN, M.A.

Effect of γ-aminobutyric acid on the level of catechol amines
in the blood. Dokl. AN Arm. SSR 36 no.5:307-309 '63
                                          (MIRA 17:7)

YESAYAN, N.A.; ROSTOMYAN, M.A.

Adrenalinelike substances in the blood during a conditioned pain reflex and internal inhibition. Izv. AN Arm. SSR. Biol. nauki 16 no.3:35-44 Mr '63.   (MIRA 17:10)

YESAYAN, N.A.; ARMENYAN, A.R.

    Effect of gangleron and quateron on the adrenaline content of
    rat adrenal glands. Vop. biokhim. 3:79-83 '63.

                                            (MIRA 17:12)
    1. Institute of Biochemistry, Academy of Sciences of the Armenian
    S.S.R., Erevan.

YESAYAN, N.A.; NALBANDYAN, R.M.

Effect of gamma-aminobutyric acid on the adrenaline content of
rat adrenal glands. Vop. biokhim. 3:85-91 '63.

(MIRA 17:12)

1. Institute of Biochemistry, Academy of Sciences of the Armenian
S.S.R., Erevan.

YESAYAN, N.A.; KAZAROVA, Ye.K.

Effect of gangleron on the gamma aminobutyric acid content in
the brain. Vop. biokhim. moz. 1:67-72 '64.   (MIRA 18:9)

1. Institut biokhimii AN ArmSSR, Yerevan.

YESAYAN, N.A.; ARMENYAN, A.R.

Effect of dopamine on the absorption of glucose by rat brain
sections. Vop. biokhim. mozg. 1:123-130 '64.   (MIRA 18:9)

1. Institut biokhimii AN ArmSSR.

BLOKH, R.L.; YESAYAN, V.A.

Effectiveness of antipyretic diet in a general therapeutic
complex for chronic gastritis at Pyatigorsk. Zhur.ob.biol.
20 no.2:29-34 Mr-Ap '59.   (MIRA 12:5)

1. Iz kliniki (nauchnyy rukovoditel' prof. Ye.Ya.Stavskaya)
Gosudarstvennogo bal'neologicheskogo instituta, Pyatigorsk.
              (DIETS, in var. dis.
                    anti-fever diet in gastritis (Rus))
              (GASTRITIS, ther.
                    anti-fever diet (Rus))

BLOKH, R.L.; YESAYAN, V.A.; LOBANOVA, I.N.

Diphenylamine test as an index of the inflammatory process in chronic gastritis. Lab.delo 6 no.3:23-26 My-Je '60.
(MIRA 13:7)

1. Bal'neologicheskiy institut (dir. - dotsent I.S. Savoshchenko), Pyatigorsk.
(STOMACH--INFLAMMATION) (DIPHENYLAMINE)

VOROB'YEV, P.I.; YESAYAN, Ye.R.; RYABOV, Ye.I.

IAkov Alekseevich Vlasov; October 22, 1900 - November 5, 1963.
Pochvovedenie no.5:119 My '64.   (MIRA 17:9)

YESAYULENKO, P. I.

"The Effect of the Sowing Period on the Growth, Development,
and Yield of Table Root Plants in Alma-Ata Suburban Areas." Cand
Agr Sci, Kazakh Agricultural Inst, Min Higher Education, Alma-Ata,
1955 (KL, No 9, Feb 55)

SO: Sum. No 631, 26 Aug 55-Survey of Scientific and Technical
     Dissertations Defended at USSR Higher Educational Institutions
     (14)

YESBERG, N.A.; SHATALOV, N.N., nachal'nik; EPSHTEYN, G.Ya., professor, starshiy khirurg.

Tissue therapy in certain diseases. Vest.khir. 73 no.4:55-56 Jl-Ag '53.
(MLRA 6:8)

1. Leningradskiy gorodskoy gospital' dlya lecheniya invalidov Otechestvennoy voyny.
(Tissue extracts)

YESDANYAN, B.A.; MANVELYAN, K.R.; KUMKUMADZHYAN, V.A.

Morphological and histochemical data on Ehrlich's carcinoma
following its treatment with some preparations. Izv. AN Arm.
SSR. Biol. nauki 18 no.5:44-51 My '65.   (MIRA 18:7)

1. Institut rentgenologii i onkologii AMN SSSR.

DOLININ, G.A.; STEPANYAN, A.N., veter. vrach.; YESHCHENKO, N.A.; OREKHOVSKIY,
        V.K.; LYSENKO, I.F., veter. vrach (Tiraspol' Moldavskoy SSR); SARAYKIN,
        I.M., prof.: POGULYAY, V.D., veter. vrach (Romanovskiy rayon, Altay-
        skogo kraya); BOGDANOVSKIY, A.V.; SAVUSHKINA, Ye.T., kand. veter. nauk

1. Glavnyy veterinarnyy vrach sela Uren', Gor'kovskoy oblasti
(for Dolinin). 2. Ivanovskaya mezhrayonnaya veterinarnaya labora-
toriya Khersonskoy oblasti (for Stepanyan). 3. Starshiy veterinarnyy
vrach sovkhoza "Kamenskiy" Moldavskoy SSR (for Saraykin). 4. Mol-
davskiy sel'skokhozyaystvennyy institut (for Saraykin). 5. Glavnyy
veterinarnyy vrach sovkhoza "Berestovoy", Donetskoy oblasti (for
Bogdanovskiy).

YESDOKOVA, M.L.

OLEVSKIY, Viktor Aleksandrovich, kandidat tekhnicheskikh nauk; VERIGO,
K.N., redaktor; TROITSKIY, A.V., inzhener, retsenzent; YESDOKOVA,
M.L., redaktor; SHPAK, Ye.G., tekhnicheskiy redaktor.

[Construction and design of screening machines; a reference
manual] Konstruktsii i rashchety grokhotov; spravochnoe posobie.
Moskva, Gos.nauchno-tekhn.izd-vo lit-ry po chernoy i tsvetnoi
metallurgii, 1955. 124 p.
    (Screens(Mining))

15(2)

SOV/72-59-4-6/21

AUTHORS: Krasnovskiy, O. V., Bil'tyukova, E. P., Yesechko, A. M.

TITLE: Complexometric Determination of Calcium Oxide and Magnesium
              Oxide in Vertically Drawn Glass (Kompleksometricheskoye
              opredeleniye okisi kal'tsiya i okisi magniya v stekle verti-
              kal'nogo vytyagivaniya)

PERIODICAL: Steklo i keramika, 1959, Nr 4, pp 22 – 25 (USSR)

ABSTRACT: The complexometric method of titration makes it possible
              to simplify considerably the accelerated glass analysis
              (see paper by O. V. Krasnovskiy, Ref 1). The determinations
              of calcium and magnesium may be carried out according to
              two methods as may be seen from the papers by K. B. Yatsimirs-
              kiy on the one hand and by T. B. Styunkel' and Ye. M. Yaki-
              mets on the other (Refs 2 and 3). In order to check the
              complexometric methods of determination comparative investiga-
              tions with synthetic solutions were carried out, the salt
              content of which corresponded to those of the solutions in
              the glass analysis. In table 1 the experimental results are
              given. Later, the same experiments were carried out with
Card 1/2   samples of industrial sheet glass which was drawn vertically.

Complexometric Determination of Calcium Oxide and   SOV/72-59-4-6/21
Magnesium Oxide in Vertically Drawn Glass

> The results of these analyses are listed in table 2. In
> conclusion, 2 formulae are mentioned according to which
> the per cent content of CaO and MgO in glass may be computed.
> The necessary specific reagents and their preparation are
> shown in the "Instructions for the Determination of Water
> Hardness by Means of the Complexometric Method" (MKhP, SSSR,
> 1957, pp 1-5). There are 2 tables and 3 Soviet references.

ASSOCIATION: Institut stekla (Glass Institute)

Card 2/2

YESEL'BAYEVA, G.O.

    Precancer precesses in the respiratory organs. Trudy Inst.
    klin. i eksp. khir. AN Kazakh. SSR 8:66-68 '62. (MIRA 17:7)

YESEL'BAYEVA, R.

An Outstanding Mathematican of St. PETERSBURG   p. 80

TRANSACTIONS OF THE 2ND REPUBLICAN CONFERENCE ON MATHEMATICS AND MECHANICS
(TRUDY VTOROY RESPUBLIKANSKOY KONFERENTSII PO MATEMATIKE I MEKHANIKE), 184
pages, published by the Publishing House of the AS KAZAKH SSR, ALMA-ATA, USSR, 1962

BRUSENTSEV, N.Kh.; YESELEV, A. I.

New method for making worms. Mashinostroitel' no.9:23 S '60.
(MIRA 13:9)

(Machine-shop practice)

YESHEV, L.M.; MIKHIL-HOV, L.P.; TRABER, L.G.

Certain problems involved in the operating conditions of a combined
contact-tower process. Zhur. prikl. khim. 37 no.5:1204-1210 Je '64.
(MIRA 18:3)

1. Leningradskiy tekhnologicheskiy institut imeni Lensoveta.

YESELEV, I.M.; MUKHLENOV, I.P.; TRABER, D.G.

Use of iron catalysts in the contact-tower process. Zhur. prikl.khim. 37 no. 5:972-979 My '64.   (MIRA 17:7)

1. Leningradskiy tekhnologicheskiy institut imeni Lensoveta.

YESELEV, I.M.; MUKHLENOV, I.P.; TRABER, D.G.

Use of an iron catalyst in the contact-tower process. Zhur.
prikl. khim. 37 no. 4:722-727 Ap '64.   (MIRA 17:5)

1. Leningradskiy tekhnologicheskiy institut imeni Lensoveta.

LARINA, V.S.; YESELEV, M.M.

Comparative diagnostic value of the iodine test and aminopherase
activity in myocardial infarction; an abstract. Lab. delo. no.1:
25 '65.   (MIRA 18:1)

1. Kafedra gospital'noy terapii (zaveduyushchiy - prof. L.S.
Shvarts) lechebnogo fakul'teta Saratovskogo meditsinskogo in-
stituta i 1-ya gorodskaya klinicheskaya bol'nitsa im. V.I. Lenina
(glavnyy vrach Yu.Ya. Gordeyev).

YESELEV, M.M.

Diagnostic value of the reaction with Lugol's solution in myocardial infarct. Sov.med. 25 no.1:130-132 Ja '62.   (MIRA 15:4)

1. Iz gospital'noy terapevticheskoy kliniki leohebnogo fakul'teta (zav. - prof. L.S.Shvarts) Saratovskogo meditsinskogo instituta.
           (HEART—INFARCTION)   (LUGOL SOLUTION)

FRANTSEV, Yu.P., rektor, otv. red.; IVAN'KOVICH, N.F., red.; VLADIMIRTSEV, V.S., red.; STEPANYAN, TS.A., prof., red.; CHANGLI, I.I., starshiy nauchnyy sotr., kand. ekonom. nauk, red.; YESELEV, N.Kh., red.; GUSEV, K.V., red.; BONAREV, N., red.; GRINGAUZ, S., red.; SPITSYNA, A., red.; KUZNETSOVA, A., tekhn. red.

[Standard-bearers of communist labor] Znamenostsy kommunistiche-skogo truda. Moskva, Moskovskii rabochii, 1961. 322 p.
(MIRA 14:12)

1. Akademiya obshchestvennykh nauk pri TSentral'nom komitete Kom-munisticheskoy partii Sovetskogo Soyuza i Chlen-korrespondent AN SSSR (for Frantsev). 2. Zaveduyushchiy sektorom Instituta filosofii AN SSSR (for Stepanyan). 3. Institut filosofii AN SSSR (for Changli).
(Labor and laboring classes)

YESELEVICH, A. YA.

21035 Yeselevich, A. Ya., Shiryak, E.A. i Listovskaya, L.M.   Lecheniya infitsirovannykh
Ran chudesnoy palochkoy Trudy In-ta (Kazansk Nauch-issled in-t ortopedii i vosstanovit Kirurgi
t.111, 1949, s. 296-19,

SO: LETOPIS ZHURNAL STATEY - Vol. 28, Moskva, 1949

ESELEVICH, A. YA.

21048 Spasskiy, N.N. i Eselevich, A. Ya.   Issledovaniya Kul'Tural'No-Fermentativnykh i
patogennykh svoystv stafilokokov, Vydelennykh pri Khronicheskkh infektsiyakh Ran Trudy
In-ta (Kazansk Nauch-issled in-t ortopedii i vosstanovit Khirurgii) t. 111, 1949, s.220-27.

SO: LETOPIS ZHURNAL STATEY - Vol. 28, Moskva, 1949

YESELEVICH, A.Ya.

Characteristics of hyaluronidase-active staphylococci isolated from
chronic wound processes in veterans of Warld War II. Ortop.travm.
i protez. no.5:48-52 S-O '55.   (MLRA 9:12)

1. Iz Kazanskogo nauchno-issledovatel'skogo instituta ortopedii i
vosstanovitel'noy khirurgii (dir. - zasluzhennyy deyatel' nauki
TASSR prof. L.I.Shulutko)
        (MICROCOCCUS PYOGENES
            isolated from chronic war wds., hyaluronidase activity)
        (WOUNDS AND INJURIES -
            war wds., isolation of Micrococcus pyogenes, hyaluronidase
            activity)

YESELEVICH, A. YA.

Yeselevich, A. Ya.

"Hyaluronidase of Staphyloccoci Isolated in Cases of Chronic Wound Processes." Kazan' Sci. Res Inst of Orthopedics and Restorative Surgery. Kazan', 1955 (Dissertation for the degree of Candidate in Medical Science)

SO: Knizhnaya letopis' No. 27, 2 July 1955

YESELEVICH, A.Ya.; PODVAL'NYY, A.Yu.

Microflora of fresh wounds of peacetime injuries. Ortop.travm. i
protez. 17 no.6:122-123 N-D '56.   (MLRA 10:2)

1. Iz Kazanskogo nauchno-issledovatel'skogo instituta vosstanovitel'-
noy khirurgii i ortopedii (direktor - zasluzhennyy deyatel' nauki TASSR
professor L.I.Shulutko)
        (WOUNDS--BACTERIOLOGY)

YESELEVICH, A.Ya.; KRASNOSHCHEKOVA, Ye.Ye.

Use of standard diagnostic disks for determining the antibiotic
sensitivity of staphylococci isolated from wound infection. Anti-
biotiki 4 no.6:100-104 N-D '59.   (MIRA 13:3)

1. Bakteriologicheskaya laboratoriya Kazanskogo gosudarstvennogo
nauchno-issledovatel'skogo instituta travmatologii i ortopedii.
         (STAPHYLOCOCCUS   pharmacol.)
         (ANTIBIOTICS pharmacol.)
         (WOUNDS AND INJURIES infect.)

YESELEVICH, A. Ya.; KRASNOSHCHEKOVA, Ye.Ye.

Characteristics of penicillin-resistant staphylococci isolated
from wound infections. Antibiotiki 8 no.5:478-479 My'63
(MIRA 17:2)

1. Kazanskiy nauchno-issledovatel'skiy institut travmatologii
i ortopedii.

ABDRASHITOVA, L.S.; YESELEVICH, A.Ya.; KRASNOSHCHEKOVA, Ye.Yu.

Microflora in children with odontogenic osteomyelitis. Stoma-
tologiia 42 no.4:40-42 Jl-Ag'63   (MIRA 17:4)

1. Iz Tatarskoy respublikanskoy stomatologicheskoy bol'nitsy
(glavnyy vrach S.Z. Zalyayutdinova) i bakteriologicheskoy
laboratorii Kazanskogo gosudarstvennogo nauchno-issledovatel'-
skogo instituta travmatologii i ortopedii (dir. - kand. med.
nauk U.Ya. Bogdanovich).

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

Abs Jour   :   Ref Zhur - Biol., No 11, 1958, 51264

Author   :   Yesolevich, E.I.

Inst   :   Chkalov Institute of Medicine.

Title   :   Clinical and Experimental Data on the Significance of the
             Corpus Callosum in the Structure of Epileptic Seizures.

Orig Pub   :   Tr. Chkalovsk. med. in-ta, 1956, vyp. 5, 420-426.

Abstract   :   After the corpus callosum was severed in rats, no essential
             changes of epilepsy produced by ringing sounds were obser-
             ved. The only finding was that in operated rats the cata-
             leptic stage of the seizure appeared sooner and lasted some-
             what longer than in healthy animals. Apparently, the cor-
             pus callosum does not play an important role in the struc-
             ture of spasmotic seizures in epilepsy which was induced

Card 1/2

- 95 -

YESELEVICH, B. I.

USSR / Pharmacology, Toxicology. Toxicology.   V

Abs Jour: Ref Zhur-Biol., No 9, 1958, 42520.

Author : Yeselevich, B. I.
Inst   : Chkalov Medical Institute.
Title   : On the Symptomatology of DDT poisoning.

Orig Pub: Tr. Chkalovskogo med. in-ta, 1956, vyp. 5, 427-429.

Abstract: DDT powder was used by mistake, instead of flour, in the preparation of butter fried potato patties. Ingestion of 15-20 gm of DDT dust caused not-lethal poisoning of children and adults. It is possible that the toxicity of DDT was decreased by heating, by the acidity of the products, by fermentation in the dough etc. Rapidly following manifestations: stomach ache, headache, intoxication of the CNS. The symptoms of CNS damage in children- inhibition or excitation of the subcortical motor mechanisms, in adults- disorders of corrdination of movements.

Card 1/1

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YESELEVICH, E. I.   (Prof.)   Chkalov
                    Э. И.

    Klinika i Lecheniye Nevrno-Psikhicheskikh Narusheniy pri Ku-likoradke (with Abramenko,
       p. 443   A. I. and others

       Poliomielit v Chkalovskoy Oblasti B 1946-1955gg.
p. 413   V sb Aktual'nyy Problemy Nevropatologii i Psikhiatrii. Kuybyshev. 1957.

Iz kafedry nervnykh bolezney Chkalovskogo gosudarstvennogo meditsinskogo instituta,
Zaveduyushchiy kafedroy - Prof. E. I. Yeselevich.

YESELEVICH, Kh.

Interprovince conference of pediatricians in Krasnoyarsk. Vop. okh.
mat. i det. 6 no.7:93-94 Jl '61.
(MIRA 14:8)

1. Zamestitel' zaveduyushchego Krayevym otdelom zdravookhraneniya
v Krasnoyarske.
(LUNGS—DISEASES)

YESELEVICH, E.I., prof. (Orenburg)

"Introduction to clinical neuropathology" by L.I.Omorokov.
Reviewed by E.I.Eselevich. Kaz.med.zhur. no.5:89-90 S-O '62.

(NERVOUS SYSTEM—DISEASES)   (OMOROKOV, L.I.)   (MIRA 16:4)

18(5)

AUTHORS: Veselevich, L.V., Lisitsyn, A.I., Luchin, N.S.
and Pyatnov, V.I.

SOV/132-59-4-1/17

TITLE: The Ancient Zircon-Ilmenite Placer in the Meso-
Cenozoic Deposits of West Siberia.

ABSTRACT: The Tuganskoye zircon-ilmenite placer was dis-
covered in 1956-1957. It is located on the water
divide of the rivers Tom' and Yaya in the region
of northern spurs of the Kuznetskiy Alatau moun-
tain range. The Paleozoic foundation of metamor-
phic rocks of the region is covered by an erosion
crust, 15 to 70 m thick, formed under continental
conditions during a period from the Middle-Carboni-
ferous up to Upper-Cretaceous and even Paleogene
times. This crust covers both slopes of the water
divide of the rivers Tom' and Yaya. Zircon and

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The Ancient Zircon-Ilmenite Placer in the Meso-Cenozoic Deposits
of West Siberia.

SOV/132-59-4-1/17

ilmenite were found in this stratum formed by the
metamorphic rocks and the erosion crust. In Pale-
ogene time, this weathered crust was again eroded
by the transgressing sea, the clay fraction was
washed away in the sea and the coarse-grained frac-
tion was deposited in the coastal area. These de-
posits at present are divided into three suites, by
their granulometric composition, the Simonovskaya,
the Mariinskaya and Tuganskaya suites. The rare
elements are found mainly in the Tuganskaya suite
composed of variously grained sands. Conditional
selective concentrates can be obtained from these
sands. The Tuganskoye deposit can be exploited by
opencast mining.

Card 2/3

SOV/132-59-4-1/17

The Ancient Zircon-Ilmenite Placer in the Meso-Cenozoic De-
posits of West Siberia.

ASSOCIATION: Ministerstvo geologii i okhrany nedr SSSR. (The
Ministry of Geology and Conservation of Mineral
Resources of the USSR. (Yeselevich, Lisitsyn,
2) Giredmet (Pyatnov)

Card 3/3

YESELEVSKIY, A.

Caper spurge as an oil-seed crop. A. Keskvskii.
Maslobolno Zhirovoe Delo 1935, 133-5.—Caper spurge
seed is rich in oil which yields a Marseilles type soap.
The plant should be a profitable farm crop in certain
parts of the U. S. S. R. (cf. preceding abstr.)

Julian F. Smith

BIBLIN, D.M.; MEN', R.B.; YESEL'SKAYA, A.V. [IEsel's'ka, A.V.]

Improvements at the Kie. Silk Combine. Leh. prom. no.3:69-70
Jl-S '65.
(MIRA 18:9)

TERENT'YEV, A.P.; VIKTOROVA, Ye.A.; YESEL'SON, B.M.; KOST, A.N.;
YERSHOV, V.V.

Inner complex compounds as contact insecticides. Zhur.ob.
khim. 30 no.7:2422-2427 Jl '60.   (MIRA 13:7)

1. Moskovskiy gosudarstvennyy universitet.
     (Complex compounds) (Insecticides)

S A

2340   516.483   A 57

An apparatus for obtaining temperatures below
0·8'K. LAZAREW, B. G., AND ESELSON, B. N.
J. Phys., U.S.S.R., 5, 2-3, pp. 151-154, 1941. On
the basis of the known properties of He II an appara-
tus was constructed for obtaining temperatures below
0·8'K. by pumping off the vapours above liquid He
with a low-speed pumping system. The temperature
obtained, as estimated by the magnitude of the
magnetic field which destroys the superconductivity
of Zn, is 0·73'K.

See Abstr. 2287   516.532 : 541.124.7 :
                                516.421.4 : 532.77

Physico-Tech. Inst., AS U. SSR

METALLURGICAL LITERATURE CLASSIFICATION

TRANSLATION AVAILABLE - W-3217/49, 7 July 49

Attainment of Temperatures Below 1°K. by Production of Vacuum Over Liquid Helium. (In Russian.) B. N. Esel'son. Zhurnal Eksperimental'noi i Teoreticheskoi Fiziki (Journal of Experimental and Theoretical Physics), v. 18, Sept. 1948, p. 795-798.

Describes method of operation and specially developed apparatus for the above. Typical data are presented.
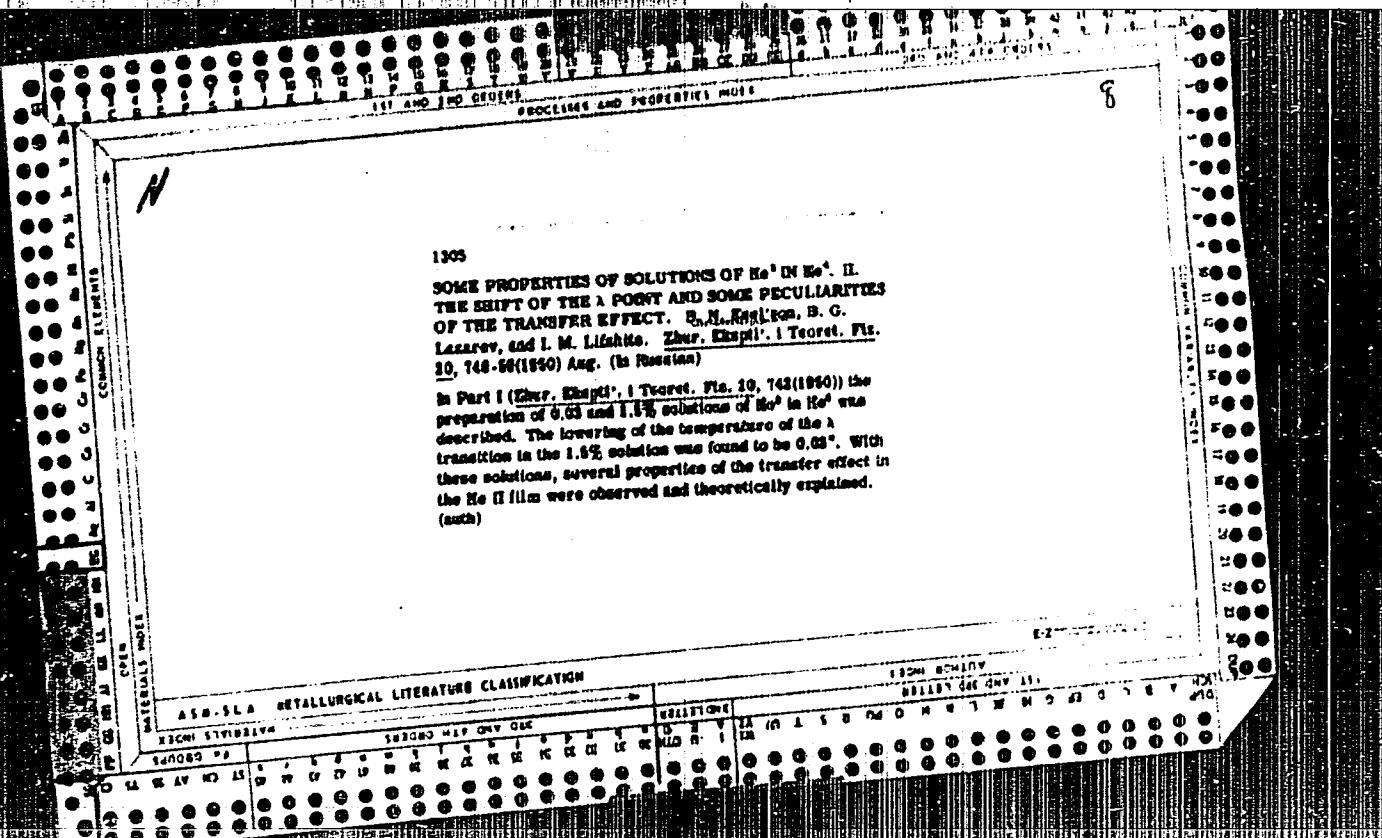
Chem Abstracts

General and Physical Chemistry

Some properties of solutions of He^3 in He^4. I. Separation of the helium isotopes. B. N. Esel'son and B. G. Lazarev (Phys.-Tech. Inst., Acad. Sci. Ukr. S.S.R., Kiev). Zhur. Eksptl. Teoret. Fiz. 20, 742-7(1950); cf. C.A. 44, 7064c.— First-stage enrichment in He^3, by a factor of $\sim 2 \times 10^4$, to a final concn. of He^3 of about 0.01% is obtained on repeated removal of superfluid He II at $\sim 1.5°K$. by the thermomech. effect in an app. of 500 cc. capacity, permitting removal of the superfluid at a rate of 1.5 l./hr. Further enrichment, by a further factor of ~ 150, to a final concn. of He^3 of 1.5%, is obtained with the aid of a rectification column similar to that used by van Dijk, et al. (C.A. 28, 2242⁹) for the sepn. of Kr and Xe. The total amt. of He^3 contained in the thermomechanically enriched He is recovered. The final concn. of 1.5% He^3 was verified by the vapor pressure. The final enrichment is by a factor of $\sim 3 \times 10^6$. This corresponds to an original He^3 content of 5×10^{-6}. II.

Displacement of the λ point and particularities of the transfer effect. B. N. Esel'son, B. G. Lazarev, and I. M. Livshits. Zhur. Eksptl. Teoret. Fiz. 20, 748-56(1950).—From detns. of the rates of overflow of superfluid He II through a film at different temps., the λ-point temp. $T\lambda$ in He contg. 1.5% He^3 is lowered by 0.03°K.; in mixts. contg. 0.34% He^3, the lowering of $T\lambda$ is too small to be observed. In ordinary He, the rate of film overflow is const. throughout, until complete equalization of the liquid levels. With He enriched with He^3, beginning from $\sim 10^{-1}$% He^3, the rate is const. up to a certain difference of levels Δh, but from then on it decreases, tending to zero as Δh tends to zero. Thus, at 2.14°K., with 1.5% He^3, the rate is const. over the 1st 140 min., and begins to decrease when Δh has decreased to 0.25 cm. The crit. Δh at which the rate begins to fall off increases with decreasing temp., between 1.47 and 2.14°K.; at the lowest temp., 1.47°K., the portion with const. rate is practically absent. A similar linear fall of the rate at small Δh is found in He with 0.03% He^3. The observed particularities can be accounted for if, along with the transfer of superfluid He II through the film, the simultaneous transfer of He^3 through the gas phase is taken into consideration. The present results differ from those of Abraham, Weinstock, and Osborn (C.A. 44, 3046a) giving for the displacement of the λ point, $\partial T\lambda/\partial c = 5$, as against 2 in the present work, and are at variance with London and Rice (C.A. 42, 4845g) and Stout (C.A. 43, 22A). The displacement found by Stout (C.A. 44, 3046b), $-6 × 8°$/mole, is incorrectly high. By thermodynamic considerations, the He I-He II transition in solns. of He^3 in He^4 cannot be treated N. Thon

1957

1305

SOME PROPERTIES OF SOLUTIONS OF He³ IN He⁴. II.
THE SHIFT OF THE λ POINT AND SOME PECULIARITIES
OF THE TRANSFER EFFECT. B. N. Ëslikov, B. G.
Lazarev, and I. M. Lifshits. Zhur. Eksptl'. i Teoret. Fiz.
20, 748-56(1950) Aug. (in Russian)

In Part I (Zhur. Eksptl'. i Teoret. Fiz. 20, 743(1950)) the
preparation of 0.03 and 1.8% solutions of He³ in He⁴ was
described. The lowering of the temperature of the λ
transition in the 1.8% solution was found to be 0.03°. With
these solutions, several properties of the transfer effect in
the He II film were observed and theoretically explained.
(auth)

YESEL'SON, B. N.

PA 169 1110

USSR/Physics - Helium   Nov 50

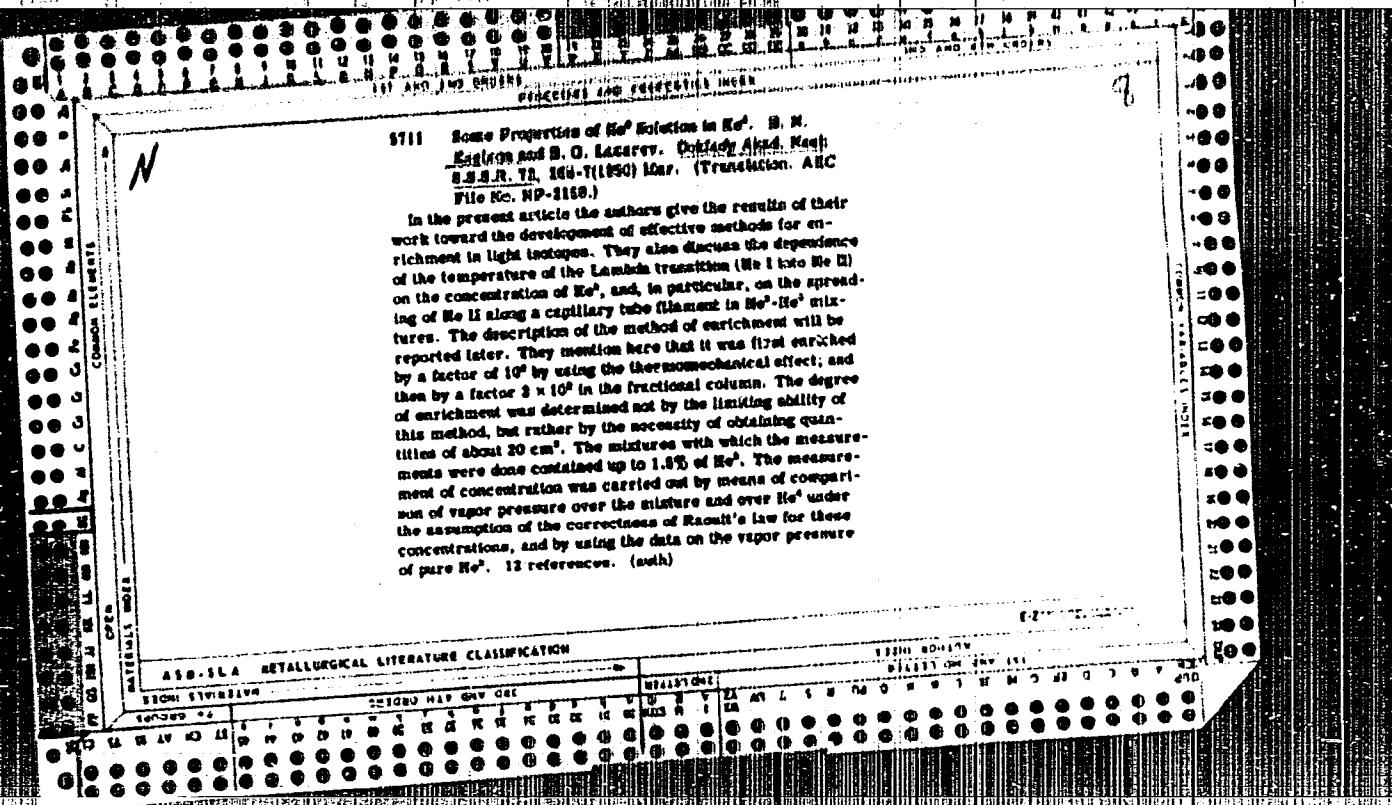"Measurement of the Vapor Tension Over Solutions
of He^3 in He^4," B. N. Yesel'son, B. G. Lazarev,
N. Ye. Alekseyevskiy, (Physicotech Inst, Acad Sci
Ukrainian SSR; Inst of Phys Problems, of Acad Sci
USSR.

"Zhur Eksper i Teoret Fiz" Vol XX, No 11,
pp 1055-1056

Considers Raoult's law for subject solutions up to
2% concentrations of He^3. Ideal behavior is in-
dicated. Submitted 18 Apr 50.

169T110

8711   Some Properties of He³ Solution in He⁴. B. N. Eselson and B. G. Lazarev. Doklad. Akad. Nauk U.S.S.R. 72, 265-T(1950) Mar. (Translation. AEC File No. NP-2168.)

In the present article the authors give the results of their work toward the development of effective methods for enrichment in light isotopes. They also discuss the dependence of the temperature of the Lambda transition (He I into He II) on the concentration of He³, and, in particular, on the spreading of He II along a capillary tube (filament in He³-He⁴ mixtures. The description of the method of enrichment will be reported later. They mention here that it was first enriched by a factor of 10^2 by using the thermomechanical effect; and then by a factor 3×10^2 in the fractional column. The degree of enrichment was determined not by the limiting ability of this method, but rather by the necessity of obtaining quantities of about 20 cm³. The mixtures with which the measurements were done contained up to 1.8% of He³. The measurement of concentration was carried out by means of comparison of vapor pressure over the mixture and over He⁴ under the assumption of the correctness of Raoult's law for these concentrations, and by using the data on the vapor pressure of pure He³. 12 references. (auth)

CA

Temperature dependence of the thickness of the He II film. M. I. Kaganov and B. N. Esel'son (Phys. Tech. Inst. Acad. Sci. Ukr. S.S.R., Kiev). *Zhur. Eksptl. Teoret. Fiz.* 21, 656–7 (1951).—An error is pointed out in the derivation of Atkins (*C.A.* 45, 4531gA): the right-hand member of the Euler equation should be written $-\nabla p/p_0$ ($\rho_0 = \rho$ of the superfluid phase), instead of $-\nabla p/\rho$. With this correction, the expression for the thickness of the superfluid film becomes consistent with the optical measurements of Jackson and Burge (*C.A.* 44, 3760a) and with Peshkov's (*C.A.* 41, 3621c) data for ρ_s/ρ.   N. Thon

YESEL'SON, B. N.

USSR/Physics - Helium II, Transfer   1 Dec 51
Speed of

"The Speed of Transfer in a Film of Helium II,"
B. N. Yesel'son, B. G. Lazarev, Phys-Tech
Inst, Acad Sci Ukrainian SSR

"Dok Ak Nauk SSSR" Vol LXXXI, No 4, pp 537-539

Important in the theory of He II is the prob-
lem concerning the existence of the crit velo-
city. It is desirable to set up new expts under
conditions which exclude all possible distort-
ing circumstances. Authors report certain re-
sults of expts set up under such conditions.
They obtain the dependence of the height of

202T89

USSR/Physics - Helium II, Transfer   1 Dec 51
Speed of (Contd)

Helium's level upon time at T=1.52°K. Sub-
mitted by Acad L. D. Landau 3 Oct 51.

20289

USSR/Physics - Liquid Helium He-3   FD-722

Card 1/1   : Pub 146-10/18

Author   .   : Yesel'son, B. N.

Title   : Some properties solutions of He^3 in He^4.   III.   Vapor tension

Periodical   : Zhur. eskp. i teor. fiz., 26, 744-750, Jun 1954

Abstract   : The vapor tension of solutions of He^3 in He^4 is measured under con-
                  ditions ensuring the establishment of equilibrium between the liquid
                  and the vapor. Data obtained from solutions containing He^3 in the
                  amounts of 0.49, 1.00, 2.40, 4.23, 5.18 and 8.08% allow one to con-
                  clude that the behavior of such solutions is not ideal. Indebted to
                  B. G. Lazarev, N. Ye. Alekseyevskiy, I. M. Lifshits, Ye. S. Borovnik.
                  14 references, including 10 foreign.

Institution   : Physicotechnical Institute, Acad. Sci. USSR

Submitted   : October 10, 1953

USSR/Physics - Helium isotopes   FD-991

Card 1/1   Pub. 146 - 15/20

Author   : Yesel'son, B. N., and Bereznyak, N. G.

Title   : Dew points of mixtures of helium isotopes

Periodical   : Zhur. eksp. i teor. fiz., 27, No 5 (11), 648, 649, Nov 1954

Abstract   : The authors tabulate the dependence of the pressure of initial condensa-
               tion upon temperature for mixtures with various contents of helium-3, and
               graphs the dependence of the vapor tension of mixtures of helium isotopes
               upon the state of the gaseous phase for various temperatures. Such tabu-
               lation and graphing are necessary in order for the authors to construct
               the vapor-liquid diagrams for the system He3 He^4. An extension of an
               earlier work (B. N. Yesel'son, ibid., 26, 744, 1954). A detailed report
               will be published soon. The authors thank professor N. Ye. Alekseyevskiy
               for analyzing the mixtures for the content of the light isotope and pro-
               fessor B. G. Lazarev for his interest.

Institution : Physicotechnical Institute, Academy of Sciences Ukrainian SSR

Submitted   : July 13, 1954

USSR/ Physics   Isotopes

Card   : 1/1

Authors   : Esel'son B. N. and Lazarev, B. G., Act. Memb. of Acad. of Sc.
               Ukr-SSR

Title   : Solidification of helium isotope mixtures

Periodical   : Dokl. AN SSSR, 97, Ed. 1, 61 - 64, July 1954

Abstract   : Data are presented on the solidification point of pure He^4 as well
               as helium isotope mixtures obtained by a previously described method.
               The experimental installation and the investigation procedure are
               described. The data obtained (shown in graph) make it possible to
               evaluate the nature of the structural diagram for liquid and solid
               phases of the He^3 - He^4 system. The pressure at which helium
               solidifies was recorded with greater accuracy by means of two mano-
               meters the indications of which coincided with each other only as
               long as the helium remained in liquid state. Nine references: 3
               USSR, 4 USA, 2 German. Graphs, drawing.

Institution : Acad. of Sc. Ukr-SSR, Physico-Technical Institute
Submitted   : March 25, 1954

YESEL'SON, B.N.

USSR/Physics - Surface tension

Card 1/1   : Pub. 22 - 15/49

Authors   : Esel'son, B. N., and Bereznyak, N. G.

Title   : Surface tension of helium isotope solutions

Periodical : Dok. AN SSSR 98/4, 569-571, Oct. 1, 1954

Abstract   : An experiment was conducted with solutions of helium isotopes to
              determine their surface tensions. The method and instrument set-up
              are outlined. Six references (1921-1944). Diagram; graphs.

Institution : Physico-Technical Institute of the Acad. of Scs. of the Ukr. SSR

Presented by : Academician Lindau, L. D., April 22, 1954

YESEL'SON, B.N.

USSR/Physics - Surface tension

Card 1/1   Pub. 22 - 7/40

Authors   : Esel'son, B.N, and Bereznyak, N.G.

Title   : Surface tension of a light helium isotope

Periodical   : Dok. AN SSSR 99/3, 365-367, Nov 21, 1954

Abstract   : The experimental determination of the surface tension of a light helium isotope(He^3) is described. The following formula was used for this determination: into which the experimental data

$$2\alpha\left(\frac{1}{b_1} - \frac{1}{b_2}\right) = H_g \left(\gamma_e - \gamma_v\right)$$

obtained was substituted. Symbols are explained. Five references: 1-USSR (1921-1954). Diagram, table; graph.

Institution: Physico-Technical Institute of the Acad. of Scs. of the UkrSSR.

Presented by: Academician L.D. Lindau, July 12, 1954

ESEL'SON, B. N.

B-8

SSR/Physical Chemistry. Thermodynamics, Thermochemistry, Phase Transitions.
Equilibria, Physical-Chemical Analysis,

Abs Jour: Ref Zhur-Khimiya, No 5, 1957, 14646

Author : B. N. Esel'son, N. G. Bereznyak

Inst : Academy of Sciences of USSR UkSSR   Physico-Technical Inst.

Title : Liquid-Vapor State Graph of System of Helium Isotopes
          (He3-He4)

Orig Pub: Dokl. AN SSSR, 1955, 105, No 3, 454-457

Abstract: The vapor pressure p of helium isotope solutions with
           various contents of He3 in the liquid was measured. The
           method (RZhKhim, 1956, 28413, 50161) is based on the de-
           termination of the difference Δp between the vapor pres-
           sures of the solution and pure He4. The equilibrium be-
           tween the liquid and the vapor was provided for by stir-
           ring the liquid and it was checked by the absence of any
           dependence of Δp on time and by the absence of hystere-
           sis. The dependence of p on the temperature was deter-
           mined for 20 solutions with He3 contents from 0.4 to 90.8

ordinary

Card 1/2

YESEL'SON, B N.

SUBJECT   USSR / PHYSICS   CARD   1 / 2   PA - 1779
AUTHOR   ESEL'SON,V.N., LAZAREV,B.G., SINEL'NIKOV,K.D., ŠVEC,A.B.
TITLE   On Some Peculiarities of Rotating He II.
PERIODICAL   Žurn.eksp.i teor.fis,31,fasc.5,912-912 (1956)
              Issued: 1 / 1957

At first several previous works dealing with this topic are cited. An experi-
mental confirmation of the dependence of the inertia moment of rotating He II
on velocity and an estimation of relaxation time would be most desirable. This
problem could be solved by studying the damping of the rotation of a glass with
He II which is the nearest approach to the continuous equilibrium between the
normal and the supraconductive component. As relaxation time was not known, the
rotating system had to have a sufficiently low damping. For this purpose a plexi-
glass vessel was suspended in a magnetic field which warranted rotation of the
vessel for several hours after an initial velocity of several revolutions per
second had been imparted to it. The vessel (R = 1,5 cm) contained about 300
light aluminium disks which were arranged at a shorter distance than the depth
of penetration of the viscous wave. With the help of a rotating magnetic field
the rotation velocity of the vessel containing the He II was brought up to the
assumed value, after which the field was switched off. Under these conditions
only the normal component of the He II could at first be taken away with the
disks, but with its supraliquid component this was possible only after re-
laxation time. If relaxation time exceeds the time of screwing-out (?), it was
obvious that, with a growing distance of the supraliquid component, a consider-

able modification of the moment of inertia of the vessel containing the helium
(about 25%) was to be expected, which would mean a modification of rotation
velocity.
However, the investigation of the damping of the rotating vessel containing the
He II showed no noticeable change of velocity, which is illustrated by an
attached diagram for the dependence of rotation velocity on time recorded at
$T = 1,5^\circ$ K for a duration of screwing out (?) of 10, and for 2 seconds. The same
tests make it possible to determine the dependence of the inertial moment of
He II on rotation velocity. It was found that at velocities of more than 0,5
rotation per second there is no such dependence.
Thus, the lack of the extraction of the supraconductive component on the
occasion of experiments with an oscillating stack of disks when small amplitudes
are used can by no means be explained by too long a relaxation time. Hitherto,
the problem of the dependence of relaxation time on velocity has not yet been
solved. The authors' attention was drawn to this fact by L.D.LANDAU.

INSTITUTION: Physical-Technical Institute of the Academy of Science of the
             Ukrainian SSR.

Yesel'son, B. N.

USSR/Nuclear Physics   C-5

Abs Jour   : Referat Zhur - Fizika, No 5, 1957, 11238

Author   : Klyucharev, A.P., Yesel'son, B.N., Val'ter, A.K.

Inst   : Physical-Technical Institute, Academy of Sciences,
              Ukrainian SSR

Title   : Study of the Reaction Between He^3 and Deuterons.

Orig Pub   : Dokl. AN SSSR, 1956, 109, No 4, 737-739

Abstract   : The excitation function of the He^3 (d, p) He^4 was measured
              in the deuteron energy regions up to 1.5 Mev. The deute-
              rons were accelerated by an electrostatic generator, the
              energy scale of which was calibrated by the resonant maxi-
              ma of the excitation function of the F^{19} (p, $\times\gamma$)0^{16} re-
              action. A gas target with a window of aluminum foil appro-
              ximately five microns thick was used, filled with helium
              at a pressure of 50 mm mercury, and containing 57.6% He^3.

Card 1/2

USSR/Nuclear Physics   C-5

Abs Jour   : Ref Zhur - Fizika, No 5, 1957, 11238

To obtain energies below 450 kev, the deuterons were
slowed down by aluminum foils. The overall error in the
determination of the deuteron energy amounted to $\pm$ 30
kev in the region of the resonance of the excitation cur-
ve. The α particles were registered at an angle of 90°
to the direction of the deuteron beam by means of a pro-
portional counter with a mica window. The excitation
function obtained has a resonant maximum at a deuteron
energy of 435 kev, corresponding to the formation of an
intermediate Li^5 nucleus in a state having an excitation
energy of 16.8 Mev. The absolute cross section in the
resonance is 63.4 ± 3.2 millibarns per steradian.

Card 2/2

SUBJECT   USSR / PHYSICS   CARD 1 / 2   PA - 1978
AUTHOR   BEREZNJAK,N.G., YESEL'SON,B.N.
TITLE   The Energy Spectrum of He-3 Admixtures dissolved in He II.
PERIODICAL   Dokl.Akad.Nauk 111, fasc.2, 322-324 (1956)
             Issued: 1 / 1957

An experimental investigation of the temperature dependence of the contribution ρ_n ad of the admixtures to the density of the normal He II component permits a univocal determination of the shape of the energy spectrum. For this purpose the authors measured the density of the normal component of the solution of He^3 in He^4 with a concentration of $x = 3,0\%$ He^3. The temperature dependence of the moment of inertia of a stack of light parallel disks steeped into the helium-isotope solution was measured. The stack of disks was firmly connected to the little pail surrounding it. The latter was suspended on a wire of phosphorous bronze so that it could perform rotating oscillations round an axis which was vertical to the plane of the disk. The modification of the moment of inertia of the device was determined from the temperaturedependence of the period of the oscillations of the system in the liquid. The connection between the oscillation period of the system and the liquid participating in the motion of the device can, as usual, be determined by solving the corresponding hydrodynamic problem. It must, however, be considered that the liquid is drawn off not only by the disks but also by the outer surfaces of the pail. When solving the hydrodynamic problem the peculiarities of the experimental device must be taken into account by imposing certain corresponding boundary conditions. In this way two equations

Dokl.Akad.Nauk <u>111</u>,fasc.2, 322-324 (1956)   CARD 2 / 2   PA - 1978

are obtained of which one permits determining the penetration depth δ and the
other the determination of the density of the normal component. Both equations
are explicitly given.

By means of the device described the temperature dependence of the density of
the normal component of pure He^4 and of a solution of helium isotopes with a
content of 3,0% He^3 was determined. The results are shown in form of a diagram
and are indicative of the fact that the normal component of the solution has a
considerably greater density than He^4. This follows also from the theory by
I.JX.POMERANČUK. At $1,5°$, $\varrho_n/\varrho_\lambda$ is by 50% greater in the case of the solution
than with He^4. The spectrum of elementary excitations which corresponds to the
particles of the admixture is characterized by the value $p_0 = 0$. (Here p_0
apparently denotes the pulse in the case of a lacking admixture). From the ex-
perimentally determined values of $(\varrho_n/\varrho_\lambda)_s$ for the solution and $(\varrho_n/\varrho_\lambda)_0$
for pure He^4 it is possible to determine the effective mass of the admixture
in the solution. Such a computation furnishes the value $\mu = 2,5\ m_3$, where m_3
denotes the mass of the He^3-atom. At present experiments for the determination
of $\varrho_n/\varrho_\lambda$ in concentrated mixtures are being carried out.

INSTITUTION: Physical-Technical Institute of the Academy of Science in the
             Ukrainian SSR.

Dokl.Akad.Nauk <u>111</u>,fasc.3, 568-570 (1956) CARD 2 / 2   PA - 1983

In general the determination of such a break on the curve P(T) is difficult, but it is considerably facilitated by the study of the temperature dependence of the difference Δ P of the vapor pressure of the solutions and of pure He^4. In the case of the curve P-T the relatively small discontinuity of this quantity at the λ-point will be only little noticeable. However, in the case of the curve Δ P-T the value of $d/dT(\Delta P)$ diminishes considerably and the discontinuity of this quantity at the λ-point remains the same. A diagram illustrates the dependence P-T for some solutions. In the case of all these curves which were obtained by the differential method of measuring vapor pressure a discontinuity is observed which must correspond to the temperature of the phase transition. These temperatures and the corresponding concentrations of the solutions are shown together in a table. These data deviate considerably from the results obtained by other works. However, the data found here agree well with those values of T_λ which were obtained recently in connection with the study of various properties of the solutions of He^3 in He^4 within the domain of small concentrations. The value of (dT_λ/dx_{fl}) at $x_{fl} = 0$ can be obtained by using the data concerning the density of the normal component of the solutions of helium isotopes. The here computed value of (dT_λ/dx_{fl}) at $x_{fl} = 0$ agrees well with the values -1,5 ∇/mol which were found elsewhere.

INSTITUTION: Physical-Technical Institute of the Academy of Science in the Ukrainian SSR.

YESEL'SON, Boris Naumovich (Physico-Tech Sci-Res Inst, AS, UkSSR)

awarded sci degree of Doc Physico-Math Sci for the 21 Jun 57 defense

of dissertation: "Research on the properties of helium isotopes and

solutions of them" at the Council, Khar'kov State Univ imeni Gor'kiy;

P rot No 11, 10 May 58.

(BMVO, 10-58,20)

YESEL'SON, BN.

56-4-18/54

AUTHORS: Yesol'son, B.N., Kaganov, M.I., Lifshits, I.M.

TITLE: The Thermodynamics of the Phase Transition between He I and He II in Solutions of Helium Isotopes (Termodinamika fazovogo perekhoda He I - He II v rastvorakh izotopov geliya)

PERIODICAL: Zhurnal Eksperim. i Teoret. Fiziki, 1957, Vol. 33, Nr 4, pp. 936 - 944 (USSR)

ABSTRACT: 1.) The phenomena that are connected with the transition from He I and He II in solutions of helium isotopes are thermodynamically (theoretically) treated. It is shown that this transition, in the range from 1,35 to 3,0°K, is a second type phase transition.
2.) It is shown that at the temperature of the second type phase transition a point of sudden irregulatity should occur in the derivative as well of the partial as of the total pressure according to the temperature, which fact is experimentally confirmed.
3.) It is shown that at T_λ in dependence on the distribution coefficient, a point of sudden irregularity should be observed in the derivative according to the temperature.
4.) It is shown that at T_λ a point of sudden irregularity

Card 1/2

The Thermodynamics of the Phase Transition between He I and He II in Solutions
of Helium Isotopes

56-4-18/54

should be observed for the heat of solution and the heat of
vaporization. For weak solutions numerical data are given for
the point of sudden irregularity of the heat of solution. For
one solution the course of curve of the heat of solution is
also calculated. There are 6 figures and 7 Slavic references.

ASSOCIATION: Physico-Technical Institute AN Ukrainian SSR
(Fiziko-tekhnichseskiy institut Akademii nauk Ukrainskoy SSR)

SUBMITTED: April 19, 1957

AVAILABLE: Library of Congress

Card 2/2

YESEL'SON, B. N.

SOV/81-59-24-84747

Translation from: Referativnyy zhurnal. Khimiya, 1959, Nr 24, p 9 (USSR)

AUTHORS: Klyucharev, A.P., Val'ter, A.K., Yesel'son, B.N.

TITLE: The Reaction of He^3 With Deuterons

PERIODICAL: Tr. Sessii AS UkrSSR po mirn. ispol'zovaniyu atomn. energii. Kiyev, AS UkrSSR, 1958, pp 64 - 69

ABSTRACT: The measurement of the differential cross section of the reaction He^3 (d, p) He^4 at deuteron energies of 100 - 1,500 kev is reported. α -particles were recorded which escaped under an angle of 90° to the direction of the deuteron beam. The dependence of the cross section on the energy has a resonance course with a maximum at $E_d \approx 435$ kev. The value of the cross section at the maximum is 63.4 mbarn-sterad.

V.R.

Card 1/1

X ESFL SON   F FF,

, AUTHORS: Yesel'son, B. N., Shvets, A. D., Bablidze, R. A. 56-1-38/56

TITLE: On the Film Flow Rate in Solutions of Helium-Isotopes
              (O skorosti perenosa po plenke u rastvorov izotopov geliya)

PERIODICAL: Zhurnal Eksperimental'noy i Teoreticheskoy Fiziki, 1958,
              Vol. 34, Nr 1, pp. 233-234 (USSR)

ABSTRACT: The influence of He^3 dissolved in He II upon the film flow
              is, as is well-known, reduced to the decrease in the flow
              rate. It was of a certain interest to investigate this fact
              more thoroughly and therefore the authors made tests with a
              solution of helium-isotopes with a helium content of 1,5;
              4,7; 7,0 and 9,6 %. The apparatus used for these tests
              consists of two elbows of a thin-walled capillary tube
              (diameter 1,08 mm) of equal lengths communicating over a
              helium-film. The film flow rate $R = v\delta$ was measured by the
              measurement of the rate of change of the liquid level in
              one of these elbows. In this connection v signifies the
              rate of the motion of the film and δ - the thickness of the
              film. The temperature interval immediately following the λ-
              -point was investigated. The results obtained here are
Card 1/3   illustrated in two diagrams. One of these diagrams

.On the Film Flow Rate in Solutions of Helium-Isotopes   56-1-38/56

illustrates the dependence of the film flow rate on the
temperature and the other diagram -$_3$the dependence of the
film flow rate on the content of He^3. According to the
results found here the film flow rate increases with
increasing concentration of He^3. When having data on the
dependence of the density on the temperature for the
solutions of the helium-isotopes, the following conclusions
can be drawn: The film flow rate in the temperature range
investigated here is directly proportional to the density
of the superliquid component: $R = A\rho_s/\rho$, where $A =$
$= 3,2.10^{-5}$ cm^3/cmsec. Moreover the temperature of the phase
transition He I - He II for the solutions given here might
be determined from the beginning of overflowing over the
film. The values obtained in this connection are in satis-
factory agreement with the analogous results obtained by
other methods. There are 2 figures, 2 tables, and 5
references, 4 of which are Slavic.

ASSOCIATION: Physical-Technical Institute AN Ukrainian SSR
                (Fiziko-tekhnicheskiy institut Akademii nauk Ukrainskoy SSR)

Card 2/3

The Use of a Superconductive Ring for Recording the   SOV/56-37-1-61/64
Phase Transition in Liquid Helium

mental results are shown by a diagram. It shows the deviation α
of the mirror galvanometer connected to the immobile coil in
dependence on the time t (during which helium temperature in-
creases). The curve $\alpha(t)$ has a slight α-decrease with an in-
crease of helium temperature from 1.5°K to the λ-point (from
t=0 to t=17.5 min), after which there is a sharp increase (to
about 30 times its amount) in the λ-point, corresponding to
the jump of thermal conductivity at this point. This narrow
and steep peak is followed by a second small maximum; At T =
= 3.73°K and t = 36.5 min, α decreases to zero. In these ex-
periments helium was heated by light; in the case of electric-
al heating, the peak in the λ-point of the $\alpha(t)$-curve does not
exist. The authors finally thank Professor B. G. Lazarev for
discussing the results. There are 1 figure and 2 Soviet ref-
erences.

ASSOCIATION: Fiziko-tekhnicheskiy institut Akademii nauk Ukrainskoy SSR
(Physico-technical Institute of the Academy of Sciences,
Ukrainskaya SSR)

SUBMITTED: May 13, 1959
Card 2/2

24(8)   SOV/56-36-3-69/71
AUTHORS: Yesel'son, B. N., Kaganov, M. I., Lifshits, I. M.

TITLE: Reply to the Letter by M. P. Mokhnatkin (Otvet na pis'mo
               M. P. Mokhnatkina)

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, 1959,
               Vol 36, Nr 3, p 964 (USSR)

ABSTRACT: In a "Letter to the Editor", Mokhnatkin criticized a paper
               by the authors of this "reply", and declared that terms were
               omitted in two formulae. In this reply these omissions are
               described as being justified, and it is pointed out that in
               all cases in which it was found necessary, these terms were
               mentioned. In this connection a formula is specifically
               mentioned.

SUBMITTED: November 25, 1958

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33155
S/120/61/000/006/026/041
E032/E114

24.5600

AUTHORS: Yesel'son, B.N., Shvets, A.D., and Bereznyak, N.G.

TITLE: An He^3 apparatus for the production of temperatures
              down to 0.3 °K

PERIODICAL: Pribory i tekhnika eksperimenta, no.6, 1961, 123-124

TEXT: The apparatus is illustrated in the figure. About
2 litres of gaseous He^3 supplied by the cylinders 1 are
condensed into the copper container 2 which is located inside
the vacuum envelope 3 and is maintained at the temperature of
the outer bath (1.3 °K). Since at this temperature the vapour
pressure of He^3 is greater than the pressure at which diffusion
pumps begin to operate, there is an additional He^4 bath 4 whose
temperature may be reduced to 1 °K by pumping the vapour through
a diaphragm by the ДРН-50 (DRN-50) pump 5. The valve 6 is
used to fill this bath with liquid He^4 from a dewar. Under these
conditions the vapour given off by liquid He^3 may be pumped by
the mercury diffusion pump (Leybold) 7 which has a pumping
speed of about 15 litres/sec. Mercury vapour is excluded by
liquid nitrogen traps. The He^3 vapour pumped by 7 is

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An He^3 apparatus for the production...

continuously removed by the liquid-hydrogen cooled charcoal pump 8 containing about 50g of activated charcoal. In this way the He^3 gas can be recovered and returned into the reservoirs 1. The use of these absorption pumps greatly simplifies the design of cryostats containing He^3. It was found convenient to use a solution of He^3 in He^4 instead of pure He^4 as the cooling medium. To do this, a mixture containing 7.4% of He^3 was condensed through the tube 9 into the glass reservoir 10 which was sealed into the He^3 container through a Kovar seal. Since this cryostat was used to study the properties of He^3 + He^4 mixtures, the reservoir 10 contained the glass vessel 11 which was filled with the mixture under investigation through the tube 12. It was found that the minimum temperature was 0.4 °K and could be maintained for about 6 hours, which is much longer than the period obtained with He^4 as the cooling liquid. The lower temperature of 0.3 °K was obtained by pumping the vapour given off by liquid He^3 placed in a very small glass dewar connected to the pumping system described above. The latter temperature could be maintained for over 7 hours. Temperatures between

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E032/E114

An He^3 apparatus for the production ··

1 and 0.4 ^oK, could be obtained by adjusting the pumping speed of the diffusion pump with the aid of the valve 13. In all the experiments the temperature was determined by measuring the He^3 vapour pressure with a McLeod gauge (Ref.14; S.G. Sydoriak, T.R. Roberts, Phys.Rev., v.106, 1957, 175). In one of the experiments the He^3 vapour was pumped by the absorption pump only the pump being cooled by liquid helium (4.2 ^oK). In spite of the long and narrow connecting pipe, a temperature of 0.4 ^oK was obtained. This indicates that He^3 cryostats can be considerably simplified by using absorption pumps only. Acknowledgments are expressed to B.G. Lazarev for his advice.
There are 1 figure and 14 references: 6 Soviet-bloc and 8 non-Soviet-bloc. The four most recent English language references read as follows:
Ref. 8: G. Seidel, P.H. Keesom,
        Rev. Scient. Instrum., v.29, 1958, 606.
Ref.10: H.A. Reich, R.L. Garwin,
        Rev. Scient. Instrum., v.30, 1959, 7.

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An He^3 apparatus for the production... S/120/61/000/006/026/041
E032/E114

Ref.13: C.J.N. v. d. Meydenberg, K.W. Taconis,
        7th Intern. Conf. on Low Temp. Phys., Toronto,
        Programme, 1960.
Ref.14: as in text above.

ASSOCIATION: Fiziko-tekhnicheskiy institut AN USSR
             (Physicotechnical Institute, AS Ukr.SSR)

SUBMITTED: January 25, 1961

Card 4/4

YESEL'SON, B.N.; LAZAREV, B.G.; SHVETS, A.D.

Obtaining lower than $1°$ K. temperatures by pumping-off liquid
helium vapors with an adsorption pump. Prib.i tekh.eksp. 6
no.5:160-162 S-O '61.   (MIRA 14:10)

1. Fiziko-tekhnicheskiy institut AN USSR.
        (Low temperature engineering)

YESEL'SON, B.N.; SHVETS, A.D.; BEREZNYAK, N.G.

Device for obtaining temperatures up to 0.3^0 K. using He^3.
Prib. i tekh.eksp. 6 no.6:123-124 N-D '61.   (MIRA 14:11)

1. Fiziko-tekhnicheskiy institut AN USSR.
                (Cryostat)

S/120/62/000/003/048/048
E032/E114

9.5110

AUTHORS: Yesel'son, B.N., Lazarev, B.G., and Shvets, A.D.

TITLE: A simple He^3 cryostat

PERIODICAL: Pribory i tekhnika eksperimenta, no.3, 1962, 198-199

TEXT: It is pointed out that existing He^3 cryostats capable of producing temperatures down to 0.3 °K are rather complicated because they incorporate diffusion pumps and/or rotary pumps to pump the vapour above liquid helium and thereby reduce the temperature. The present authors have used a charcoal adsorption pump to remove the vapour and thereby have simplified the construction and succeeded in producing temperatures down to 0.34 °K. The device is shown in the figure, in which: 1 - charcoal pump; 2 - thin-walled stainless steel tube; 3 - reservoir containing He^3; 4, 10 - cylinders for storing helium gas; 5 - vacuum jacket; 6 - valve connecting the charcoal pump 1 to the reservoir 3; 7 - dewar with liquid helium at 1.3 °K; 8 - container filled either with He^3 - He^4 solution (7.4% He^3) or pure He^4; 9 - not given; 11 - tube for removing helium gas.

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A simple He^3 cryostat

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E032/E114

The charcoal pump is in the form of a brass cylinder containing about 30 g of activated charcoal which is held in position by a pair of brass grids. The temperature of 0.34 °K is reached after about 30 minutes. The heat leak of the system is about 600 erg/sec.
There is 1 figure.

ASSOCIATION: Fiziko-tekhnicheskiy institut, AN USSR
             (Physicotechnical Institute, AS Ukr.SSR)

SUBMITTED: November 29, 1961

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37097 S/056/62/042/004/003/037
B102/B104

AUTHORS: Yesel'son, B. N., Ivantsov, V. G., Shvets, A. D.

TITLE: The λ-point of concentrated He^3-He^4 solutions

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 42, no. 4, 1962, 944-948

TEXT: The authors continue earlier investigations (ZhETF, 20, 748, 1950; DAN SSSR, 111, 568, 1956; ZhETF, 31, 902, 1956; ZhETF, 34, 233, 1958) of the He I → He II transition point (T_λ) as dependent on the He^3 concentration (X). The $T_\lambda(X)$ dependences were then determined for higher He^3 concentrations (50.0, 59.6, 62.4%). T_λ of the He-solution with known He^3 content was determined from the particularities of the heating or cooling rate curves which were recorded by an ЭПП -09 (EPP-09) electronic potentiometer. The measurements were carried out in an apparatus consisting of several Dewar vessels in which temperatures below 1°K could be reached by pumping out the vapor above the liquid He^4 by an adsorption pump. For the above He^3 concentrations the T_λ values were 1.31 ± 0.01°K, 1.05 ± 0.01°K and 1.02 ± 0.03°K. For a solution with X = 66.1%, T_λ could

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The λ-point of concentrated ...

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not be determined. The values obtained are shown in a $T_\lambda(X)$ graph together with data of many other publications. The data fit a curve which is almost a straight line. Professor B. G. Lazarev is thanked for discussions and V. D. Krasnikov for assistance. There are 4 figures.

ASSOCIATION: Fiziko-tekhnicheskiy institut Akademii nauk Ukrainskoy SSR
               (Physicotechnical Institute of the Academy of Sciences
               Ukrainskaya SSR)

SUBMITTED: September 20, 1961

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43383
S/056/62/043/005/056/058
B125/B104

//.3120

AUTHORS: Bereznyak, N. G., Bogoyavlenskiy, I. V., Yesel'son, B. N.

TITLE: The curves representing the onset of solidification of helium isotope solutions

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 43, no. 5(11), 1962, 1981-1982

TEXT: The method of thermal analysis was used to establish a correlation between the solidification pressure and the composition of the liquid phase in order to draw the diagram for the equilibrium between the solid and the liquid phase of solutions of He^3 in He^4. The temperature and pressure at which the solutions of He^3 in He^4 begin to solidify (10.3; 24.1; 53.0 and 76.4%)He^3) can be determined from the salient points of the curve representing the time dependence on temperature and pressure. A resistance thermometer was used to measure the temperature of the calorimeter, whilst the pressure inside the latter was determined from the elastic deformation of the calorimeter wall, using a strain gauge. Between 1.5 and 4.2°K, the

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The curves representing...

pressure at the beginning of liquefaction increases as the portion of He^3 increases in the solution (Fig. 1). The dependence of the solidification pressure on the He^3 portion in the solution is constructed from these data at various temperatures (Fig. 2). The shape of the isotherms, and the good agreement with the results obtained by blocking the capillary tubes, are indicative of a narrow "demixing region" in the above-mentioned equilibrium diagram. The present results agree satisfactorily with recent data obtained for the temperature range from 1.0 to 2.1°K. The point at which solutions of He^3 in He^4 cease to solidify is now being determined. There are 2 figures.

ASSOCIATION: Fiziko-tekhnicheskiy institut Akademii nauk Ukrainskoy SSR
(Physicotechnical Institute of the Academy of Sciences of the
Ukrainskaya SSR)

SUBMITTED: September 12, 1962

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