

LELIC, Dejan M.; TECILAZIC-STEVANOVIC, Marija P.

Hydratation of montmorillonite homoionic forms. Glas Hem dr
25/26 no.8/10:485-490 '60/'61.

1. Faculty of Technology, Institute of Inorganic Chemical
Technology, Beograd.

GRIZO, Aleksandar, inž. (Skopje, Elektrohemijski kombinat "Biljana");
DELIC, Dejan, dr. inž., prof.

Adsorption capacity of some indigenous coals for various phenols.
Tehnika Jug 17 no.7:Suppl.: Hemindustrija 16 no.7:1361-1366 JI '62.

1. Tehnicki direktor Elektrotehnickog kombinat "Biljana",
Skopje (for Grizo). 2. Tehnoloski fakultet, Univerziteta u
Beogradu (for Delic).

ACCESSION NR: AP4016521

X/0001/64/000/001/0133/0136

AUTHOR: Delic, Dejan (Doctor of engineering, professor, Belgrade); Ristic, Momcilo (Doctor of engineering, honorary docent)

TITLE: Ceramets obtained from solid-state reactions of the Al-TiO sub 2 system

SOURCE: Tehnika, no. 1, 1964, 133-136

TOPIC TAGS: cermet, solid-state reaction, nuclear technology, microhardness, ceramographic characteristic, sintering, Al-TiO sub 2 system, Al-TiO sub 2 exothermic reaction, exothermic reaction

ABSTRACT: The article describes the ceramographic characteristics and the microhardness of various products of exothermic reactions between aluminum and titanium oxide in varied initial proportions. Very accurate initial proportions were obtained by first mixing a measured amount of aluminum powder into a measured amount of ethyl alcohol, before adding the adequate amount of titanium oxide; the ethyl alcohol also served as a lubricant. It was observed that an increase in the initial proportion of aluminum increased the amount of the metallic phase in the product; the texture of the specimens was characterized by

Card 1/2

ACCESSION NR: AP4016521

proportional distribution of pores and grains; and the specimen resulting from a 50-50 initial mixture showed the greatest microhardness. The authors conclude that the exothermic reactions of the Al-TiO₂ system produce cermets of the type Ti-Al₂O₃ and Ti-Al-Al₂O₃ as a result of the reaction between the aluminum and titanium oxide and of the sintering of the nonreactive solid-liquid state system. Greater possibilities for obtaining cermets through exothermic reactions are indicated, particularly in the field of nuclear technology. Examples are the obtaining of U-Al-Al₂O₃, the obtaining of UO₂-MeO in order to stabilize UO₂, and the sintering of UO₂ by means of additives in the form of metal powder and higher uranium oxide. Orig. art. has: 2 figures and 1 table.

ASSOCIATION: Tehnoloski fakultet Univerziteta u Beogradu (Faculty of Engineering, University of Belgrade)

SUBMITTED: 25Aug63

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SUB CODE: MA, ML

NO REF SOV: 000

OTHER: 010

Card 2/2

DELIC, Dejan; RISTIC, Momcilo M.

Thermochemistry of the reactions of the Al-TiO₂ system. Glas
Hem dr 28 no.3/4:129-135 '63

1. Faculty of Technology, Institute of Inorganic Chemical
Technology, Belgrade.

DELIC, Deja, dr inz., prof. (Beograd, Visokog Stevana 31); RISTIC, Momcilo,
dr inz., honorarni docent

Preparation of cermets by solid state reactions of Al-
Cr₂O₃ system. Tehnika Jug 19 no.5:Suppl:Hemindustrija 18
no.5:930-933 My '64.

1. Faculty of Technology, University of Belgrade, Belgrade.
2. Editor, "Tehnika [Supplement:Hemindustrija] 2 (for Delic).

DELIC, M.

"Poliommyelitis center." p. 263. (NARODNO ZDRAVLJE, Vol. 8, no. 9, 1952, Beograd, Yugoslavia)

SO: Monthly List of East European Accessions, Vol. 2, #8, Library of Congress
August, 1953, Uncl.

HELIG, Miroslav, dr., Zagreb

The development of institutions for treatment of osteoarticular tuberculosis in Yugoslavia. Narodno zdrav., Beogr. 10 no.7-8: 213-219 1954.

(TUBERCULOSIS, OSTEOARTICULAR, prev. & control
Yugosl., sanatoria)
(SANATORIA
tuberc., osteoarticular, Yugosl.)

DEJIC, M.

Giant cell tumors. Acta chir. iugosl. 4 no.3:246-258 1957.

1. Ortopedski odjel Opce bolnice Dr. Hafesa u Zagrebu (as. prim.
dr. Nikola Pradica).

(GIANT CELL TUMORS, case reports
(Ser))

DELIC, Miroslav

Surgical therapy of osteoarticular tuberculosis in the era of antibiotics. Tuberkuloza no.2/4:141-153 '62.

1. Ortopedski odjel opce bolnice "Dr J. Kajfes", (Sef: prim. dr N. Pravdica).

(TUBERCULOSIS OSTEOARTICULAR)

DELIC, M.

Arthrolysis of the knee joint in femoral fractures using the method of Merle D'Aubigne. Acta chir. Jugosl. 12 no.1:76-80 '65.

1. Ortopedski odjel Opce bolnice "Dr. J. Kaifes", Zagreb (Suf prim. dr. N. Pravdica).

DELIC, Smail

"Ass., Inst. of Parasitology & invasion diseases, Vet. Fac., U. of Sarajevo." Contribution
to the Lab. Diagnosis of Sheep Coccidia co-an RUKAVINA, J.

Vet. 1 : 127-130, 1950

HINCU, S.; DELICAN, D.

Resonance phenomena in the flow of the fluids with free surface
around cylindrical bars. Studii cerc mec apl 11 no.6:1555-1563
'60.

1. Institutul de studii si cercetari hidrotehnice (Bucuresti)

DELICH, B.

Efficient maintenance of a ship's power plant. Blok.agit.vod.
transp. no.13:31-34 J1 '55. (MIRA 8:9)

1. Chetvertyy mekhanik tankera "Profintern"
(Marine engines)

DELICH, E.

Reliable helpers in the war against negligence. Mor. flot 23
no. 12:8-9 D '63. (MIRA 17:5)

1. Zamestitel'sekretarya partiynogo komiteta Kaspiyskogo
parokhodstva.

GROSHEV, L.V.; DELIDOV, A.M.; LUTSENKO, V.N.; MALOV, A.F.

Magnetic gamma-spectrometer with high resolving power. Izv.AN SSSR
ser.fiz. 24 no.7:791-801 J1 '60. (MIRA 13:7)
(Spectrometer) (Gamma rays)

33269 DELIDOVICH, V.

Oshlazhdeniye zerna - odno iz vazhneyshikh usloviy ego sokhraneniya.
Zagotovki s.-kh. produktov, 1949, No 2, s. 38-42

DELIDOVICH, V. N.

MD ✓ Respiration and loss of dry substance by grains during storage. N. Ya. Pestu, V. N. Delidovich, and E. L. Fyatenko. *Trudy Vsesoyuzn. Nauch. Issledovatel. Inst. Zerno i Produkty Pererabotki* 1953, No. 25, 129-33; *Referat. Zhur. Khim. Biol. Khim.* 1955, No. 2763. — Wheat grains with original moisture content of 18.5-18.6% lost on the av. 0.16% of the dry matter in 13 days' storage at 25°; wheat grains with 13.3-13.8% moisture lost 0.001-0.002% of the dry substance in 90 days' storage. At lower storage temp. rate of respiration and loss in dry substance are reduced. The same is true of oats. H. S. Levige

DELDVICH-KISELEV, V. N.

Dissertation: "An investigation of Changes in weight and Condition of Grain in Storage." CandTech Sci, Moscow Technological Institute of the Food Industry, 23 Jun 54. (Vechernnyaya Moskva, Moscow, 14 Jun 54)

SO: SOE 318, 23 Dec 1954

DELIDOVICH V.N.

VORONTSOV, O.S.; GOLIK, M.G.; DELIDOVICH, V.N.; KLEYEV, I.A.; KOZ'-
MINA, N.P., doktor biologicheskikh nauk, professor; SOSEDOV, N.I.
YESTA, N.Ya.; CHUKHAR'KO, Z.F.; GEL'MAN, D.Ya., redaktor; LA-
BUS, G.A., tekhnicheskii redaktor.

[Grain storage; management and equipment] Organizatsiia i tekhnika
khraneniia zerna. Moskva, Izd-vo tekhn. i ekonomicheskoi lit-ry,
1954. 358 p. [Microfilm] (MLBA 7:10)
(Grain--Storage)

Delidovich, V.

DELIDOVICH, V., kandidat tekhnicheskikh nauk; AKIVIS, S., kandidat khimicheskikh nauk

Special aspects of millet storage. Muk.-elev.prom.21 no.8:8-10
Jl[Ag] '55. (MIRA 8:12)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut ^{zerna} zerna i ^{produktov} pro-
duktov ^{chayn} 1966 ^{pererabotki} pererabotki
(Millet--Storage)

DELIDOVICH, W.

USSR/Cultivated Plants - Grains

M-4

Abs Jour : Ref Zhur - Biol., No 1, 1958, No 1517

Author : S. Akivis, W. Dalidovich

Inst : All-Union Scientific-Research Institute of Grain and Grain Products

Title : Storing Corn Seed in Winter.

Orig Pub : Mukomol.-elevat. prom-st, 1956, No 10, 3-6

Abstract : The study of corn storage in the VNIIZ [All-Union Scientific Research Institute of Grain and Grain Products] under laboratory production conditions, and in "Zagotzerno" bases of the Ukraine, RSFSR and Moldavia (1955/56), has shown that storage of cobs, not affected by mold fungus, under temperatures of about 150 below zero does not lead to a decrease in grain germination at a humidity up to 19%; at temperatures of -100 and the grain humidity above 19%, germination decreases more sharply, the higher the moisture becomes. The Krasnodarskaya 1/49 and Sterling corn varieties are more resistant to the effects of adverse temperatures and Bessarabka and VIR 42 are less resistant.

Card : 1/1

DELIDOVICH, V., kandidat tekhnicheskikh nauk; KREYMERMAN, G., kandidat tekhnicheskikh nauk.

Technology of processing and storing headed grain varieties in grain procurement stations of the East. Muk.-elev.prom.22 no.6:3-6 Je '56.
(MLRA 9:9)

1.Vsesoyuznyy nauchno-issledovatel'skiy institut zerna i produktov ego pererabotki.
(Soviet Far East--Grain elevators)

DELIDOVICH, V., kandidat tekhnicheskikh nauk; KREYMERMANN, G., kandidat tekhnicheskikh nauk.

Technology of grain processing and storage at procurement points of southern districts. Muk.-elev.prom.22 no.7:5-8 JI '56. (MLRA 9:9)
(Grain--Storage) (Grain elevators)

AKIVIS, S., kandidat khimicheskikh nauk; DELIDOVICH, V., kandidat tekhnicheskikh nauk.

Storing seed corn in winter. Muk.-elev.prom. 22 no.10:3-6 0 '56.
(MLRA 9:12)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut zerna i produktov yego pererabotki.
(Grain--Storage)

Country : USSR
Category: Cultivated Plants. Grains.

M

Abs Jour: RZhBiol.; No 22, 1958, No 100266

Author : Delidovich, V.N.
Inst : All-Union Sci. Res. Inst. of Grain and Its
Products.

Title : Study and Refinement of the Technological Process
in the Treatment and Storage of Seed Corn at the
State Receiving Points.

Orig Pub: Soobshch. 1 ref. Vses. n.-1. In-ta zerna i
produktov yego pererabotki, 1957, vyp. 4, 3-8

Abstract: Results of a study of a large number of lots of
mature ears of Krasnodarskaya 1/49 variety which
arrived in a raw state at the receiving points

Card : 1/3

Country : USSR
Category: Cultivated Plants. Grains.

M

Abs Jour: RZhBiol., No 22, 1958, No 100266

in Krasnodarskiy Kray. The moisture content in the lot varied within the range of 8-14%. The difference in the moisture content of the grain and the cob reaches 15-25%. No spontaneous heating has been observed. With the lowering of the temperature to -15° , the germinating ability in 90-99% is preserved only in lots with a moisture content of up to 19%. A temperature of $-16 - 20^{\circ}$ lowers the germinating ability by 17 - 76%. In grain with a moisture content of 22 - 25%, at -5° the germinating ability decreases to the norm of the 3rd grade. Active ventilation with atmospheric air reduces the temperature in the bin by 0.3-0.5 and even 0.9°

Card : 2/3

M-45

Country : USSR
Category: Cultivated Plants. Grains.

M

Abs Jour: RZhBiol., No 22, 1958, No 100266

in 1 hour and slightly dries the ears, and ventilation with warm air effectively lowers the moisture content with a sharp reduction in non-uniformity. Temperatures above 45° lead to a formation of fissures in the endosperm without decreasing the germinating ability in the laboratory. -- M.V. Dranishnikov

Card : 3/3

DELIDOVICH, V.N.; KREYMERMAN, G.I.; MAMBISH, I.Ye.; TARUTIN, P.P.

Review of V.F. Bublii and V.A. Pylin's book "Storage and processing of grain in the manufacture of alcohol." Spirt. prom. 24 no.2:37-39 '58.

(Grain) (Bublii, V.F.) (Pylin, V.A.) (MIRA 11:3)

DELIDOVICH, V., kand.tekhn.nauk

Distribution and storage of new grain. Muk-elav. prom. 24
no.6:5-7 Je '58.

(MIRA 11:7)

1.Vsesoyuznyy nauchno-issledovatel'skiy institut zerna i produktov
yego pererabotki.

(Grain--Harvesting)

DELIDOVICH, V., kand.tekhn.nauk:

Problems in organizing the handling of seed corn at grain
procurement points. Muk.-elev. prom. 24 no.8:10-13 Ag '58.
(MIRA 11:10)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut zerna i produktov
yego pererabotki.

(Corn (Maize))

STAMENKOVIC, F., puk., dr.; STOJANOV, S., puk., dr.; DELIDZAKOV, A.,
puk., dr.

Gastrointestinal complications in corticoid therapy. (Report
of 2 cases). Med. glas. 16 no.6/6a:268-273 Ja '62.

1. Intern. odeljenje Vojne bolnice u Skoplju (Nacelnik: dr.
P. Stamenkovic).

(ADRENAL CORTEX HORMONES)

(INTESTINAL PERFORATION)

(PEPTIC ULCER)

RESUME, N.

HOLUBAR, J.; DELIGER, V.; TREFNY, Z.

Ventilation of the Lungs and Oxygen Consumption in Physical Exercise in Adults and Adolescents. *Physiol. bohém.* 6 no.2: 212-217 1957.

1. Laboratory of Graphic Methods of Examination, Czechoslovak Academy of Science, Physiology Department of the Medical Institute of Physical Culture, Fourth Children's Clinic, Faculty of General Medicine, Charles University, Prague.

(RESPIRATION, physiol.

eff. of phys. exercise on lung ventilation in adults & adolescents)

(METABOLISM

oxygen consumption, eff. of phys. exercise in adults and adolescents)

(EXERCISE, eff.

on lung ventilation & oxygen consumption)

DELIISKI, Dimitur

With bold steps forward. Ratsionalizatsiia 14 no.6:6-8 '64

DELIISKI, P.

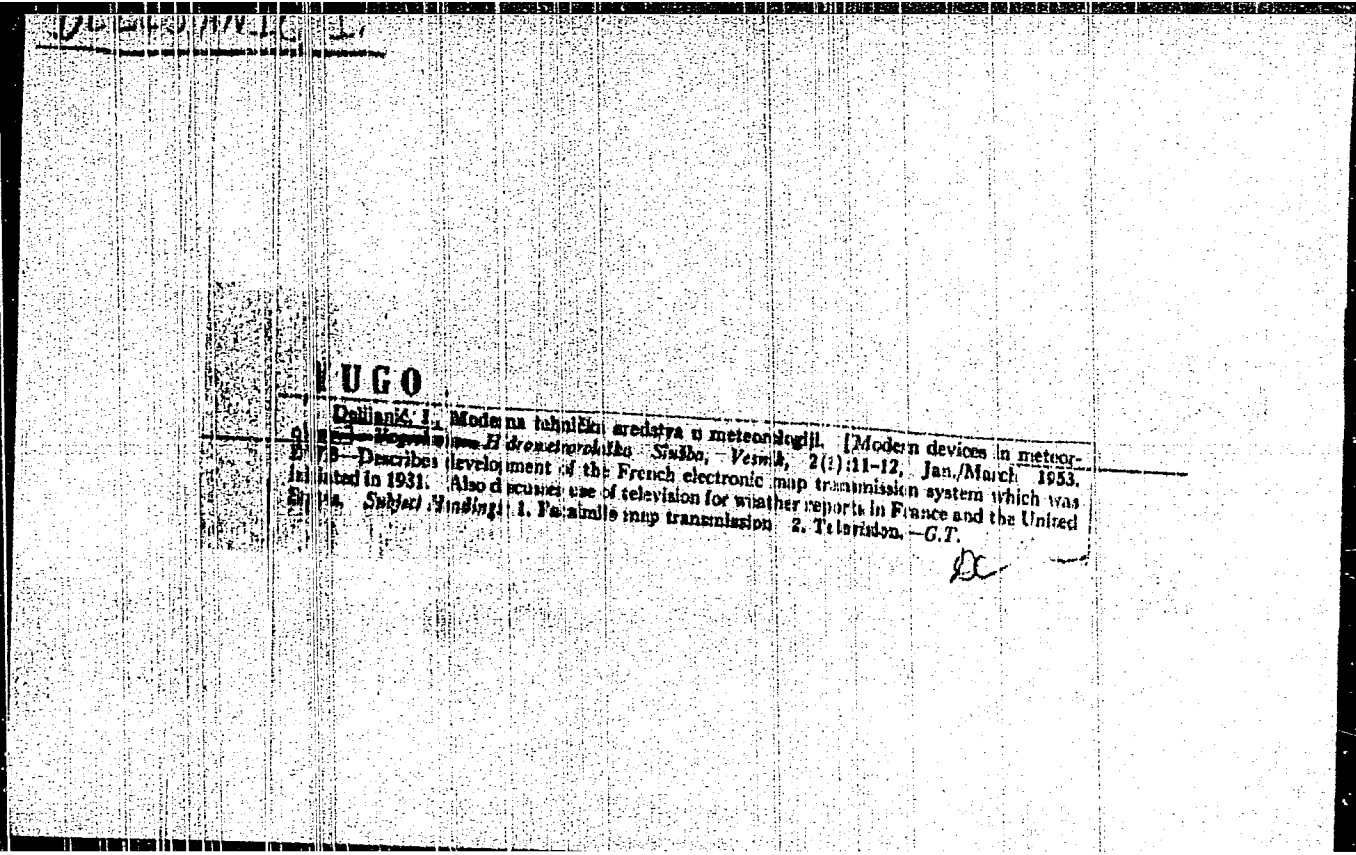
A case of isolated retroperitoneal rupture of the duodenum.
Khirurgiya (Sciia) 17 no.5:615-616 '64

1. Iz khirurgichnogo otdelenie na Okruzhnata bolnitsa, gr.
Kurdzhali.

DELIIVANOV, Kr.; ANTONOV, B.

Use of cortisone and ACTH in the treatment of blood diseases. Suvrem.
med., Sofia 8 no.2:32-42 1957.

1. Iz Voennata boinitza na MVR.
(BLOOD DISEASES, therapy,
ACTH & cortisone (Bul))
(ACTH, therapeutic use,
blood dis. (Bul))
(CORTISONE, therapeutic use,
same)



HUGO

Modern devices in meteorology. [Modern devices in meteorology. *Prilozheniya k zhurnalovskomu Sborniku, "Vostok", 2(1):11-12, Jan./March 1953.* Describes development of the French electronic map transmission system which was initiated in 1931. Also discusses use of television for weather reports in France and the United States. Subject headings: 1. Facsimile map transmission. 2. Television. -G.T.

DC

DELIJANIC, I.

Importance of the observations of light phenomena in the atmosphere.
p. 37

YUGOSLAVIA. HIROMETEOROLOŠKA SLUŽBA. VESNIK. Beograd, Yugoslavia.
Vol. 7, no. 1/2, Jan./June 1958

Monthly List of East European Accession (EEAI) LC, Vol. 8, no. 6
June 1959
Uncl.

DELIKIN, Ya.I.; GEL'MONT, Z.Ya.; ZELYAKH, E.V.

Narrow-band piezoelectric ladder-type filters. Radiotekhnika 16
no.11:26-33 N '61. (MIRA 14:10)

1. Deystvitel'nyye chleny Nauchno-tekhnicheskogo obshchestva
radiotekhniki i elektrosvyazi imeni Popova.
(Radio filters)

GINZBURG, D.B., diktör tekhn. nauk; DELIKISHKIN, S.M., kand. tekhn. nauk;
KHODOROV, Ye.I., kand. tekhn. nauk; CHIZHSKIY, A.F., inzh.;
BUDNIKOVA, P.P., red.; SMIRNOVA, I., red.; PANOVA, L., tekhn. red.

[Furnaces and drying apparatus for the silicate industry] Pechi i su-
shila silikatnoi promyshlennosti. Pod red. P.P.Budnikova. Moskva,
Gos. izd-vo lit-ry po stroit. materialam, 1949. 483 p.
(MIRA 15:1)

1. Deystvitel'nyy chlen AN USSR (for Budnikova).
(Kilns)

DELIKISHKIN, S. N.

USSR/Engineering - Refractories
Efficiency, Industrial May 50

"Baking Process of Refractory Products," S. N.
Delikishkin, Cand Tech Sci, 11 1/2 pp

PA 160733

"Ogneupory" No 5

Develops methods for calculating temperature stresses in bodies of various shape and dimension at various temperature-variation rates. Experimental formula, deduced and verified on basis of calculated stresses, permits outlining of temperature conditions in baking. Method permits establishment of most efficient procedure

160733

USSR/Engineering - Refractories (Contd) May 50

for baking process. Experiments were conducted for porcelain samples, but results may also be applied to refractory products.

160733

DELETSUKIN, S. N.

2

✓ Stabilization of combustion process during firing of porcelain
in tunnel kilns. S. N. Deletskiy. Steklo i Keram., 12 (8)
9-16 (1953).—Stabilization is accomplished by installing feed
controls on gas burners. With oil burners, feed controls are es-
tablished near each atomizer which assures definite oil feed re-
gardless of the pressure in the network. B.Z.K.

RM

DELIKISHKIN, S.N.

A marut feeding regulator. Vest.mash.35 no.11:62-65 N '55.(MIRA 9:2)
(Marut) (Furnaces, Heat treating)

DELETED, SERGIY MINKOVSKIY

GINZBURG, David Borisovich, doktor tekhnicheskikh nauk; ~~DELIKISHKIN, Sergy~~
~~Nikolayevich~~, kandidat tekhnicheskikh nauk; KHODOROV, Yevgeniy
Iosifovich, kandidat tekhnicheskikh nauk; GHIZHSKIY, Anatoliy
Fedotovich, kandidat tekhnicheskikh nauk; ZIMIN, V.N., dotsent;
retsensent; KUZYAK, V.A., dotsent, retsensent; NOKHRATYAN, K.A.,
kandidat tekhnicheskikh nauk, retsensent; IVANOV, A.N., dotsent,
retsensent [deceased]; BUDNIKOV, P.P., redaktor; FRADKIN, A.Ye.,
kandidat tekhnicheskikh nauk, nauchnyy redaktor; GOL'DENBERG, L.G.,
inzhener, nauchnyy redaktor; GLEZAROVA, I.I., redaktor; GLADKIKH, N.N.,
tekhnicheskiy redaktor

[Furnaces and driers in the silicate industry] Pechi i sushila
silikatnoi promyshlennosti. Izd. 2-oe, perer. Pod red. P.P.Budnikova.
Moskva, Gos. izd-vo lit-ry po stroit. materialam, 1956. 455 p.

(MIRA 10:3)

1. Deystvitel'nyy chlen Akademii nauk USSR (for Budnikov)
(Kilns) (Clay industries)
(Drying apparatus)

~~DELIKISHKIN, S. M.~~

Controlling fuel consumption in kilns during the firing of
porcelain. Stek. i ker. 14 no. 7:20 22 JI '57. (MLRA 10:8)

1. Gosudarstvennyy nauchno-issledovatel'skiy elektro-
keramicheskiy institut.
(Kilns) (Fuel)

GINZBURG, David Borisovich, doktor tekhn. nauk; DELIKISHKIN, Sergey Nikolayevich, kand. tekhn.nauk; KHODOROV, Yevgeniy Iosifovich, kand. tekhn. nauk; CHIZHSKIY, Anatoliy Fedorovich, kand. tekhn. nauk; BUDNIKOV, P.P., akademik, red.; DOHROKHOTOV, N.N., akademik, nauchn. red.[deceased]; KOSYAKINA, Z.K., red.; BOROVSNEV, N.K., tekhn. red.

[Kilns and drying apparatus for the silicate industry] Pechi i sushilki silikatnoi promyshlennosti. [By] D.B.Ginzburg i dr. Izd.3., perer. Moskva, Gosstroizdat, 1963. 342 p.

(MIRA 17:2)

1. Akademiya nauk Ukr. SSR (for Budnikov).

DELIMARSKIY Yu. K.

Handwritten initials

6

Thermal investigation of artificial aluminum silicates. Yu. K. DELIMARSKIY
Zhurnal Khim. Fiz. 46, No. 10, 1974, 2301-2304. Al₂O₃ "hydrate" by heating the
nitrate shows an exothermic transformation, pptd. Al₂O₃ does not show this effect.
SiO₂ prepns. show no transformation at 1000-1100°, nor does a mixt. of Al₂O₃ and SiO₂.
Al silicates obtained by reaction of the oxides in alk. solns. show an exothermal effect
at 800-1000°. J. G. FORRIS

ASS-SEA METALLURGICAL LITERATURE CLASSIFICATION

Preparation of permutite by the dry method. I. Yu. K. Delimarskii. *J. Gen. Chem.* (U. S. S. R.) 4, 1400-4 (1934). Permutite was prepd. by fusing at 1000° calcined soda, kaolin and quartz in 9 different ratios. The fused mass easily crumbles into powder when treated with hot water. When treated with cold water, some of the fused masses form granules and can be used for com. application. The degree of disintegration of the fused masses depends upon the mol. ratio of Na₂O and Al₂O₃. II. Yu. K. Delimarskii and F. G. Zharovskii. *Ibid.* 1405-6. The efficiency of permutite action depends upon its drying temp. and its water content. A graphical representation of these relations and a tabulation of 16 expts. are given. Drying of permutite above 100° is not advantageous. Walter P. Eriks

AS A SEA METALLURGICAL LITERATURE CLASSIFICATION

17

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50

117 AND 120 INDEXES PROCESSES AND PROPERTIES INDEX 120 AND 474 INDEXES

CH

Preparation of permittites. Yu. K. Delimarski
Ukr. Inst. Kém., Bull. ser., Rec. chim. 17, No. 4:476-480
 (1925) (English summary); cf. C. A. 20, 14025-
 Add a soln. of $Al_2(SO_4)_3$ to concd. NaOH soln. and to the
 mixt. add a soln. of water glass in 4-5 N NaOH. Wash
 out NaOH, dissolve in dil. HCl and let set to a gel, dry,
 wash and treat with NaOH. Thermal analysis showed
 that only those gels which undergo an exothermic trans-
 formation at $100-1000^\circ$ can be converted into permittites.
 H. Z. Kamich

18

ASME-55.6 METALLURGICAL LITERATURE CLASSIFICATION

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50

PROCESSED AND PROPERTY INDEX

B-1-8

BC

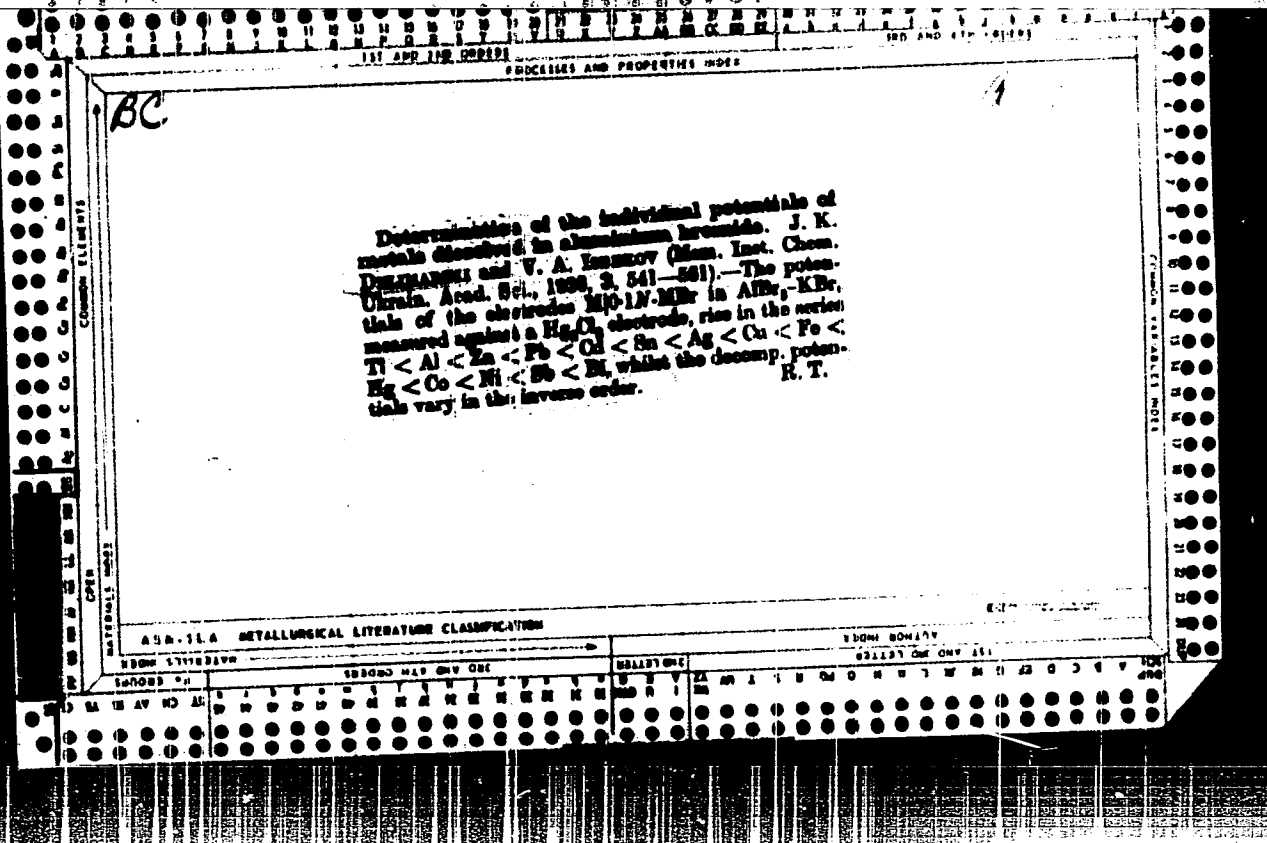
(A) Preparation of permanganate from boric. J. Duzhanska, E. Ezhikova, and O. GOLDMAN. (B) Preparation of permanganate by the wet method. J. Duzhanska and E. Ezhikova: (Dokl. Sci. Univ. Kiev, 1958, 2, 25-26, 25-26). (A) 1:1-1:1.5. mol. mixture of borate (I) and Na_2CO_3 are heated and the residue is treated with 6% HCl to yield "permanganate". Alternatively, (I) is treated with 30% NaOH to form a molten mass of (D), and the product is treated with 30% HCl .

(B) The same mixture of borate (II) are obtained from Al_2O_3 , $\text{Na}_2\text{silicate}$, and NaOH , under the following conditions: Al_2O_3 : Na_2O : H_2O = 1:6, with 60% HCl . (II) is best prepared by adding $\text{Na}_2\text{silicate}$ to "permanganate". R. T.

METALLURGICAL LITERATURE CLASSIFICATION

FROM SOURCE

SERIAL ONE ONLY LIST



PROCESSES AND PROPERTIES INDEX

2

Investigation of the equilibrium $Pb + SnBr_2 \rightleftharpoons PbSn_2 + Sn$ in aluminum bromide as a solvent. Yu. K. Debraevskii. *Mem. Inst. Chem., Acad. Sci. USSR*, **9**, 443-48 (in Russian 457, in German 457-8) (1958).—Equil. was studied at 300° in the solvent composed of 80% AlBr₃ and 20% KBr. The effect of the solvent was to shift the equil. in comparison with the pure salts without a solvent. The equil. was not subject to the "ideal" law of active masses or to the Van-Laar and Lorens law. B. Z. IC.

METALLURGICAL LITERATURE CLASSIFICATION

A 55-11.3

Concentration cells of the amalgam type in fused salts
 Yu. K. Delimars'kiĭ and L. S. Berentdyum. *Mém.
 Inst. Chim. Acad. Sci. Ukrain. S. S. R.* 5, 479-84 (in
 Russian, 494-5; in English, 495) (1938). The fused
 electrolyte in H-shaped conven. cells consisted of $AlCl_3$
 48.1, KCl 30.5 and $ZnCl_2$ 1.4 mol-%. The electrodes
 were 5% Zn amalgams containing 0.01, 0.1, 1.0 and 5.0
 mol-% Zn. The e.m.f. was measured with and with-
 out the use of glass diaphragms. The results did not
 differ by more than 0.001 v. The use of a glass dia-
 phragm made it more difficult to get reproducible results.
 The exptl. results and those calcd. by the Nernst formula
 differed by as much as 0.005 v. These differences may
 be due to the use of activities instead of activity values
 in the Nernst formula.

I. Z. Kanch

UNIVERSITY MICROFILMS INTERNATIONAL LITERATURE CLASSIFICATION

LIST AND THE PROPERTIES INDEX

PROCESSES AND PROPERTIES INDEX

71

BC

(A) Equilibrium between metallic and non-metallic phases in the molten state. J. K. IZMA-MARSKI. (B) Equilibrium $Cd + PbBr_2 \rightleftharpoons CdBr_2 + Pb$ in molten aluminum bromide-potassium bromide solution. J. K. DULZANSKI and L. S. HRENKELIUM (Mem. Inst. Chem. Ukrain. Acad. Sci., 1940, 6, 93-120, 131-147).—(a) The literature is reviewed.

(b) The reaction $Cd + PbBr_2 \rightleftharpoons CdBr_2 + Pb$ proceeds according to the law of mass action in molten $AlBr_3-KBr$ at 300-400°; its conformity with this law is the closer the more dil. are the solutions.

R. T.

ASB-114 METALLURGICAL LITERATURE CLASSIFICATION

ASB-114 METALLURGICAL LITERATURE CLASSIFICATION

2

The equilibrium $Cd + SnBr_2 \rightleftharpoons Sn + CdBr_2$ in the solvent $AlBr_3-KBr$. Yu. K. Dolinnarskiĭ and K. S. Mironovskii. *Zapiski Inst. Khim., Akad. Nauk U. R. S. S. R.* No. 3, 36-47 (in Russian, 47; in German, 48) (1965). The equil. of $Cd + SnBr_2 \rightleftharpoons Sn + CdBr_2$ was studied at 220° in $AlBr_3-KBr$ contg. 81-100% $AlBr_3$ and 14-20% KBr . Consts. of equil. calcul. by various methods indicate that the equil. is subject chiefly to the rate of active masses. On increase of the temp. the consts. also increase and the difference between the potentials of the metals decreases. H. Z. Kasich

ASB-11.1 METALLURGICAL LITERATURE CLASSIFICATION

EDOM BOMARD

BRILLI ONE ONE 111

1ST AND 2ND SPHERE PROCESSES AND PROPERTIES INDEX

2

Investigation of the equilibrium between metallic aluminum and zinc chloride in molten medium. Yu. K. Dehmetz'kin and L. S. Buzubiyann. *Zapiski Vuz. Khim., Akad. Nauk U. R. S. R.* 7, 875-81 (in Russian, 88); in German, 383(1960).--The equil. of metallic Al and Zn with their chlorides in the presence of NaCl was investigated at 850-900°. The av. equil. const. is 0.77×10^{-14} . Zn was found to be more noble than Al.
B. Z. Kamich

METALLURGICAL LITERATURE CLASSIFICATION

3RD AND 4TH SPHERE

COMMON ELEMENTS

COMMON VARIABLES INDEX

COMMON ELEMENTS

COMMON VARIABLES INDEX

PROCESSING AND PROPERTY INDEX

Equilibria between molten metals and their bromides in aluminum bromide-potassium bromide as solvent. J. K. Delimarski (*J. Gen. Chem. Russ.*, 1941, 11, 1001-1001).—Equilibrium constants for $M + M'Br_2 \rightleftharpoons MBr_2 + M'$ are measured at 340° for $M = Pb, M' = Sn; M = Cd, M' = Pb;$ and $M = Cd, M' = Sn$, in $AlBr_3-KBr$ as solvent. Consts. calc. from the ordinary mass-action equation are better than those calc. from the formula of van Laar and Lorenz (cf. A., 1933, 11, 808). Equilibrium consts. in the absence of solvent are > twice those with solvent. P.d. between metal pairs, calc. from equilibrium consts., are in fair agreement with those calc. from electrochemical measurements in the same solvent (cf. A., 1937, 1, 187). Data for other equilibria are tabulated. G. W.

METALLURGICAL LITERATURE CLASSIFICATION

RECORD NUMBER

SERIAL NUMBER

VOLUME NUMBER

ISSUE NUMBER

PAGES

DATE

AUTHOR

TITLE

SUBJECT

INDEXING

REMARKS

A.P.S.

Geology

Alum extraction from Aktash alunite by the nonacid method. I. K. DELIMARSKI AND V. S. BYVNO. *Zhar. Priklad. Khim.*, 18: 101-102-103 (1945).—The process of producing potassium alum from Aktash alunite ore is described. In addition to the chemical characteristics of the raw material, the processes of roasting the alunite ore, leaching out the roasted material, and crystallizing the alum were investigated. It has been established that the evolution of bound water begins at 430° and the evolution of SO₃ at 630°. The roasting process was studied both in the laboratory and in a factory furnace. The optimum conditions for roasting are: as follows: temperature 630°, time 16 hr., and diameter of chunks of ore 200 to 250 mm. Leaching out of the roasted ore is completed in 16 hr. when cold and in 3 hr. when heated. If the ore is not leached, it is better to keep the temperature below 80° to avoid hydrolysis. The specific gravity of the solution after crystallization should be about 1.2. The overyield of alum from 1 ton of ore is 325 kg.

1ST AND 2ND ORDERS

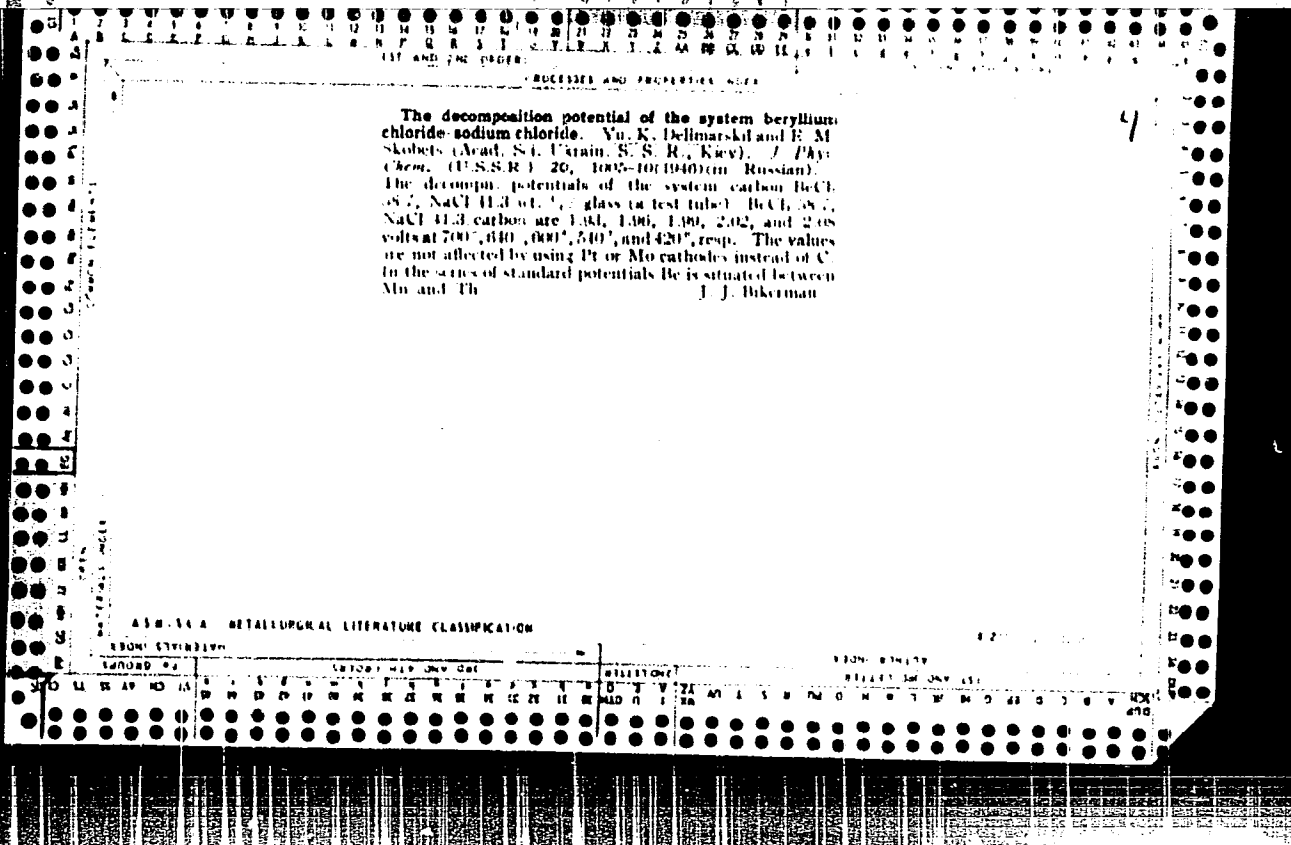
PROCESSES AND PROPERTIES INDEX

4

Galvanic cells of the Daniell type with molten bromides.
 Yu. K. Delimurakil (Chem. Inst., Acad. Sci. Uzbek S.S.R.). *J. Phys. Chem. (U.S.S.R.)* 19, 405-8(1945).
 The e.m.f. of the cells: metal|0.01 M metal bromide in AlBr₃, NaBr|glass diaphragm|0.01 M AgBr in AlBr₃, NaBr|Ag at 200° is for Al, -0.745; Mn, -0.500; Zn, -0.564; Cd, -0.320; Pb, -0.256; Sn, -0.228; Cu, +0.028; Fe, +0.180; Hg, +0.190; Co, +0.198; Sb, +0.210; Bi, +0.284 v. The potential of Ni was not reproducible, and the potentials of Fe, Hg, and Co were less stable than those of the other metals. The temp. coeff. of the e.m.f. between 220° and 320° was neg. for all metals; its abs. value in 10⁻⁴ v./degree was for Al 5; Mn 3; Zn 3; Cd 4; Pb 5; Sn 1; Cu 2; Sb 7; and Bi 1. Substitution of NaBr by KBr altered the e.m.f. of the Pb cell only 0.004 v.
 J. J. Bikerman

ASH-11A METALLURGICAL LITERATURE CLASSIFICATION

3RD AND 4TH ORDERS



DELMARSKI, Yu. K.

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

PROPERTIES INDEX

COMMON ELEMENTS

COMMON VARIABLES INDEX

MATERIALS INDEX

OPEN

Al-Si-Fe

Reduction of silica in the presence of the oxides of aluminum and calcium. Yu. K. DELMARSKI AND S. D. SHARGORODSKI. *Zhur. Priklad. Khim.*, 20 [8] 781-83 (1947).—The purpose of the work was to determine the conditions governing the reduction smelting of clays and kaolins into calcium aluminate slags. Materials used were wood charcoal, CaO, pure Armco iron, and kaolin analyzing Al₂O₃ 38.80, SiO₂ 46.74, Fe₂O₃ 0.59, CaO 0.20, and ignition loss 3.54%. Each charge consisted of calcined kaolin 35, CaO 15.8, wood charcoal 8.42, and metallic Fe 170 gm. The charge was placed in a carbon crucible which, in turn, was placed in an electric furnace. Experiments were conducted within the interval of 1550° to 1750°C. for 15, 30, 45, 60, and 75 min. in order to determine the temperature and time required to establish equilibrium between the slag and the metal. Equilibrium was established in 45 min at 1650° to 1700°. The extent of reduction of silica, calculated on the basis of metal and slag, was found to increase almost proportionately with rising temperature. At 1700° reduction was as high as 73%, in some cases it reached 80%, and at 1750° it was 89%. For commercial installations a temperature of 1700° is desirable because at this point the SiO₂ in the slag can be reduced to 8%. Maximum reduction of silica was obtained with a 10% excess of charcoal compared with stoichiometric calculations; larger excess (20%) caused a drop in reduction. Optimum ratio of CaO:Al₂O₃ is between 0.8 and 1.0. To obtain a high-quality slag it is essential that the ferrosilicon have a low silicon content. The same experiments were performed, using Fe₂O₃ instead of metallic Fe. In some cases the reduction of silica reached considerable values but the average values were below those obtained with metallic Fe.

ABSTRACTS AND PREPARATION NOTES

4

Decomposition potentials of metal bromides in molten sodium bromide and potassium bromide as solvent. Yu. K. Delimarkii, B. M. Skolobin, and V. D. Ryabokou (Acad. Sci. Ukrain. S.S.R., Kiev). *J. Phys. Chem. (U.S.S.R.)* 21, 843-8(1917) (in Russian); cf. *C.A.* 41, 2311a. The e.d.-voltage curves are measured for cells with a graphite anode immersed in the fused bromide contained in a porcelain crucible. The graphite rod cathode was in a test tube of high melting glass, the test tube being immersed in the electrolyte in the crucible. When the melt was the NaBr-KBr mixt. melting at 650°, the decompn. potential E was 3.20, 3.22, and 3.18 v. at 680°, 740°, and 800°, resp. When the melt consisted of 0 mol. NaBr + KBr and 1 mol. MBr, MBr, or MBr₂, E at 700° was for MnBr₂ 1.2; ZnBr₂ 1.38; CdBr₂ 1.28; FeBr₂ 1.26; AlBr₃ 1.18; CuBr₂ 1.12; PbBr₂ 1.02; CoBr₂ 0.98; AgBr 0.90; NiBr₂ 0.70; HgBr₂ 0.64; and BiBr₃ 0.40 v. The low value for AlBr₃ was confirmed by measuring the e.m.f. of the cell Al|AlBr₃|NaBr + KBr|Pt in Br₂ vapor, the 2-electrode compartments being sep'd. by a glass membrane. This e.m.f. was 1.17 v. at 700° and 1.312 v. at 400°. The above order of the metals is different from that in unmixed metal bromide melts. The difference may be due to complex formation in the melts or to a difference in the temp. coeff. There is no reason to assume that the order of standard potentials should be independent of solvent (cf. Wade, *et al.*, *C.A.* 35, 6883a).

J. J. Bikerman

DELIBARSKIY, Yu. K.

Delibarskiy, Yu. K. and Keletti, A. A. "The decomposition potential of aluminum iodide",
Ukr. khim. zhurnal, 1948, Issue 1, p. 124-28, - Bibliog: 6 items.

SO: U-3042, 11 March 53, (letopis 'nykh Statey, No. 10, 1949).

LIST AND INDEX

4

Polarographic determination of the decomposition potentials of metal chlorides in molten aluminum chloride-sodium chloride as solvent. Yu. K. Belimars'kil, R. M. Skobets, and L. S. Berenblyum. *Zhur. Fiz. Khim. (J. Phys. Chem.)* 22, 1108-15(1948); cf. *C.A.* 41, 2143a.

-- The current-voltage curves were detd. at 300° in a polarograph with automatic recording (cf. S. et al., *Zarodishaya Lab.* 14, 131-7(1948)). The cathode was a Pt wire, 0.3 mm. in diam.; it regained its original potential on short-circuiting without any cleaning. An equimol. mist. of AlCl₃ and NaCl was the solvent. The concn. of the solute was usually 5 mol.-%. The decompos. potentials *V* were for AlCl₃ 1.78, MnCl₂ 1.63, ZnCl₂ 1.30, CdCl₂ 1.15, FeCl₂ 1.01, PbCl₂ 1.02, CoCl₂ 0.80, CuCl₂ 0.82, NiCl₂ 0.78, SbCl₃ 0.75, AgCl 0.72, SnCl₂ 0.62, BiCl₃ 0.57, and HgCl₂ 0.35 v. These values are different from those found in the literature except for the data by Irlbekov and Chovnyk (*C.A.* 31, 6073c). The small discrepancy between the present and the results of I. and C. probably is due to the difference in the concns. used. Because of the complex formation, *V* greatly depends on concn. Thus, a satd. soln. of AgCl has *V* = 0.50 v. and 0.1 mol.-% AgCl has *V* at 0.72 and 1.12 v.; 0.1% FeCl₂ shows a 2nd wave at 0.17 v. which is due to the reduction to FeCl. Also CdCl₂, NiCl₂, and CoCl₂ show a 2nd wave. In some instances, the concn. of the heavy metal could be detd. from the height of the wave. Some *V* were detd. in AlBr₃, NaBr as solvent, at 300°. AlBr₃ had *V* = 1.48, PbBr₂ 1.13, and AgBr 0.75 v. These values are smaller than those of I. and Kolotti (*C.A.* 42, 2186g), presumably because of the absence of a glass membrane and a greater anode.

J. J. Bikerman

E-2

DELIMARSKIY, Yu. K.; KHAYMOVICH, R.S.

Determination of electrode potentials of metals in molten bromides with
the aid of glass-sodium electrode. Ukrain. Khim. Zhur. 15, 340-50 '49.
(CA 47 no.15:7349 '53) (MLRA 5:6)

FA 48/49T21

DELIMARSKII, YU. K.

USSR/Chemistry - Iodides
Chemistry - Dissociation

Jan 49

"Dissociation Potentials of Molten Iodides:
I. Dissociation Potentials of Individual Molten
Iodides," Yu. K. Delimarskiy, A. A. Kolotki,
Inst of Gen and Inorg Chem, Acad Sci Ukrainian
SSR, Kiev, 6 1/2 pp

"Zhur Fiz Khim" Vol XIII, No 1

Determines dissociation potentials of molten
iodides of KI, KAl, TlI, AlI₃, ZnI₂, SnI₂, AgI,
CdI₂, PbI₂, BiI₃, CuI, SbI₃, and BiI₃ by utilizing a
glass diaphragm to separate electrode spacing.
Dissociation potentials of AlI₃, ZnI₂, and SbI₃
48/49T21

USSR/Chemistry - Iodides (Contd) Jan 49

were obtained for first time. Established more
complete electrochemical series of metals in
molten iodides. Electrode potentials of heavy
metals in molten iodides have higher negative
potentials in comparison with those in molten
chlorides and bromides. Gives tables and dia-
grams of experimental results on dissociation
potentials. Submitted 7 Feb 48.

48/49T21

48/4922

DELIMARSKIY, YU. K.

USSR/Chemistry - Iodides
Chemistry - Dissociation

Jan 49

Dissociation Potentials of Molten Iodides: II.
Dissociation Potentials of Iodides of Metals in
Molten Sodium Iodide Employed as a Solvent,"
Yu. K. Delimarskiy, A. A. Kolotti, Inst of Gen
and Inorg Chem, Acad Sci Ukrainian SSR, Kiev,
3 1/2 p

"Zhur Fiz Khim" Vol XIII, No 1

Determines dissociation potentials of PbI_2 ,
 MnI_2 , BeI_2 , PbI_2 , ZnI_2 , AlI_3 , CdI_2 , AgI_2 , SbI_3 ,
 CuI , CoI_2 , HgI_2 , BiI_3 , and SbI_3 in molten sodium
iodide as a solvent. Dissociation potentials
48/4922

USSR/Chemistry - Iodides (Contd)

Jan 49

of iodides in NaI are higher than in pure fused
salt. Values of dissociation potentials of
 PbI_2 , ZnI_2 , PbI_2 , and HgI_2 are particularly high
and can be explained by complex formation in
fusions. Gives two diagrams on experimental
results and two tables on potentials in molten
 NaI , and electrode potentials at 700° C. Sub-
mitted 7 Feb 48.

48/4922

PROCESSED AND REPRODUCED FROM
MICROFILM AND MICROFORM EDITIONS

Decomposition potentials of molten iodides. III. Decomposition potentials of metal iodides in fused aluminum iodide as solvent. Yu. K. Delmarski and A. A. Kolotti. *Zhur. Fiz. Khim.* 23, 437-40(1949), cf. *C.I.* 43, 681. The decomp. potentials E of 5% mol. solns. in $AlI_3 \cdot CO_2$ atm. between graphite electrodes at 380° are: AlI_3 0.80, AgI 0.80, PbI_2 0.78, CuI 0.72, BiI_3 0.44, SbI_3 0.36, HgI_2 0.42, CoI_2 0.30, and NiI_2 0.20 v.; no V is observed for SbI_3 . In 5 mol. % solns. in $NaAlI_4$, the E is 1.08, 0.94, 0.82, 0.72, 0.54, 0.30, 0.10, 0.50, and 0.38 at 400° and 0.91, 0.82, 0.70, 0.64, 0.40, 0.30, 0.18, 0.18, and 0.30 v., resp., at 600° ; for CdI_2 , $E = 1.00$ and 0.87, and for SbI_3 0.80 and 0.68 at 400° and 600° , resp. The order of metals is different in AlI_3 and $NaAlI_4$. The electrode potentials usually are more neg. in $NaAlI_4$ than in $NaAlCl_4$, because of the different deformations of metal cations by different halogen ions. I. I. Bukerman

METALLURGICAL LITERATURE CLASSIFICATION

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

PA 38/49T8

USSR/Chemistry - Metals, Electrochemical Mar 49
Series of
Chemistry - Potential, Electric, of
Metals in Bromide Smelts

"An Electrochemical Series of Voltages for Metal
Smelts With Sodium Bromide and Potassium Bromide
Used as Solvents," Yu. K. Delimarskiy, A. A.
Kollott, Inst. of Org and Inorg Chem, Acad Sci
Ukrainian SSR, Kiev, 3 pp

"Zhur Fiz Khimii" Vol XXIII, No 3

Finds experimentally the potential of decomposition
of smelts of 16-metal bromides using Haber-Kor
78/49T8

USSR/Chemistry - Metals. Electrochemical Mar 49
Series of (Contd)

as solvent, and of pure metal bromides at 700° C.
Derives values of electrode potentials of metal
elements, and sets up electrochemical series for
each type of smelts. Compares the two series
with that of the same metals in water. Submitted
6 May 48.

38/49T8

DELMARSKIY, YU. K.

USSR/Chemistry - Metallurgy, Aluminum Jun 50

"Electrode Potential of Aluminum in Melted Halides,"
Yu. K. Delimarskiy, A. A. Kolotti, Inst of Gen and
Inorg Chem, Acad of Sci Ukrainian SSR

"Ukrainskiy Khimicheskiy Zhurnal" Vol XVI, No 1,
pp 119-126

The electrode potentials of aluminum are detd for
various melted halides in relation to a sodium
electrode taken as zero. The relationship between
the magnitude of the aluminum electrode potential
and the nature of the anions present in the melted
electrolyte is established. On changing from chlo-
ride to bromide and iodide, the electrode potential
of aluminum becomes more pos. 21216

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m. Abs. v48
- 25-54
electrochemistry

Electrochemical series of metals in fused salts. Yu. K. ~~...~~ *Dokl. Akad. Nauk. SSSR*, 16, 414-37 (1950) (in Russian).—The electrode potentials of Li, K, Ba, Sr, Na, Ca, Mg, Be, Al, Ti, Mn, Zn, Cd, Pb, Sn, Cu, Hg, Ag, Co, Ni, Fe, Sb are reviewed (45 references) and tabulated for fused salt baths of the respective chlorides (I), NaCl-KCl-SrCl₂ (II), NaCl-AlCl₃ (III), the respective bromides (IV), NaBr-KBr (V), NaBr-AlBr₃ (VI), the respective iodides (VII), NaI (VIII), and NaI-AlI₃ (IX). All potentials are referred to Na as 0.00. The data are given at 700° and at the fusion temps. (T) of the respective single halides. Electrochem. series are developed at 800° (for III, VI, IX); at 500° (for I, III, IV, VI, VII, IX); at 700° and T (for I-IX). Decompos. potentials for the various halides are computed for the pure salts and compared to those obtained experimentally in II, III, V, VI, VIII, IX. The deviation is very small in some cases and as high as 0.45 v. (SbCl₂ in III) in others. Decompos. potentials in mixed salt baths are generally higher than those in the pure halides, but in some cases are significantly lower (e.g., MnCl₂—2.00 v. in I; 1.74 v. in III). The free-energy change for cation formation from the metal in I-IX at T is given. The deviation of ΔF in mixed salts from that in pure halides is calcd. as ΔF of complex-formation. The electrochem. series varies with temp., the nature of the anion, and complex-formation. Electrode potentials are periodic functions of at. nos. The p.d. between Na and the heavy metals decrease in the anion series Cl→Br→I.

C. H. Puckman

DELIMASIA 17, 70, 11

008 . AEI 4-2475
THE REVERSIBLE GLASS-TIN-SODIUM REFERENCE
ELECTRODE IN FUSED SALTS. Yu. K. Delivarski and
A. A. Kislits. Translated from *Ukrain. Khim. Zher.* 16,
438-48 (1950). 1 pp.

The conditions for the construction of a reversible
glass-Sn-Sb reference electrode for fused salts were in-
vestigated; a good reproducibility of the electrode was
demonstrated. It was shown that the electrode potential of
Ag became more negative during the transition from fused
chlorides to fused iodides. (auth)

Chem

2

copy

RM

DELMARSKIY, Yu. K.

PA169T8

USSR/Chemistry - Polarography

Aug 50

"Application of Solid Electrodes for Polarographic Determination of Metals Ions in Nonaqueous Solutions," Yu. K. Delimarskiy, I. L. Abarbarchuk, Inst of Gen and Inorg Chem, Acad Sci Ukrainian SSR

"Zavod Lab" Vol XVI, No 8, pp 929-932

Demonstrates possibility of using solid electrodes for polarographic determination of metals in non-aqueous solutions. By automatic plotting of curves, obtains polarograms for pyridine solutions of silver chloride, cobalt chloride and arsenous bromide.

169T8

ELIMARSKY, I.V.

U.S.S.R

4932 ARC-tr-1143
NEUTRAL ELECTRODE IN THE ELECTROCHEMISTRY OF
MOLTEN SALTS. I. K. Dolinarokh. Translated from

Zhur. Fiz. Khim., 24, 877-80 (1950). 13p.
It is suggested that a sodium electrode be taken as a con-
ditional neutral electrode for molten electrolytes. The ad-
vantages of a sodium electrode as a neutral electrode con-
sist in the fact that it retains a constant value in various
molten electrolytes and it can serve not only as a neutral
electrode but as an electrode of comparison in the electro-
chemistry of molten salts as well. (auth)

2

91

DELIMARSKIY, YU. K.
DELIMARSKIY, Yu.K.; KOLOTTI, A.A.

Relation of the decomposition potentials of salts to their concentration
in fused electrolytes. Ukr.khim.zhur. 17 no.1:123-135 '51. (MLRA 9:9)

1. Institut obshchey i neorganicheskoy khimii Akademii nauk Ukrainskoy SSR.
(Salts) (Potential, Theory of)

DELIMARSKIY, Yu.K.; KOLOTTI, A.A.

Second potentials in the electrolysis of fused silver halides. Ukrain.
Khim. Zhur. 17, 877-89 '51. (MLRA 6:4)
(CA 47 no.22:12041 '53)

1. Inst. Gen. Inorg. Chem., Acad. Sci. Ukr. S.S.R., Kiev.

180T21

DELMARSKIY, Yu. K.

USSR/Chemistry - Electrolytic Deposition Apr 51

"Determination of Individual Electrode Potentials in Fused Aluminum Chloride-Sodium Chloride as Solvent," Yu. K. Delmarskiy, L. S. Berenblyum, I. N. Sheyko, Inst Gen and Inorg Chem, Acad Sci Ukrainian SSR, Kiev

"Zhur Fiz Khim" Vol XXV, No 4, pp 398-403

Examd decompn potentials, polarization emf, sep cathode and anode potentials in respect to Pt ref electrode of chlorides of Ni, Co, Tl, Mn, Zn, Cd, Sn, Pb, Cu, Ag, Sb, Bi in fused AlCl3-NaCl

LC 180T21

USSR/Chemistry - Electrolytic Deposition Apr 51 (Contd)

electrolyte at 300-500°C. Noted 2 electrode potentials for Cd, Sn; linked 2d to cathodic process. Discusses different effect of temp on Ni, Co from that on other metals.

LC 180T21

DELIMARSKIY, Yu.K.; PANCHENKO, I.D.

Polarographic study of fused salts with fused saltpeter as base.
Ukr.khim.zhur. 19 no.1:47-56 '53. (MLRA 7:4)

1. Institut obshchey i neorganicheskooy khimii Akademii nauk USSR.
(Salts) (Polarograph and polarography)

79126 RAE-Trans-526
 ELECTROLYTIC DISSOCIATION IN FUSED SALTS (K
 Voprosu ob elektroliticheskoj disosociatsii rasplyvlenykh
 soley). B. F. Markov and Yu. I. Dalmijanski. Translated
 by R. C. Murray from Ukrain. (Chem. J. 19, 236-19(1973),
 10p. (AD-72451).

The degrees of dissociation of BeCl_2 , MgCl_2 , CaCl_2 ,
 SrCl_2 , and BaCl_2 have been calculated from their electrical
 conductivity in the fused state at the m.p. Many physical
 properties of these fused salts such as the temperature co-
 efficient of conductivity, the solubility of the metal in its
 own fused salts and transport numbers, accord with the
 concept of incomplete dissociation of the salts, particularly
 incomplete (association of the cation M^2+). (auth)

DELIMARSKI, YU. K.

USSR/Chemistry - Zirconium

Jul-Aug 53

"Potentials of Electrolytic Decomposition of the Systems NaF-ZrF₄ and NaF-ZrF₄-ZrO₂," Yu.K. Delimarskiy, A.A. Kolotiy, V.A. Lapa, Inst of Gen and Inorg Chem, Acad Sci Uk SSR

Ukrain Khim Zhur; Vol 19, No 4, pp 372-376.

Although Zr is commonly produced by reducing fluoro-zirconates with Na, it can also be obtained industrially by electrolyzing fused fluorides. With the aid of I-V curves, the decomp potentials were measured at different temps. It was

268T11

established that the decomp potential of Na fluoro-zirconate drops with rising temps and rises when the concn of NaF is increased. In the I-V curves for the ternary system NaF-ZrF₃-ZrO₂, only one bend is present. In the electrolysis of both mixts, Zr was deposited at the cathode.

Evolution B-77406

268T11

DELIMARSKIY, Yu. K.

USSR/Chemistry - Electrochemistry

Dec 53

"Determination of Coefficients of Diffusion of Ions
in Salt Melts," Yu. K. Delimarskiy, B. F. Markov,
L. S. Bernblyum, Inst Gen and Inorg Chem (Kiev),
Acad Sci Uk SSR

Zhur Fiz Khim, Vol 27, No 12, pp 1845-55

Proposes a method for detn of diffusion coefs of
ions in melts which is based on measurement of the
reduction of current with time at flat surface elec-
trodes. Detd these coefs for Ag in an equimol melt
of KNO_3 - $NaNO_3$ and an eutectic melt of KCl - $LiCl$.

275T14

DELIMARSKIY, YU. K.

1 Jul 53

USSR/Chemistry - Polarography

"The Applicability of the Heyrovsky-Il'kovich Equation to Polarographic Waves Taken at Solid Electrodes in Fused Salts," Yu.K. Delimarskiy, I.D. Panchenko, Inst of Gen and Inorg Chem, Acad Sci USSR

DAN SSSR, Vol 91, No 1, pp 115-118

Results obtained with the use of Pt electrodes on AgNO_3 , $\text{Cd}(\text{NO}_3)_2$, $\text{Mg}(\text{NO}_3)_2$, $\text{Zn}(\text{NO}_3)_2$, AgCl , CaCl_2 , TlCl , PbCl_2 , ZnCl_2 , NiCl_2 , CoCl_2 , and CuCl_2 dissolved in molten NaNO_3 showed that the Heyrovskiy-Il'kovich eq is valid for fused salts at solid electrodes.

This opens up new possibilities for the polarographic investigation of salt melts.

Presented by Acad A.N. Frumkin 24 Apr 53.

~~DELIMARSKIY, YU.K.~~
DELIMARSKIY, YU.K.

USSR .

"Molten electrolytes... Yu.K. Delimarskiy. *Raboty Khim. Rastvorov i Kompleks. Soedineni, Akad. Nauk Ukr. S.S.R.* 1954, 20-40.—Review with 62 references, through 1953, dealing with the work done by the Institute of General and Inorg. Chem. in Kiev. G. M. Korolapoff

DELIMARSKIY, YU. K.

Subject : USSR/Chemistry

AID P - 1122

Card 1/1 Pub. 119 - 5/5

Author : Delimarskiy, Yu. K. (Kiyev)

Title : Polarography of molten salts

Periodical : Usp. khim., 23, no. 6, 766-789, 1954

Abstract : A review of the polarography of molten salts in the presence of solid electrodes, based chiefly on Soviet sources, is given. Four tables, 4 diagrams, 31 references (24 Russian: 1890-1953).

Institution : None

Submitted : No date

DELIMARSKIY, Yu. K.

USSR/ Chemistry Physical chemistry

Card : 1/1 Pub. 147 - 1/25

Authors : Delimarskiy, Yu. K., and Kolotiy, A. A.

Title : Electrochemical investigation of the Sn - Na system

Periodical : Zhur. fiz. khim. 28/7, 1169 - 1173, July 1954

Abstract : Results of electrochemical investigation of a Sn - Na system, are analyzed. The activity and activity coefficients of both components, were determined as functions of molar fractions. Partial molar blending heats were calculated and represented as concentration functions. The chemical processes taking place in the Sn - Na system can be characterized by the curve showing the dependence of thermal coefficients on the composition of the alloy. Five references: 3 USSR and 2 German (1905 - 1951). Tables; graphs.

Institution : Acad. of Sc. Ukr-SSR, Institute of Gen. and Inorg. Chemistry, Kiev

Submitted : July 19, 1952

DELIMARSKIY, YU. K.

USSR/ Chemistry - Physical chemistry

Card 1/1 : Pub. 147 - 16/22

Authors : Markov, B. F.; Delimarskiy, Yu. K.; and Panchenko, I. D.

Title : Thermodynamic properties of $PbCl_2$ in $PbCl_2-LiCl$, $PbCl_2-NaCl$, $PbCl_2-KCl$, $PbCl_2-RbCl$ -fusions.

Periodical : Zhur. fiz. khim. 28/11, 1987-1998, November 1954

Abstract : The electromotive forces of chemical chains with mixed electrolytes were measured in relation to temperature and composition of several binary lead chloride and alkali metal fusions. The thermodynamic properties of $PbCl_2$ in solutions with alkali metal chlorides were calculated. It was established, on the basis of thermodynamic data, that $PbCl_2-LiCl$ solutions are almost ideal mixtures and that the components forming the solution blend together with the absorption of heat. The free reaction energy of $PbCl_2$ with alkali metal chlorides was determined. Eighteen references: 9-USSR; 6-German and 3-USA (1906-1953). Tables; graphs; drawing.

Institution : Academy of Sciences Ukr-SSR, Institute of General and Inorganic Chemistry

Submitted : March 21, 1954

DELIMARSKIY, Yu.K.; DVORYANSKAYA, N.V.

Satellite production from Glukhov kaolin. Bum.prom. 29 no.4:11-13 Ap '54.
(MLRA 7:6)

1. Institut obshchey i neorganicheskoy khimii Akademii nauk USSR.
(Sizing (Paper)) (Kaolin)

DELIMARSKIY, YU. K.

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 Polarographic investigation of polarization on solid and liquid electrodes. Yu. K. Delimarskii and O. V. Gorodis'kii. *Doklady Akad. Nauk Ukr. S.S.R.* 1955, No. 6, 462-3 (Russian summary, 464). Polarographic studies were made on the electrodeposition of Ga from 0.0225% GaCl₃ in a satd. soln. of LiCl in 1:1 mixts. of Et₂O and Me₂CO on solid and liquid Ga electrodes at 25° and of the deposition of Hg from 0.001N HgNO₃ in solns. contg. 3 vols. 0.1N acidified KNO₃ and 10 vols. MeOH on solid (-45°) and liquid (-35°) Hg electrodes. Slope analysis of the ϕ vs. i curves indicated only concn. polarization on the liquid electrodes and concn. and electrochem. polarization on the solid electrodes, indicated by the appearance of sections with $d^2i/di^2 = 0$. I. Benicavitz

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DELIMARS'KIY, Yu. K.; GORODIS'KIY, O.V.

Equation for polarographic curves related to electrodeposition of metals on solid electrodes. Dop. AN URSS no.6:540-544 '55.(MLRA 9:7)

1. Predstaviv diysniy chlen AN URSS A.V. Dumans'kiy.
(Electroplating)

DELIMARSKIY, YU. K.
USSR/Chemistry - Inorganic chemistry

Card 1/2 Pub. 147 - 4/26

Authors : Delimarskiy, Yu. K.

Title : ~~Electrode potentials of metals in melted salts~~
Electrode potentials of metals in melted salts

Periodical : Zhur. fiz. khim. 20/1, 28-38, Jan 1955

Abstract : The values of individual electrode potentials of metals were calculated on the basis of the decomposition potentials of various melted electrolytes. It was established that the electrode potentials of heavy metals become negative during the change over from chlorides to bromides and from bromides to iodides.

Institution : Acad. of Sc. Ukr/SSR, Institute of General and Inorganic Chemistry, Kiev

Submitted : March 8, 1954

Periodical : Zhur. fiz. khim. 20/1, 28-38, Jan 1955

Card 2/2 Pub. 147 - 4/26

Abstract : It was found that the electrochemical series of metals may vary in various melted electrolytes and also in one and the same electrolyte during change in temperature. In addition to temperature the electrode can also become affected by the chemical reaction occurring between the fusion components. The effect of anions on the electrode potentials of the metal is explained by change in degree of electrolyte ions dissociation and by the mutual polarization and deformation of electrolyte ions. Forty references: 25 USSR; 9 German; 4 Italian and 2 USA (1894-1954). Tables.

DELMARSKIY, YU. K.

✓ The effect of the anion on the electrode potential of metals in fused salts. Yu. K. Delimarskiy. *Dokl. Khim. Zhur.* 21, 449-50 (1955) (in Russian).—The magnitudes of the electrode potentials (E) of metals were calculated on the basis of the decomposition potentials of fused electrolytes as well as on the basis of the value of the individual E, detd. with the aid of a glass-Na electrode. The E of Na relative to its pure fused salt was assumed to be zero. A scale of E in molten halides was constructed with the aid of the zero-electrode method. The E of heavy metals became more neg. on transition from chlorides to bromides to iodides. In molten fluorides the E of metals are even more neg. than in the iodides. Light metals do not obey this rule. This effect of the anions on the E of heavy metals may be explained by the regular change in electrolytic diss. on transition from chlorides to bromides to iodides, as well as by the deformation of ions caused by the separate and mutual polarizations. E. M. Elkis

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DELMARSKIY, YU. K.

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Decomposition potential determinations of fused alkali and
 alkali earth fluorides. Yu. K. Delmarskiy and E. P. Gel-
 forstniko (L. G. Shevelenko State Univ., Kiev). *Dokl. Akad. Nauk*, 21, 581-8, 1958 (in Russian). For decompo-
 sition potentials were measured in 2-compartment graphite cri-
 cibles, with a 1-mm channel to connect them, and a ther-
 mosouple well. The electrodes were made of C made for the
 production of dry elec. cells. The electrolytes were so con-
 structed that during electrolysis the anode and cathode
 compartments were insulated from each other. The decompo-
 sition potentials were: KF_{fluor} , 2.34; NaF_{fluor} , 3.76; LiF_{fluor} ,
 2.29; MgF_{fluor} , 3.35; CaF_{fluor} , 2.40; SrF_{fluor} , 2.43; $Ba-$
 F_{fluor} , 2.58 v. A method was developed for measuring
 the decompo. potentials of fused salts which de-
 creased polarization and eliminated the anode effect. The
 electrochem. series of the fluorides are: $10H > Na > Sr > Ca >$
 $Li > K > Mg > Ba$; and at the max. $K > Na > Ba > Li > Sr > Ca > Mg$.
 The decompo. potentials appeared to be related to ionic
 radii.

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DELIMARSKIY, Yu. K.

USSR/ Chemistry - Physical chemistry

Card 1/1 Pub. 116 - 6/30

Authors : Delimarskiy, Yu. K.; Turov, P. P.; and Gitman, Ye. E.

Title : Transference numbers of melted lead halides

Periodical : Ukr. khim. zhur. 21/3, 314-317, June 1955

Abstract : Analysis is made of results obtained in measuring the transference numbers of $PbCl_2$ and $PbBr_2$ in melted state. The relation between the transference number and the nature of the anion is explained. It is shown that this relation cannot be explained only with full consideration of the charge, radius and anion mass and that other yet unknown factors must also be determined. It is assumed that the forces promoting the unipolar conductivity of the salts investigated in solid state also retain their value even in liquid state. Four references: 3 USSR and 1 German (1914-1949). Tables; drawing; diagram.

Institution : Acad. of Sc., Ukr. SSR., Inst. of Gen. and Inorgan. Chem.

Submitted : October 12, 1954

DELMARSKIY, Yu. K.

Electrochemical separation of lead from the binary lead alloys with bismuth, antimony, arsenic, and tin in molten electrolytes. Yu. K. Delmarskiy, E. V. Lysov, and R. L. Glimin. *Zhurn. Fiz. Khim.* 21, 687 (1953) (in Russian).
 The use of $PbCl_2-KCl-NaCl$ (19.35% mole % $PbCl_2$) mixture as the electrolyte in the sepn. of Pb from the binary alloys was studied at 500°. The equl. pt. of Pb-Bi (41 at% Bi) contg. 75 at. % Pb, obtained from the galvanic cell $Pb|PbCl_2-NaCl|KCl|Pb-Bi$, was 1.16 v. at 180° and 1.1 v. at 200°. When K was used as an anode in this cell, the c.d. (D_c) of 0.3 amp./sq. cm. produced after 90-120 min. an anodic polarization with a const. value of 45-50 mv. Accumulation of heavy $PbCl_2$ (more than 3 times as much as the remaining components) around the anode caused small cathodic potentials. They varied from 4 to 8 mv. as measured at the end of each electrolysis. With the anodic contg.: at. % Bi, 71.8% of Pb was sepd. after 4 hrs. of continuous electrolysis ($D_c = 1$ amp./sq. cm.). During this period the max. anodic polarization varied from 42 amp. to 37 mv. The sepd. Pb contained on the av. 0.0013% Bi. The electrolysis of Pb-Sb alloy (25 at. % Sb) at $D_c = 0.5$ amp./sq. cm. yielded Pb contg. 0.028%-0.117% Sb. From the alloy with 1% Sb ($D_c = 1$ amp./sq. cm.) the sepd. Pb had 0.0005-0.0100% Sb. During the electrolysis of Pb-Sn alloys Sn after being dissolved at the anode deposited at the cathode; this gave only partial purification of Pb. A similar behavior, though with somewhat better sepn., was observed in the electrolysis of the Pb-As mixts. In every instance, the anodic polarization was directly related to the concn. changes of the eutectic. Considerable polarization, resulting from the change in the concn. in the melt phase, occurred only after practically all Pb was sepd. from an alloy. A. P. Kostoly.

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Head of Lab. Ukr. S.S.R. Inst. of Gen. and Analyt. Chem

DELIMARSKIY, YU.K.

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\sqrt Decomposition potentials of some compounds of lead dissolved in acid fused with sodium hydroxide. Yu. K. Delimarskiy, P. P. Tsey, and E. B. Giltman. *Zh. Fiz. Khim.*, 26, 1170-3 (1952). The decomposition potential φ of $PbSO_4$ and PbO_2 dissolved in $NaOH$ was determined with Pt and Ni electrodes at 45(–50)°. In both series of experiments breaks in the i - φ curves were found: PbO_2 - $NaOH$, $\varphi = 1.23$ and 1.08 v.; $PbSO_4$ - $NaOH$, $\varphi = 0.82$ and 0.92 v. at $i = 0.48$ and 0.85 ma.; PbO_2 - $NaOH$, $\varphi = 0.4$ and 0.92 v. To explain these results the values of φ of the system PbO_2 - $NaOH$ were determined. (cf. Zosimovich, et al., *C.A.*, 47, 7349e) and 2 breaks at $\varphi = 0.73$ and 1.23 v. were found. The 1st break is attributed to the discharge of Pb ions, the 2nd to the discharge of anion complex of Pb . 1, 11.

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DELMARS'KIY, Yu. K.

Application of electrochemistry of molten salts to the metallurgy of nonferrous metals. Yu. K. Delmars'kiy. *Visnik Akad. Nauk Ukr. S.S.R.*, No. 6, 36-9 (1954).
The object of the expts. described was to det. the conditions of electrolysis of molten salts (in particular the electrochem. potential of metals) in view of establishing a technique of purifying metals. The electrochem. potential of Na in its pure salts (-Cl, -Br, -I) was taken as reference electrode. It was found that: (1) there existed a periodic correspondence between the values of the potentials of metals in molten salts and their at. wt. (2) the abs. value of the potentials decreased with temp., (3) the value of potentials was affected by the nature of the anions. Electrolysis of a eutectic mixt. of chlorides of Pb, Na, and K with Pb as cathode and a 45% Pb-contg. anode at 500° yielded a Pb whose impurities did not exceed 0.01%.
N. Galdowski

DELIMARSKIY, YU. K.

USSR:

- 90-18* Electrode Potentials of Metals in Fused Salts. Electrode potentials of metals in molten salts. (Russian.) Yu. K. Delimarskii. *Zhurnal Fizicheskoi Khimii*, v. 29, no. 1, Jan. 1955, p. 28-38. Decomposition potentials at 700 C; electrochemical charges; anion effects. Tables. 40 ref.

DELIMARSKIY, YU. K.

USSR/ Chemistry - Physical chemistry

Card 1/2

Pub. 147 - 7/26

Authors : Markov, B. F.; Delimarskiy, Yu. K.; and Panchenko, I. D.

Title : Thermodynamic properties of $MgCl_2$ in $MgCl_2$ -LiCl, $MgCl_2$ -NaCl, $MgCl_2$ -KCl and $MgCl_2$ -RbCl fusions.

Periodical : Zhur. fiz. khim. 29/1, 51-61, Jan 1955

Abstract : The electromotive forces of chemical chains with mixed $Mg/MgCl_2$ electrolytes were measured for various binary liquid systems and the thermodynamic properties of $MgCl_2$ were calculated in solutions with alkali metal chlorides. It was found that $MgCl_2$ and LiCl create solutions close to ideal mixtures. Data are given on the partial isobaric potential of $MgCl_2$ as well as its partial entropy.

Institution : Academy of Sciences Ukr SSR, Institute of General and Inorg. Chem., Kiev.

Submitted : March 20, 1954

Periodical : Zhur. fiz. khim. 29/1, 51-61, Jan 1955

Card 2/2

Pub. 147 - 7/26

Abstract : The thermodynamic properties of $MgCl_2$ in solutions with KCl and $RbCl$ indicated a deep reaction between the individual components which led to the formation of compounds capable of being separated in the solid state. Eight references; 4 USSR; 3 German and 1 Swiss. (1911-1954). Tables; graphs; drawing.