

RYABCHIKOV, D.I.; KURIL'CHIKOVA, G. Ye.

Determination of small amounts of boron in the presence of  
fluorine and silicon. Zhur. anal. khim. 19 no.12:1495-1497  
'64 (MIRA 18:1)

1. Institut geokhimi i analiticheskoy khimii imeni V.I.  
Vernadskogo AN SSSR, Moskva.

KURILCOK, V.

ANTAL, J.; KURILCOK, V.

Convenient method of registration of salivary reflexes. Cesk. fysiол.  
6 no.1:99-103 '57.

1. Fyziologicky ustav Lekarskej fakulty UK, Bratislava.  
(SALIVATION,  
registration technic (Cz))

KURILEKH, D. G. and Variab, N. G.

"Processes Occurring in Cold-Strained Fe-Ni Alloys During Annealing;  
Nauch. Zap Dnepropetr. un-ta, 41, 1953, 23-25

Effect of Ni on hardening of binary Fe-Ni alloys was studied depending on Ni content, cold plastic deformation, and the annealing at various temperatures following thereafter. With increasing Ni content in steel the hardness of unstrained alloys rises. The hardness of strained alloys also rises, but work-hardening decreases with rising Ni content. Curves of temperature behavior exhibit two maxima for alpha-phase alloys. (RZhFiz, No 9, 1955)

SO: Sum-No 787, 12 Jan 56

U S R U

4

On the theory of the recrystallization of metals. B. G. Kostel'kh and L. P. Kuzilekh (Mos. Inst. Technol. (M.I.T.)), *Doklady Akad. Nauk. Ukr. R.S.S.R.* 1954, NO. 4, 1-2 (Russian summary).—Up till now most authors accepted a formula  $T_{recr} = 0.4 T_m$  ( $T_m$  in  $^{\circ}K$ ), which was based on kinetic concepts about the recryst. of metals. The recryst. of Mg, Al, Fe, Ni, Cu, Zn, Mo, Ag, Cd, Sn, Ta, W, Pt, Au was investigated and it was found that the following formula gives a much better agreement between the calcd. and the observed values:  $T_{recr} = a T_m / b$ , where  $a$  is the largest parameter of the crystal lattice,  $b$  is the melting temp., and  $a/b$  is close to unity.

Werner Jacobson

17

of

KURILEKH, D. G.

KURILEKH, D. G. "Investigation of the Nature of the Toughening of Iron and  
and Its Solid Solutions." Acad Sci Ukrainian SSR. Inst of  
Physics. Kiev, 1955. (Dissertation for the Degree of Doctor in  
Physicomathematical Science).

SO. Knizhnaya letopis'  
No 2, 1956

137-58-2-2809

KURILEKH, D. G.

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 2, p 87 (USSR)

AUTHORS: Kurilekh, D. G., Psarev, V. I.

TITLE: The Nature of the Drop in Yield Point in the Finishing of Sheet Steel (O prirode ponizheniya predela tekuchesti pri otdelke stal'nykh listov)

PERIODICAL: Nauchn. zap. Dnepropetr. un-ta, 1956, Vol 45, pp 69-71

ABSTRACT: A study was made of the mechanical properties of annealed and leveled sheet steel, and an attempt was made to determine the cause of the drop in the  $\sigma_s$  value after leveling. Used in the tests were sheets of steel 08KP, annealed at 680-710° for 8 hours. The sheets, 2000-2500 mm in length, were cut in half. From the one half samples were cut to be tensile-tested to destruction at angles to the direction of rolling of 0, 30, 45, 60, and 90°; the other half was sent on for leveling, then for mechanical testing. Reduction amounted to 0.85-1.0 percent. Tested were 6 sheets, 120 samples; the thickness of the samples was 0.82 mm. Chemical composition and test-result tables are included. The penetration depth of the leveling deformation was studied by X-ray. It was found that the solid

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APPROVED FOR RELEASE: 06/19/2000

CIA-RDP86-00513R000927710017

The Nature of the Drop in Yield Point (cont.)

background of the line (110) receded from the surface to a depth of up to 0.05-0.07 mm in sheets reduced by 1.0 percent, and to a depth of up to 0.08-0.12 mm in sheets reduced by 1.8 percent. In the leveled sheets the  $\sigma_s$  value dropped from 24.05-26.7 kg/mm<sup>2</sup> to 19.35-20.75 kg/mm<sup>2</sup>, with a different value for each direction tested. Changes in  $\sigma_b$  and  $\delta$  were insignificant. It is assumed that the increase in the surface area of a sheet resulting from a plastic flow of the ferrite grains in the surface layers of the sheet should lead to an elastic deformation of the individual grains not only on the surface but throughout the thickness of the sheet. The effect of leveling on the sheet steel was such that the elastic tensile deformation of the inner ferrite grains was balanced out by the elastic compression deformation of the surface layers. When the samples were tensile-tested, the pre-existing elastic deformation of the grains was made evident by its absorption of some of the stress---which was apparent from the drop in the  $\sigma_s$  value.

D.M.

1. Sheets--Properties    2. Sheets--Steel--Analysis

Card 2/2

SOV/137-59-1-1487

Translation from: Referativnyy zhurnal. Metallurgiya, 1959, Nr 1, p 197 (USSR)

AUTHOR: Kurilekh, D. G.

TITLE: The Employment of a Thermoelectric Method for the Investigation of the Physical Properties of Alloys (Primeneniye termoelectricheskogo metoda dlya issledovaniya fizicheskikh svoystv splavov)

PERIODICAL: Byul. nauchno-tekhn. inform. Vses. nauch. trubny in-t. 1958, Nr 4-5, pp 190-194

ABSTRACT: A description of apparatus and results of an investigation in which the thermal emf of the binary alloys Fe-Cr, Fe-Mn, Fe-Ni, and Fe-Si coupled with Cu was studied as a function of the concentration of the second element, the temperature differential between the cold and the hot junctions amounting to 50°C. As the Si and Ni content was increased, the thermal emf of the alloys with respect to Cu diminished. At a concentration of 0.9% Si and 2.7% Ni the thermal emf is equal to zero. Co and Mn added in quantities up to 1 and 2%, respectively, increase the thermal emf of the corresponding alloys; any further addition of these elements tends to reduce the thermal emf. Cr sharply increases the thermal emf; however, the rate of

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SOV/137-59-1-1487

The Employment of a Thermoelectric Method for the Investigation (cont.)

increase becomes insignificant when the Cr content exceeds a value of 2%. If present in Fe in quantities up to 0.2%, C more than any other element affects the magnitude of the thermal emf. Regardless of the solute concentration of the alloys, cold deformation of up to 90% does not change the magnitude of the thermal emf to any appreciable degree. The phenomena described are explained in terms of the variation in the number of free electrons and in terms of the work connected with their removal.

M. Sh.

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3/237/51,000/006/067/092  
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AUTHOR: Kurilekh, D.G.

TITLE: Some regularities in the changes of physical properties of iron and its solid solutions during strengthening

PERIODICAL: Referativnyy zhurnal. Metallurgiya, no. 6, 1961, 28, abstract 6Zh185 ("Tr. Ukr. n.-i. trunn. in-ta", 1959, no. 2, 198 - 210)

TEXT: The author studied changes in the intensity of interference maxima obtained from pure metal specimens and their solid solutions in both initial and deformed state. It was established that in the metal strengthened by alloying, interference maxima are shifted to one direction in respect to the interference maxima of the solvent, whereas in deformed metals the location of interference maxima remains unchanged in respect to the interference maxima of non-deformed metal or its solid solution. A formula is suggested to determine  $\sigma_p$  of metal depending on the degree of distortion of the crystal lattice. It is shown that  $\sigma_p$  of various deformed and non-deformed alloys are in a satisfactory agreement with experimental  $\sigma_p$  values. Strengthening caused by the formation of solid solutions and cold plastic deformation, is mainly due to deviations of atoms from

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A005/A101

Some regularities ...

their equilibrium state in the crystal lattice (distortions of the III order). It is shown that this deviation is the higher during deformation, the lesser the deviation of atoms from their equilibrium state during the formation of  $\alpha$ -Fe solid solutions. There are 7 references.

E. Zibarev

[Abstracter's notes: Complete translation]

Card 2/2

S/137/61/000/001/030/043  
A006/A001

Translation from: Referativnyy zhurnal, Metallurgiya, 1961, No. 1, p. 30,  
# 1Zh226

AUTHORS: Vorob'yev, G.M., Kurilekh, D.G.

TITLE: Study of Changes in Mosaic Domains and Distortions of II Order in  
Fe-Ni and Fe-Co Alloys

PERIODICAL: "Byul. nauchno-tekhn. inform. Ukr. n.-i. trubn. in-t", 1959, No. 6-  
7, pp. 157 - 161

TEXT: The magnitude of distortions of the II order  $\Delta a/a$  and the dimen-  
sions of the zone of coherent dispersion, depending on the degree of deformation,  
alloys were determined in Fe-Ni (2-12 at % Ni) and Fe-Co (0.8-6% Co) from the  
width of roentgen diffraction lines (110) and (220), obtained from Fe-radiation  
and recorded on a  $\gamma$ PC-50 (URS-50) device. The alloys were preliminarily deformed  
by 30% and annealed at 650°C; they were then subjected to static compression  
by 1.3 - 53%. It was found that during the deformation process the domains were  
crushed up to a certain limit, definite for each alloy, whereby the crushing of  
domains ceased when a deformation of 12-20% had been attained. For alloys with Ni  
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S/137/61/000/001/030/043  
A006/A001

Study of Changes in Mosaic Domains and Distortions of II Order in Fe-Ni and Fe-Co Alloys

the limit dimension of domains is the smaller the higher the Ni concentration; in the case of Fe-Co a lower degree of refinement was shown by alloys with a higher hardness in the initial state. It is assumed that the presence of a limit of domain crushing is connected with the partial recrystallization of the material in the volume of domains, which proceeds on account of heat liberated in the micro-volumes during the deformation process. The author points to the different nature of changes in the magnitude of  $\Delta a/a$  during the initial deformation stage, depending on the type of the alloy extension diagram: in the presence of a flow area, a very slight increase of  $\Delta a/a$  was observed at a degree of deformation increased to 5%; in the absence of such a flow area, however, such a compression entailed a sharp increase in  $\Delta a/a$ . In Fe-Ni distortions of the II order were higher in alloys with a greater Ni content, at equal degrees of deformation.

A. B.

Translator's note: This is the full translation of the original Russian abstract.

Card 2/2

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18.7510 1454,1555

S/137/61/000/002/033/04E  
A006/A001

Translation from: Referativnyy zhurnal, Metallurgiya. 1961, No. 2, p. 38 # 2Zh  
274

AUTHOR: Vorob'yev, G. M., Kurilekh, D. G.

TITLE: Investigation of Changes in the Magnitude of Mosaic Domains and Distortions of the II Order in Fe-Si and Fe-Cr Alloys During Plastic Deformation

PERIODICAL: "Byul. nauchno-tekhn. inform. Ukr. r. i. trubn. in-t", 1959, No. 6  
-7 pp. 161-165

TEXT: The width of X-ray diffraction lines (110) and (220) obtained from Fe-emission by recording on a YPC-50M (URS-50I) device, was employed to determine the magnitude of distortions of the II order  $\Delta a/a$  and the dimensions of areas of coherent dispersion, depending on the degree of deformation in Fe-Si (2-10.7 at. % Si) and Fe-Cr (1-8.5 at. % Cr) alloys. The specimens were deformed by 30% and annealed at 650°C; they were then subjected to static compression at deformation degrees ranging from 1.5 to 60%. During deformation process the domains were crushed to a certain limit; the limit size of the domains was the

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S/137/51/000/002/033/046  
A006/A001

Investigation of Changes in the Magnitude of Mosaic Domains and Distortions of the II Order in Fe-Si and Fe-Cr Alloys During Plastic Deformation

smaller the higher the concentration of the alloying element in the alloy; the crushing of domains ceased prior to attaining a deformation degree of 15-20%; for alloys with 10.75% Si a decrease in the dimensions of domains was observed until failure of specimen (degree of deformation: 41.5%). It was established that at equal degrees of deformation in alloys with a higher concentration of Si and Cr, higher stresses of the II order arose. The authors point to the dependence of the change nature of  $\Delta a/a$  at the initial deformation stage on the ductility of alloys. There are 5 references.

A. B.

Translator's note: This is the full translation of the original Russian abstract.

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S/081/61/000/012/002/028  
B105/B202

AUTHORS: Varivoda, I. Kh., Kurilekh, D. G.  
TITLE: Precision of the constant crystalline lattice of Fe - Mn - and Fe - Cr-alloys  
PERIODICAL: Referativnyy zhurnal. Khimiya, no. 12, 1961, 34, abstract 125209 (Tr. Dnepropetr. khim.-tekhrol. in-t, 1960, vyp. 10, 3-7.)

TEXT: In view of the contradictions in earlier publications (Gulyayev A. P., Trusova Ye. F. "Zh. teor. fiz.", 1950, 20, 1, 67; Shteynberg M. M. "Stal'", 1949, No. 8, 737) a careful X-ray study was made (method of back reflection,  $\lambda$  Co) of the dependence of the lattice parameter of alloys of armco iron and Mn and Cr on the concentration of the alloying element in order to solve the problem of the effect of the admixtures Mn and Cr on the change of the parameter of the lattice  $\alpha$ -Fe. It was found that upon the formation of the solid solutions Fe - Mn and Fe - Cr the parameter of the lattice  $\alpha$ -Fe changes linearly in the concentration limits 1 - 8.5 at% with Mn exerting greater influence on the change of the parameter than Cr. ✓

Card 1/2

Precision of the constant crystalline ...

S/081/61/000/012/002/028  
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[Abstracter's note: Complete translation.]

J

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ADMISSION NR: AR4046548

Fe-Si<sup>1</sup> Fe-Co<sup>1</sup> Fe-W<sup>2</sup> Fe-Cr<sup>1</sup> and Cr-Ni. For some alloys, the  
obtained by G. V. Kuzdyumov and his co-workers. A. Vyagina.

SUB CODE: SO, MM

ENCL: 10

KURILEKH, G.A.

We need roller bearings with plastic bushings. Avtom., telegram.  
1 sviaz 2 no.4:41 Ap '58. (MIRA 12:12)

1. Zamestitel' nachal'nika Nizhnedneprovskoy distantsii signali-  
zatsii i svyazi Stalinskoy dorogi.  
(Railroads--Equipment and supplies)  
(Bearings (Machinery))

S/137/62/000/002/022/14  
AG06/A101

AUTHORS: Urusova, N. A., Kurilekh, I. N., Peleshchuk, A. G.

TITLE: Testing the system of roller cooling of ingots in continuous steel casting

PERIODICAL: Referativnyy zhurnal, Metallurgiya, no. 2, 1962, 48, abstract 2v285  
(Sb. nauchn. tr. Gos. n.-i. 1 proyektin-t metallurg. prom-sti "Giprostal", 1960, no. 2, 137-144)

TEXT. Results are given obtained from industrial tests of roller-cooling of ingots during continuous steel casting. It was established that by repeated roller cooling of ingots, the intensity of heat liberation increased with specific water consumption raised up to  $7 \text{ m}^3/\text{m}^2$  hour. A further increase of water consumption has practically no effect on heat liberation in the repeated cooling zone. The least total length of internal hot cracks in grade St. 3 steel ingots of  $150 \times 620$  mm section was observed at a specific water consumption as high as 6 to  $8 \text{ m}^3/\text{m}^2$  hour for the broad ingot edges, and from 5 to  $6 \text{ m}^3/\text{m}^2$  hour for narrow edges, during repeated roller cooling. Under the aforementioned conditions the central porosity is low. During testing of the roller cooling ✓

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Testing the system of roller cooling ...

S/137/62/000/002/022/144  
A006/A101

system its comparative operational simplicity was noted. The main constructional deficiencies were revealed which entail considerable non-uniformity of cooling and the impossibility of regulating heat liberation in the repeated cooling zone.

V. Gasilina

[Abstracter's note: Complete translation]

Card 2/2

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1138 R 8

the theory of the recrystallization of metals. D. G. Karabakh and L. P. Kutilekh (Met. Inst., Dnepropetrovsk). *Doklady Akad. Nauk SSSR, R.S.S.R.* 1954, No. 7, 121-122 (Russian summary).—Up till now most authors accepted a formula  $T_{recryst.} = 0.4 T_{melt}$  ( $T_{melt}$  in °K.), which was based on kinetic concepts about the recrystallization of metals. The recrystallization of Mg, Al, Fe, Ni, Cu, Zn, Mo, Ag, Bi, Sn, Pb, W, Pt, Au was investigated and it was found that the following formula gives a much better agreement between the calculated and the observed values:  $T_{recryst.} = \alpha T_{melt} / \beta T_{melt}$ , where  $d_{max}$  is the largest parameter of the crystal lattice,  $T_{melt}$  is the melting temp., and  $\alpha$  is a coeff. which is close to unity.

Werner J. Leschke

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ACCESSION NR: AR4027941

S/0137/64/000/002/1033/1033

SOURCE: RZh. Metallurgiya, Abs. 21187

AUTHOR: Kurilekh, L. P.; Fedash, G. M.

TITLE: Effect of the concentration of alloying elements on the Hall-Kikoin constant in iron alloys

CITED SOURCE: Nauchn. zap. Dnepropetr. un-t, v. 61, 1963, 3-7

TOPIC TAGS: Hall-Kikoin constant, iron alloy conductivity, Hall electromotive force, emf

TRANSLATION: The Hall emf, the induction of the samples and the electrical resistivity of the alloys Fe-Ni (up to 14.86 at. % Ni), Fe-Mn (up to 12.3 at. % Mn), Fe-Si (up to 10.755 at. % Si), Fe-Cr (up to 8.5 at. % Cr), and Fe-Co (up to 6.14 at. % Co) annealed for 8 hr at 1100° were measured as a function of the composition of the alloys at room temperature. The Hall-Kikoin constant and the resistivity rise with the concentration of the alloying elements, but the magnitude of the magnetic saturation in the region of homogeneous solid solutions decreases with increasing concentration of the admixtures, with the exception of Co, which raises the magnetic

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ACCESSION NR: 7AR4027941

saturation slightly. The results obtained lead the authors to the hypothetical conclusion that the rise in the Hall-Kikoin constant is due to a change in the number of conduction electrons. L. Kucherenko

DATE ACQ: 19Mar64

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Card 2/2



AUTHORS: Kurilenko, A. I., Kul'kova, N. V., 76-32 4-11/43  
Rybakova, N. A., Tomkin, M. I.

TITLE: The Oxidation of Ethylene to Ethylene Oxide on a  
Silver Catalyst (Okisleniye etilena v okis' etilena na se-  
rebryanom katalizatore).  
I. Experimental Investigation of the Reaction Kinetics  
I. Eksperimental'noye izucheniye kinetiki reaktsii)

PERIODICAL: Zhurnal Fizicheskoy Khimii, 1958, Vol. 32, Nr 4,  
pp. 797-805 (USSR)

ABSTRACT: Since the hitherto made investigations of the reaction  
mentioned in the title supplied different contradicting  
results the investigations mentioned in this paper were  
carried out by means of the method of continuous circu-  
lation. This method offers the following advantages: The  
reaction velocity is measured directly as function of  
the concentrations. The desired temperature in the re-  
action zone is secured in spite of the great heat effect  
of the process. Any form of catalyst can be used, without  
making it possible to the gas to pass by without touching

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The Oxidation of Ethylene to Ethylene Oxide on a  
Silver Catalyst I. Experimental Investigation of the  
Reaction Kinetics

76-32-4-11/43

the catalyst. The possibility of the formation of external diffusion effects is reduced. From the experimental part from a diagram can be seen among other that the reaction vessel is a vertical glass tube in which the catalyst is located (spongy silver in form of tablets). A circular glass tube connected to the reaction vessel and a circulation pump introduce the gas mixture or drain it. Mostly the obtained ethylene oxide was frozen at  $-78^{\circ}\text{C}$  and determined according to Lubatti (Reference 9). The results obtained show among other that in the first 70-80 hours the activity of the catalyst decreases and the selectivity increases (shown graphically). The two reaction velocities of ethylene oxide formation and of carbon dioxide and water formation are dealt with separately. The experiments were carried out with different gas concentrations, that is to say, ethylene 0.6 - 70%, oxygen 1.5 - 90%, ethylene oxide 0.3 - 3%, carbon dioxide 0.1 - 85% in order to determine the reaction kinetics. The results obtained are mentioned on some tables for different cata-

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The Oxidation of Ethylene to Ethylene Oxide on a  
Silver Catalyst. I. Experimental Investigation of  
the Reaction Kinetics

76-32-4-11/43

lyst samples. The two above mentioned reactions show reaction velocities which are calculated according to analogous equations. The observation that the freezing of ethylene oxide within the cycle does not change selectivity is in coincidence with some other references; the contradiction to the data by O. M. Todes and T. I. Andrianova (Reference 4) is explained by the longer contact time used by them. An impeding effect of the oxidation products on both reaction velocities was observed. The statement that in freezing ethylene oxide and water the reaction velocity sharply increases was already mentioned by Ya. B. Gorokhovatskiy and L. Ya. Rubanik (Reference 11). The raise of temperature effected a decrease in the yield of ethylene oxide. The activation energies were calculated and mentioned to be 15200 cal for the formation of ethylene oxide and 19800 cal for the formation of carbon dioxide and water. There are 6 figures, 7 tables and 11 references, 7 of which are Soviet.

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The Oxidation of Ethylene to Ethylene Oxide on a  
Silver Catalyst. I. Experimental Investigation of the  
Reaction Kinetics

76-32-4-11/43

ASSOCIATION: Fiziko-khimicheskiy institut im. Karpova, Moskva  
(Moscow Physicochemical Institute imeni Karpev)

SUBMITTED: December 1, 1956

AVAILABLE: Library of Congress

1. Ethylene--Oxidation 2. Silver catalysts--Applications

Card 4/4

76-32-5-13/47

AUTHORS: Kurilenko, A. I., Kul'kova, N. V., Rybakova, N. A., Temkin, M. I.

TITLE: The Oxidation of Ethylene to Ethylene Oxide on a Silver Catalyst (Okisleniye etilena v kisl' etilena na serebryanom katalizatore) II. Evaluation of the Reaction Kinetics (Izucheniye kinetiki reaktsii)

PERIODICAL: Zhurnal fizicheskoy khimii, 1958, Vol. 32, Nr 5, pp. 1043 - 1048 (USSR)

ABSTRACT: Continuing earlier investigations in which contradicting results had been obtained the authors found that after the quick oxygen adsorption and formation of a monomolecular layer a process of slow adsorption follows which spreads over hundreds of hours, which was called the "deep chemical adsorption". It is dependent on the increased solubility of the oxygen in the silver layer below the surface. The slow change of the deeply adsorbed oxygen related to this is formed by the change of the activation of the catalyst, which fact is in agreement with the data by Orzechowski and MacCormak (Reference 4) as well

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The Oxidation of Ethylene to Ethylene Oxide on a Silver Catalyst. II. Evaluation of the Reaction Kinetics

76-32-5-13/47

as with the observations already made. This way two types of dependence of the kinetics can be assumed: the kinetics in a steady state of the catalyst, and that in a standard state, with different conditions of experiments having to be applied. The present investigations refer to the second case, and it is assumed that the reaction velocity does not depend on the oxygen pressure. Corresponding to the data by L. Ya. Margolis and S. Z. Roginskiy (Reference 5) it is assumed that as intermediate product vinylalcohol is formed which then oxidizes to  $CO_2$ ; a diagram of the reaction mechanism in ionic form is mentioned. In the deduction of the kinetic equations the effect of the water is neglected and two final formulae of the reaction kinetics are determined. The influence of an increased ethylene concentration in the gas phase is explained by the decrease of the tendency to reach the concentration equilibrium of the deeply adsorbed oxygen and that on the surface, with other possibilities being mentioned as well. For an ethylene oxidation in a flow system an equation is obtained by integration, and an explanation is given for the differences of the

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The Oxidation of Ethylene to Ethylene Oxide on a Silver Catalyst. II. Evaluation of the Reaction Kinetics 76-32-5-13/47

results of (Reference 4). There are 6 references, 4 of which are Soviet.

ASSOCIATION: Fiziko-khimicheskiy institut im. L. Ya. Karpova, Moskva  
(Moscow Institute of Physics and Chemistry im. L. Ya. Karpov)

SUBMITTED: December 1, 1956

1. Ethylene--Oxidation
2. Oxygen--Adsorption
3. Silver--Adsorptive properties
4. Silver catalysts--Performance
5. Mathematics--Applications

Card 3/3

5(4)

AUTHORS:

S97/20-123-5-30/50

Kurilenko, A. I., Kul'kova, N. V., Ostrovskiy, V. Ye.,  
Temkin, M. I.

TITLE:

The Influence of Electrically Negative Elements on the  
Catalytic Effect of Silver in the Oxidation of Ethylene  
(Vliyaniye elektrootritsatel'nykh elementov na kataliticheskoye  
deystviye serebra pri okislenii etilena)

PERIODICAL:

Doklady Akademii nauk SSSR, 1958, Vol 123, Nr 5, pp 870-881  
(USSR)

ABSTRACT:

The catalytic oxidation of ethylene to ethylene oxide  
 $C_2H_4 + (1/2)O_2 = C_2H_4O$  is carried out on a surface of silver  
at 200 - 300°. Small admixed quantities of chlorine compounds  
increase the selectivity of the catalyzer, i.e., they de-  
crease the relative influence of the undesirable reaction  
 $C_2H_4 + 3O_2 = 2CO_2 + 2H_2O$  without diminishing the degree of  
conversion of ethylene. The applied methods of the kinetic  
measurements were described in previous papers. The experiments  
were carried out in an apparatus with circulating flow at  
1 atmosphere and 218°. The circulating ethylene air mixture  
contained  $2.5 \pm 0.2$  volume per cent  $C_2H_4$ . The degree of con-

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SO7/26-123-5-30/50

## The Influence of Electrically Negative Elements Upon the Catalytic Effect of Silver in the Oxidation of Ethylene

version of the  $C_2H_4$  on silver without impurities of Cl and S amounted to 50-60%. The sulphur compounds used were marked by  $S^{35}$ . Crude silver (which was produced by decomposition of  $Ag_2CO_3$  in a flow of an ethylene-air mixture) was used as catalyst. The majority of the experiments was carried out by means of silver grains which had a specific surface of  $\sim 1m^2/g$ . Tabloids (tabletki) of  $5 \cdot 3$  mm (specific surface  $0.3 m^2/g$ ) were used, as well.  $\omega_1$  denotes the rate of the reaction  $C_2H_4 + (1/2)O_2 = C_2H_4O$ . First, experiments with tabloid catalyst were carried out, and  $H_2S$  was added continuously to the reacting mixture for 20-30 hours. In various experiments the concentration varied within the limits of 0.1 and  $50 mg/m^3$ . The activity of the catalyst increased by 10-20% after the addition of  $3 \cdot 10^{-4} - 5 \cdot 10^{-4}$  atomic percent S to the catalyst. By this addition selectivity was increased from  $s = 0.70$  to  $s = 0.77$ . Independently of the concentration of  $H_2S$  in the gaseous mixture, the oxidation of ethylene was

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The Influence of Electrically Negative Elements Upon the Catalytic Effect of Silver in the Oxidation of Ethylene

nearly interrupted by the adding of more than  $10^{-2}$  atomic per cent of sulphur to the catalyst. During the catalytic process, the majority of sulphur is contained as sulfate on the surface of the silver samples. This allows the calculation of the degree of covering  $\theta$  of the surface from the total amount of sulphur. A diagram shows the results of the determination of the catalytic activity and of the selectivity of silver grains which had previously been treated with  $H_2S$  in a "boiling layer". The second diagram gives the data concerning the catalysts which were produced by the simultaneous deposition of  $Ag_2CO_3$  and  $Ag_2S$ . Also in this case, small amounts of sulphur increase the activity of the catalyst. The results of the experiments with introduction of sulphur  $Na_2SO_4$  and  $H_2SO_4$  agree with the above-discussed results, they prove the activating and corroding effect of  $SO_4^-$  ions upon surfaces of silver. Admixtures of  $Cl_2$  and  $HCl$  in concentrations

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SOV/20-123-5-30/50

The Influence of Electrically Negative Elements Upon the Catalytic Effect of Silver in the Oxidation of Ethylene

of  $\sim 2 \text{ mg/m}^3$  after the introduction of  $0.5 \cdot 10^{-2}$  atomic per cent Cl (with respect to Ag) decreased the activity of the catalyst by 5 times, and the selectivity increased from 0.70 to 0.76-0.80. Corrosion was partially reversible. Higher concentrations caused an irreversible corrosion. According to the above-discussed results, the increase of the catalytic effect of silver in selectivity caused by the introduction of silver (and chlorine) cannot be explained by a partial corrosion of the catalyst with respect to the undesired reaction  $\text{C}_2\text{H}_4 + 3\text{O}_2 = 2\text{CO}_2 + 2\text{H}_2\text{O}$ . There are 2 figures and 9 references, 8 of which are Soviet.

ASSOCIATION: Nauchno-issledovatel'skiy fiziko-khimicheskiy institut im. L. Ya. Karpova (Physico-Chemical Scientific Research Institute imeni L. Ya. Karpov)

PRESENTED: July 21, 1958, by A. N. Frumkin, Academician

SUBMITTED: July 15, 1958

Card 4/4

KURILENKO, A. I., Cand Chem Sci -- (diss) "Kinetics of Oxidizing Ethylene on a Silver Catalyst and the Effect of the Electronegative Elements on the Catalytic Action of Silver," Moscow, 1960, 12 pp, 150 copies (Institute of Organic Chemistry im N. D. Zelinskiy, AS USSR) (KL, 49/60, 125)

KURILENKO, A.I.; KUL'KOVA, N.V.; BARANOVA, L.P., TEMKIN, M.I.

Kinetics of ethylene catalytic oxidation. Kin.i kat. 3  
no.2:208-213 Mr-Ap '62. (MIRA 15:11)

1. Fiziko-khimicheskiy institut imeni L.Ya.Karpova.  
(Ethylene) (Oxidation) (Catalysis)

ACCESSION NR: AP4036724

S/0020/64/156/002/0372/0374

AUTHOR: Kurilenko, A. I.; Smetanina, L. B.; Aleksandrova, L. B.; Shirayeva, G. V.; Karpov, V. L.

TITLE: Modification of the surface properties of grafted polystyrene caprone fibers

SOURCE: AN SSSR. Doklady\*, v. 156, no. 2, 1964, 372-374

TOPIC TAGS: polystyrene, caprone fiber, polymer, gamma radiation, polyester, epoxid, styrol sorption, styrol desorption, fiber resin, resin surface tension

ABSTRACT: The authors studied the effect of polystyrene grafts on caprone fibers using an industrial polyester, PN-1, and epoxoids. The grafting polymerization was initiated by  $Co^{60}$   $\gamma$ -radiation employing a method which first required exposure under vacuum and then was carried out in a gas phase. This process also provided for the development of homopolymers. Four experiments were performed. The results are presented in graphs showing the kinetics of destroyed radicals in caprone fibers, the kinetics of the sorption and desorption of styroles in caprone fibers, the influence of grafted polystyrenes on the wettability of fiber resins, and the influence of grafted polystyrenes on the adhesion of resins to caprone fibers. The surface tension of the resin in each of the experiments was constant and indicated

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ACCESSION NR: AP4036724

similar changes in wettability. Orig. art. has: 4 figures, 1 formula, and 1 equation.

ASSOCIATION: Filial fiziko-khimicheskogo instituta im. L. Ya. Karpova (Affiliate of the Physicochemical Institute)

SUBMITTED: 16Dec63

DATE ACQ: 03 Jun64

ENCL: 00

SUB CODE: MT, 00

NO REF SOV: 002

OTHER: 001

Card 2/2

CHREBENKO, A.I.; OSTAPENIA, L.M.; KISELEVICH, V.I.; CHIRKOV, V.I.  
G.V., YAKOV, V.I.

Modification of the surface properties of capron fibers by  
grafting polystyrene. Dokl. Akad. Nauk SSSR 1964, 204, 1024.  
1964. (USSR)

L. Filial Fiziko-khimicheskogo Instituta imeni Sarpana.  
Predstavleno akademikom V.A. Danilovym.





100-4-00

ACCESSION NR: AP5006567

100C; polyethylenepolyamine, with a 5-hr. after heating at 100C, was used to solidify (2); and (3) was solidified by 18 hrs. heating at 100C. The results, table indicate that adhesion

100-4-00

ENC 1

SUB CODE HT, 18

KURILENKO, A.I.; TATARENKO, O.F.; KARPOV, V.L.

Determination of the dynamic elasticity constants of polymeric materials in the field of action of  $\gamma$ -rays and fast electrons. Vysokom. soed. 7 no.8:1422-1426 Ag '65. (MIRA 18:9)

1. Fiziko-khimicheskiy institut imeni L.Ya.Karpova AN SSSR, Moskva.

L 8870-66 ENT(m)/EPF(n)-2/EWP(v)/EWP(1)/T/EWA(h)/EWA(1) WW/GG/RM

ACC NR: AP5025959

SOURCE CODE: UR/0190/65/007/010/1707/1712

AUTHOR: Kurilenko, A. I.; Shirysyeva, G. V.; Karpev, V. L.

ORG: Branch of the Physicochemical Institute im. L. Yz. Karpov (Filial Fiziko-khimicheskogo instituta)

TITLE: Investigation of adhesion of radiation-hardened polyester resins onto highly oriented organic fibers

SOURCE: Vysokomolekulyarnyye soyedineniya, v. 7, no. 10, 1965, 1707-1712

TOPIC TAGS: polyester resin, synthetic fiber, adhesion, radiation polymerization

ABSTRACT: The adhesion between radiation-hardened polyester resins MGF-9, TMGF-11 and PN-1 and highly oriented viscose, lavsan, caprone and polypropylene fibers was investigated to ascertain bonding characteristics of polyester resins to polymeric fibers. Based on studies with MGF-9 and caprone, a change in gamma-radiation intensity from 65 to 580 roentgen/sec has practically no effect on adhesion. Increase in radiation dose to 10 Mrad increased the bond strength between the resin and fiber while further increase to 60 Mrad had practically no effect

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UDC: 678.01:53+678.674

ACC NR: AP5025959

15

on adhesive strength. The magnitude of adhesion to the different resins decreases in the following order: viscose, levsan, caprone, polypropylene; the adhesion between the latter and a given resin is about half of that between viscose and the resin. This dependence is qualitatively the same if the resin is hardened thermally or by radiation. The somewhat reduced adhesion between MGF-9 and caprone produced by radiation hardening in comparison to thermal hardening was attributed to changes in the surface properties of the caprone fiber caused by radiation. "Ye. V. Starodubtseva participated in the experimental work. Measurements of physical properties of MGF-9 resin were conducted by O. P. Tatarenko and I. G. Nikulina. The authors thank I. A. Suskin and V. G. Medyannikov for participation in conducting the experiments." Orig. art. has: 2 figures and 3 tables.

SUB CODE: MT/ SUBM DATE: 09Nov64/ ORIG REF: 006/ OTH REF: 001

44,55      44,55      44,55

PC

Card 2/2

KURTIENKO, A.I.; SMETANINA, L.V.; ALEKSANDROVA, L.B.; KARPOV, V.I.

Graft polymerization of styrene on capron and lavsan fibers.  
Vysokom. soed. 7 no.11:1935-1940 N '65.

(MIRA 19:1)

1. Filial fiziko-khimicheskogo instituta imeni L.Ya. Karpova.  
Submitted December 19, 1964.

L 10178-66 EWT(m)/EWP(v)/EWP(j)/T/ETC(m) WW/RM

ACC NR: AP5028284

SOURCE CODE: UR/0020/65/165/002/0383/0386

AUTHOR: Kurilenko, A. I.; Shirvaveva, G. V.

ORG: Physicochemical Institute im. L. Ya. Karpov (Fiziko-khimicheskiy institut)

TITLE: Adhesion of thermoplastic and thermosetting polymers to highly oriented synthetic fibers

SOURCE: AN SSSR. Doklady, v. 165, no. 2, 1965, 383-386

TOPIC TAGS: synthetic fiber, reinforced plastic, adhesion, destructive testing, polymer binder, polymer

ABSTRACT: Adhesive strength was tested by displacement of an individual fiber with respect to a block of the polymeric binder. The smooth surface of the fiber had a contact area of 1 to 1.5 mm<sup>2</sup> with the binder. The adhesive strength was calculated as the ratio of the force required for the destruction of the bond to the geometrical area of contact. The highest strength value (121 kg/cm<sup>2</sup>) was observed for the capron fiber to polvinyl alcohol bond. The order of adhesive strengths observed is explained in terms of the free-energy changes, i.e., surface-tension changes at the adhesion surface. Orig. art. has: 3 figures and 1 table.

SUB CODE: 11.07/  
ATD PRESS: 4/54

SUBM DATE: 06Apr65/ ORIG REF: 003/ OTH REF: 002/

Card 1/1

UDC: 678.01:620.179.4:541.183

L 27310-66 EWT(m)/EPF(n)-2/EWP(j) IJP(c) WH/GG/RM  
ACC NR: AP6008977 (A) SOURCE CODE: UR/0190/65/007/011/1935/1940

AUTHORS: Kurilenko, A. I.; Smetanina, L. V.; Aleksandrova, L. B.; Karpov, V. L.

ORG: Branch of the Physico-Chemical Institute im. L. Ya. Karpov (Filial fiziko-khimicheskogo instituta)

TITLE: Graft polymerization of styrene on caprone and lavsan fibers / First communication in the series "Modification of properties of highly oriented fibers by graft polymerization of vinyl monomers"

SOURCE: Vysokomolekulyarnyye soyedineniya, v. 7, no. 11, 1965, 1935-1940

TOPIC TAGS: caprone, radiation polymerization, graft copolymer, polymerization

ABSTRACT: It was the object of the investigation to extend the work published by A. I. Kurilenko, L. B. Smetanina, L. B. Aleksandrova, G. V. Shiryayeva, and V. L. Karpov (Dokl. AN SSSR, 156, 372, 1964) and to study the graft polymerization of styrene on caprone and lavsan fibers. The polymerization was initiated by a preliminary irradiation of the fibers in vacuum by  $Co^{60}$   $\gamma$ -radiation and subsequent exposure of the fibers to the monomer vapors or by direct irradiation of the fibers in the monomer vapor. The experimental results are represented in terms of the fractional weight increase of the fibers

$$\Delta P = \frac{P - P_0}{P_0} \cdot 100\%$$

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UDC: 66.095.26+678.674+678.675+678.746

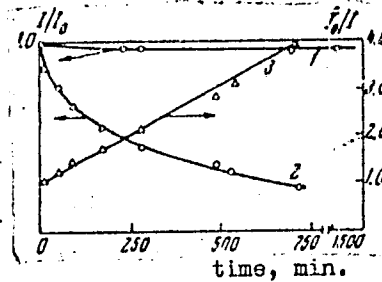


L 27310-66

ACC NR: AP6008977

$P_0$  and  $P$ --the weight of specimen before and after graft polymerization. The kinetics of monomer sorption and disappearance of free radicals was studied. The experimental results are presented graphically (see Fig. 1).

Fig. 1. Kinetics of radical disappearance in caprone fibers. Fibers irradiated with 2.7 Mrad, intensity of radiation - 150 rad/sec, temperature 26C. 1 - epr signal intensity of irradiated fibers in the absence of styrene; 2 - in the presence of styrene; 3 - same as 2 but plotted in reciprocal coordinates.



It is concluded that the rate of styrene graft polymerization is controlled by the diffusion of styrene to the free radicals on the fibers. The grafting of styrene onto the fibers changes the mechanical properties of the latter. Orig. art. has: 2 tables, 3 graphs, and 1 equation.

SUB CODE: 11/ SUBM DATE: 19Dec64/ ORIG REF: 005/ OTH REF: 002

Card 2/2 90

ACC NR: AP6023426 (A) SOURCE CODE: UR/0190/66/008/007/1164/1168

AUTHOR: Kurilenko, A. I.; Aleksandrova, L. B.; Smetanina, L. B.

ORG: none

TITLE: Effect of grafting of polystyrene on the surface properties of polycapramide and polyethylene terephthalate fibers

SOURCE: Vysokomolekulyarnyye soyedineniya, v. 8, no. 7, 1966, 1164-1168

TOPIC TAGS: polyethylene terephthalate, polycapramide, polystyrene, synthetic fiber, adhesive bonding

ABSTRACT: The effect of grafting of polystyrene to polycapramide (capron) and polyethylene terephthalate (dacron) fibers on the strength of their adhesive bond with thermosetting polymers (pure oligomers MGF-9, PN-1, ED-5, E-41) was studied. The grafting was performed by the post-effect method from the gas phase. The adhesion of the grafted capron and dacron fibers to the four thermosetting polymers and the wettability of these fibers were shown to depend on the amount of grafted polystyrene and to change in symbatic fashion. The amount of grafted polymer was proportional to the duration of the grafting process, but the rate of grafting in the surface layer decreased with time. Qualitatively, the grafting of polystyrene to the fibers had the same effect on their adhesion to all four polymers: in all cases, the strength of the bond increased in the presence of less than 1% of grafted polystyrene, then dropped to

Card 1/2

UDC: 66.095.26+678.01:53/.54+678.674/.675

L 41246-66

ACC NR: AP6023426

2

values comparable to the initial ones at 2-3% of the grafted component. The results are discussed from the standpoint of the adsorption theory of adhesion. In conclusion, the authors thank L. B. Shchetinkina and G. V. Medyannikov, who participated in the experiments. Orig. art. has: 3 figures, 1 table, and 3 formulas.

SUB CODE: 11/ SUBM DATE: 25Feb65/ ORIG REF: 015/ OTH REF: 004

Card 2/2 MLP

L 4114-66 HAI(m)/I/LWP(j) IJP(c) AM/CG

ACC NR: AP6023427

SOURCE CODE: UR/0190/66/008/007/1180/1184

AUTHOR: Kurilenko, A. I.; Nikulina, I. G.; Fayzi, N. Kh.

ORG: none

TITLE: Electrical conductivity study of the polymerization kinetics of unsaturated oligomers exposed to  $Co^{60}$  gamma radiation

SOURCE: Vysokomolekulyarnyye soyedineniya, v. 8, no. 7, 1966, 1180-1184

TOPIC TAGS: polymerization kinetics, polyester plastic, oligomer, electric conductivity, ionizing radiation, radiation effect, gamma radiation

ABSTRACT: Polymerization induced by ionizing radiation was studied for the first time by means of the electrical conductivity method proposed by R. W. Warfield and M. C. Peetre (J. Polymer Sci., 37, 305, 1959) for studying the kinetics of thermal curing of resins. The experiments involved the unsaturated polyester resin PN-1. Measurements of the volume conductivity  $\rho_v$  of the resin during polymerization were compared with data on the degree of polymerization, obtained by measuring the concentration of  $-C=O$  double bonds by IR spectroscopy and the content of the gel fraction by extraction. It was thus shown that the degree of polymerization can be obtained from  $\rho_v$ . The polymerization kinetics of PN-1 were determined in the range of 30 to 85°C at dose rates from 50 to 318 r/sec. The kinetic data showed that the curing process is governed by

Card 1/2

UDC: 66.095.26+678.674

L 41188-66

ACC NR: AP6023427

a radical mechanism involving bimolecular chain breaking. Orig. art. has: 9 figures  
and 2 formulas.

SUB CODE: 07/ SUBM DATE: 19Apr65/ ORIG REF: 004/ OTH REF: 002

Card 2/2/1/1/1

KURILENKO, A.K.; ALEKSANDROVA, L.B.

Determination of the contact angle in fiber wetting. Khim. volok.  
no.3;65-67 '65. (MIRA 18:7)

1. Nauchno-issledovatel'skiy fiziko-khimicheskiy institut im. Karpova,  
Moskva.

KURILENKO, I.A.

The road to a career in stockbreeding. Politekhn. obuch. no.3:93-94  
Mr '58. (MIRA 11:2)

1. Direktor Spasskoy semiletney shkoly Miloslavskogo rayona  
Ryazanskoy oblasti,  
(Agriculture--Study and teaching)

KURILENKO I. G. Meningeal form of swamp fever Klin. Med. (Mosk.) 1951, 29/8  
(72 - 74)

In the acute stage of the disease high fever was accompanied by chills, muscular pains, particularly in the lumbar region, acute headache and severe vomiting. Swelling of the tongue was characteristic as an early symptom. The meningeal syndrome was observed in 41.2% of the cases of swamp fever and leptospirae were cultivated from the blood and CSF during acute meningitis and also in its purulent form. All the cases recovered.

Anigstein - Galveston (XX, 6, 7, 8)

So: Excerpta Medica, Section VIII Vol. 5 No. 8



KURILENKO, I.S.; DOBRYKH, V.A.

Treatment of suppurative meningitis with subarachnoid penicillin. Sovet.  
med. 17 no.4:18-20 Apr 1953. (CJML 24:4)

1. Candidate Medical Sciences for Kurilenko. 2. Sverdlovsk.

KURILENKO, I.S., polkovnik meditsinskoy sluzhby, kandidat meditsinskikh  
nauk

Clinical analysis of dynamic disorders of cerebral blood circulation.  
Voen.-med. zhur. no.5:37-41 My '56. (MLRA 9:9)  
(BRAIN--BLOOD SUPPLY)

KURILENKO, I.S., kand.med.nauk, polkovnik meditsinskoy sluzhby

Outcome of acute disorders of brain blood supply from data of dispensary observations. Voen.-med.zhur. no.9:17-19 S '59.

(MIRA 13:1)

(CEREBRAL HEMORRHAGE)

KURILENKO, I.B., polkovnik meditsinskoy sluzhby, kand.med.nauk; BREZHNEVA,  
Ye.S., podpolkovnik meditsinskoy sluzhby

Some clinical forms of cerebral rheumatism. Voen.-med.zhur. no.4:  
42-45 Ap '60. (MIRA 14:1)  
(RHEUMATIC FEVER) (BRAIN--DISEASES)

KURILENKO, I.S., kand.med.nauk; KHOMENKO, G.R. (Moskva)

Result of ultrasonic therapy of diseases of the peripheral  
nervous system and locomotor system. Klin.med. 39 no.4:123-127  
'61. (MIRA 14:4)  
(ULTRASONIC WAVES—THERAPEUTIC USE) (NERVES, PERIPHERAL)  
(EXTREMITIES (ANATOMY))

KANAREYKIN, K.F.; KURILENKO, I.S. (Moskva)

Clinical variations of writers' spasm. Zhur. nerv. i psikh. 61  
no. 1:62-66 '61. (MIRA 14:4)

(WRITERS' CRAMP)

KANAREYKIN, K.F.; KURILENKO, I.S.

Catamnesic data on patients with transitory disorders of the cerebral circulation. Zhur. nevr. i psikh. 62 no.1:32-35 '62; (MIRA 15:4)  
(CEREBROVASCULAR DISEASES)

KANAREYKIN, K.F.; KURILENKO, I.S. (Moskva)

Clinical aspects of associated lesions of the main vessels  
of the head. Zhur. nevr. i psikh. 64 no.2:161-165 '64.  
(MIRA 17:5)



KURILENKO, I. S. and STEYKER, H. L.

"The Use of Securinine (Securinega Suffruticosa) for the Treatment of Certain Forms of Vascular Hypotension".

Voyenno Meditsinskiy Zhurnal, No. 4, 1962.

KANAREYKIN, K.F.; KURILENKO, I.S. (Moskva)

Characteristics of oneiroid states in disorders of cerebral  
circulation. Zhur. nevr. i psikh. 63 no.4:478-481 '63.  
(MIRA 17:2)

KOLOSOV, D.Z.; KURILENKO, I.S.

Prevention of vascular crises in elderly age. Vop. geron. i geriat.  
4:185-189 '65. (MIRA 18:5)

1. Tsentral'nyy voyenny Krasnoznamenny gospital', Moskva.

KANAREYKIN, K.F.; KURILENKO, I.S. (Moskva)

Clinical aspects of blood circulation disorders in the abdominal  
aorta. Zhur. nevr. i psikh. 65 no.10:1498-1501 '65.

(MIRA 18:10)

KURILENKO, Konstantin

Radicals of the formula  $(Si_mO_n)$  and their X-ray emission spectra  $SiR_{a_4}$ ; brief comments. Min. sbor. no.16:45-47 '62. (MIRA 16:10)

1. Laboratoriya mineralogii-kristallografii, Sorbonna, Parizh.  
(Radicals (Chemistry)) (X-ray spectroscopy)

KURILENKO, Konstantin

Alteration of topaz under the effect of heating from 20° to 1250°.  
Min. sbor. no.16:395-399 '62. (MIRA 16:10)

1. Laboratoriya mineralogii-kristallografii, Sorbonna, Parizh.  
(Topaz-thermal properties)

KURILENKO, K.I.

Specific gravity of tourmalines and their changes under heating to 1350°C. Min.sbor. no.11:69-80 '57. (MIRA 13:2)

1. Mineralogicheskaya laboratoriya Sorbonnyy, Parizh.  
(Tourmaline)

AUTHORS: Kuz'menko, S.H., Kurilenko, L.Ya. SOV/ 0-32-2-5/56

TITLE: Sorption Properties of Romny and Revovskaya Clays of the UkrSSR  
(Sorbtsionnyye svoystva romenskoj i revovskoj glin UkrSSR)

PERIODICAL: Zhurnal prikladnoy khimii, 1959, Vol XXXII, Nr 2,  
pp 268-272 (USSR)

ABSTRACT: Romny and Revovskaya clays were compared with clays of the gumbrin and tripoli-earth type as to their sorption properties, especially in the regeneration of used transformer and aviation oil. The chemical and mechanical analysis of the clays is given in Tables 1 and 2. The sorption of the vapors of the aromatic hydrocarbons  $C_6H_6$ ,  $C_6H_5CH_3$ , and  $C_6H_4(CH_3)_2$  was determined by the static exsiccator method. It has been shown that the sorption properties of the Romny and Revovskaya clays for these vapors are below those of gumbrin, tripoli-earth, etc. The sorption of aqueous solutions of organic dyes, like malachite green, methylene blue, and basic fuchsin was also investigated. Revovskaya clay showed good sorption properties for these dyes. The sorption values were even higher than in gumbrin. For the regeneration of oils the clays were ground and passed a sieve of 1,500 openings per  $cm^2$ . Then they were dried for one hour at 110-120°C. The contacting lasted 1 hour

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SOV/80-32-2-5/56

Sorption of Properties of Komy - *Revershalo Clays of the USSR*

at a temperature of 80°C followed by settling during 1 day and filtering. The color of the oil changes during the treatment. The used transformer and aviation oils after regeneration corresponded to the specifications of the State Standard GOST.

There are 6 tables and 10 Soviet references.

SUBMITTED: June 21, 1957

Card 2/2

KURILENKO, M. I.

KURILENKO, M. I. -- "Aconitum nigriticans / Prostrel Cherneyushchiy / as a Source of New Medicinal Preparations." (Dissertation for Degree in Science and Engineering Defended by USSR Educational Institutions) Min Public Health USSR, Moscow Pharmaceutical Inst, Chair of the Technology of Medicinal Forms and Galenic Preparations, Moscow, 1955.\* Pharmaceutical Sciences

SO: Knizhnaya "etodis" No. 37, 10 September 1955.

KURILENKO, M.I. [Kurylenko, M.I.]

Study of the lactones of the large pasqueflower (*Pulsatilla grandis* Wenderoth). *Farmatsev.zhur.* 17 no.4:27-32 '62.

(MIRA 16:3)

1. Kafedra tekhnologii likar'skikh form ta galenovikh preparativ Zaporiz'kogo farmatsevtichnogo institutu, zab. kafedroyu dotsent S.S. Lyashenko.

(PASQUEFLOWER) (LACTONES)

VASIL'YEV, B.I., inzh.; KURILENKO, N.I., inzh.

Determining forces acting on the checking devices during ship  
launching. Sudostroenie 29 no.6:40-41 Ja '63. (MIRA 16:7)  
(Ships--Launching)

DRONOV, S.F.; VASIL'YEVA, K.A.; PANINA, L.I.; KURILENKO, N.K.; SUROVOVA, O.F.

Low-modulus hemicellulose hydrolysis of plant tissues with a pentose  
hydrolizate. *Gidroliz. i lesokhim.prom.* 16 no.3:17-19 '63.

(MIRA 16:5)

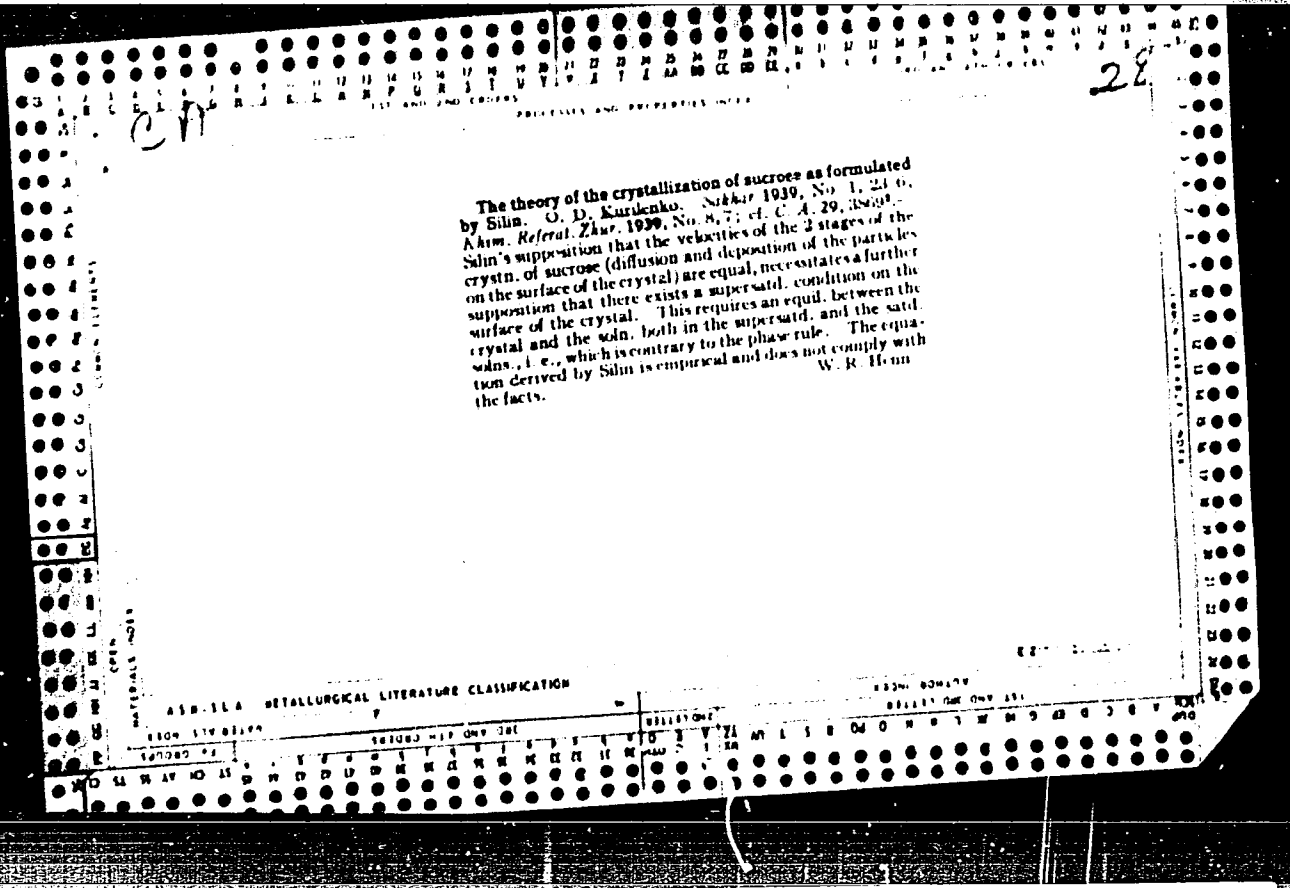
1. Moskovskoye otdeleniye Gosudarstvennogo nauchno-issledovatel'skogo  
instituta gidroliznoy i sul'fitnospirovoy promyshlennosti  
(Hydrolysis) (Hemicellulose)

TOZHDESTVENSKIY, Yu. L.; KURILENKO, N.P.

Bearings (Machinery)

Introduction of methods of cold forging in the manufacture of bearing rings.  
Podshipnik, No. 6, 1952.

Monthly List of Russian Accessions, Library of Congress, October 1952, UNCLASSIFIED.



1942/1943, p. 1.

Holladay, G.D. "method of determining the dielectric constants in a conducting medium", Br. Journ. Journal, 1942, Issue 1, p. 12-30, - Bibliog: 3 items.

Br: 1-2000, 11 March 53, (Integra 'nykh Statov, No. 10, 1942).



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**Determination of the hydrophilism of starch sols from the dispersion of the dielectric constant.** A. V. Duman'skiĭ and O. D. Kurikeno. *Doklady Akad. Nauk S.S.S.R.* 60, 1107-9 (1948). - Measurements of the dielec. const.  $\epsilon$  of starch sols of 0.5, 1.0, 1.5, and 2.0 g. starch/100 g. H<sub>2</sub>O, by Wien's barretter method ( $\lambda = 10, 70, 26, 340$ ), between (200) and (40) kilohertz, evidences presence of dispersion to longer waves. Between  $\log \lambda = 1.7$  and 2.4,  $\epsilon$  for each concn. varies but very little with  $\lambda$ , and is higher the more dil. the soln.; at  $\log \lambda = 2.4$ , all 4 sols. have the same  $\epsilon$ ; above  $\lambda 2.4$ ,  $\epsilon$  increases rapidly with  $\log \lambda$ , the faster, the higher the starch content of the sol. The amt.  $n$  of H<sub>2</sub>O bound, in g. per 1 g. starch, was calcd. by  $n = [g_0(P_0 - P_1)/g(P_0 - P_1)] - [(P_1 - P_2)/(P_0 - P_1)]$ , where  $g_0$  = amt. of H<sub>2</sub>O per  $g_0$  moles of disperse phase;  $P$  = sp. polarization, the subscripts  $w, s, d$ , and  $d$  referring, resp., to H<sub>2</sub>O, sol, bound H<sub>2</sub>O, and disperse phase, with  $\epsilon(H_2O) = 80, \epsilon_s = 2.2, \epsilon(\text{starch}) = 10.0, \epsilon_d(\text{starch}) = 1.47$  and  $d_s = 1.2$ , one finds, for 0.5-1.5 g. starch/100 g. H<sub>2</sub>O,  $n = 0.3$ , and for 2.0 g.,  $n = 0.2$ . The dipole moment, calcd. by Debye's equation (with the molec. wt. of starch taken =  $1 \times 10^5$ ) is 5.50.5. This high value indicates that, in the high frequency field, starch particles rotate as a whole, not by sep. links, groups, or radicals; i.e., the particles represent rigid systems. N. Thom

Lab. Colloid Chem., Inst. Gen. + Inorg. Chem., A.S. Ukr. SSR

ASB 31.8 - REFERENCE LITERATURE CLASSIFICATION



KORILENKO, O. D.

The heat of wetting and the dielectric constant of a sparse system. A. V. Dymanskiy et al.

... for 20 min. The surface of ...

... of the ...

... the value of ...

... moisture contents in g./g. are 0.55, 0.61, 0.40, and 0.30, resp.

G. M. Kosolapov

not checked in A. N. Bekh, ...

FA 45/49T21

USSR/Chemistry - Colloids  
Chemistry - Solis

Mar/Apr 49

"Application of the Method of Distribution of Dielectric Constants to Determine the Hydrophilic Nature of a Starch Sol," A. V. Dumanskij, O. D. Kurilenko, Lab of Colloid Chem, Inst of Gen and Inorg Chem, Acad Sci Ukrainian SSR, 5 1/2 pp

"Kolloid Zhur" Vol XI, No 2

Measures dielectric constants in solutions of starch paste of various concentrations in frequency range 6,000 to 60 kc. Observed distribution of dielectric constant. Calculates amount of water fixed by one

45/49T21

USSR/Chemistry - Colloids (Contd)

Mar/Apr 49

gram of starch. Value roughly coincides with that obtained by other methods. Calculates dipole moment of starch in paste by Debye's equation. Suggests that in starch there is no independent movement or oscillation of polar groups of links. Submitted 12 Jul 49.

45/49T21

KURILENKO, O. D.

CA

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Hydration and electric symmetry of molecules of de-  
naturated and natural egg albumin. O. D. Kurilenko and  
A. S. Tsyplovich. *Doklady Akad. Nauk S.S.S.R.* **68**,  
319-321 (1970). The dielec. const. of egg albumin de-  
naturated with urea at 2M differs from that of native albu-  
min especially at wavelengths of 35-50 m $\mu$ , being some 10%  
lower, while in 22-30 m $\mu$  region it is 3-5% higher. Change  
of optical activity with increased extent of denaturation  
linear. The increased dielec. const. at shorter wave-  
lengths is probably associated with liberation of bound water,  
a conclusion apparently supported by the simultaneous  
change of slope of the optical activity and extent of de-  
naturation curves. The relaxation period is essentially  
identical for the natural and the denatured states and the  
mol. wt. (36,000) is unchanged. The difference in the  
changes of dielec. const. cannot be correlated at this time  
with the progressive and smooth variation of optical ac-  
tivity.  
G. M. Kosolapoff

Relation between the dielectric constant of disperse systems and surface phenomena. A. V. Dumanski and O. D. Kurilenko (Acad. Sci. U.S.S.R., Kiev). *Kolloid. Zhur.* 12, 326-30(1950); cf. preceding abstr.  $\text{SiO}_2$  gel was ground, passed through a sieve having 10,000 openings/sq. cm., heated to a temp.  $T$ , and suspended in 50 parts of  $\text{H}_2\text{O}$ . The dielectric constant  $\epsilon$  of the suspensions, for the wave length  $\lambda$  300 m, were 85, 90, 80, and 88 after  $T = 300, 550, 1000,$  and  $1200^\circ$ , resp. The  $Q$  of the gel had a slight max. after  $T = 550^\circ$  and was very small after  $T > 1000^\circ$ . The  $\epsilon$  of similar suspensions in a picric acid soln. in  $\text{C}_6\text{H}_6$  also had a max. after  $T = 550^\circ$ . The  $\epsilon$  (at  $\lambda = 300$  m) of an emulsion of  $\text{CCl}_4 + \text{C}_6\text{H}_6$  in  $\text{H}_2\text{O}$  (at equal d. of both phases) decreased when the droplet diam. increased. This shows that the  $\epsilon$  of the "bound"  $\text{H}_2\text{O}$  cannot be very low (2.2, as many scientists believe); presumably, this  $\epsilon$  is 2.2 for very small  $\lambda$  but increases with  $\lambda$ . The  $\epsilon$  of disperse systems is affected by adsorption and by deformation of the elec. double layer and cannot be expressed as a function of the  $\epsilon$  of the components. J. J. Bikerman







DUMANSKIY, A.V.; KURILENKO, O.D.; BARASHENKOV, G.B.

Dielectric constants of emulsions. Ukr.khim.zhur.17 no.1:118-122  
'51. (MLRA 9:9)

1. Institut obshchey i neorganicheskoy khimii Akademii nauk Ukrain-  
skoy SSR.  
(Emulsions)

CH ✓ Investigation of the structural viscosity in solution containing pectin substances. A. A. Neduzhii and O. D. Kurilenko. *Trudy Kiev. Tekhnol. Inst. Pishchevol. Prom.* 1953, No. 13, 111-16; *Referat. Zhur., Khim.* 1954, No. 47459. — The structural viscosity of diffusion juice and 14% sucrose solns. contg. 2, 1, 0.5, 0.25, and 0.1% pectin substances was detd. in a capillary viscometer with a variable pressure device. The structural viscosity was detd. by the temp. and concn. of these substances which cause a structure in these solns. The temp. at which the structure vanishes depends on the concn. of these substances and is at 70-85°.

M. Hosh

①

DEYNEGA, Yu.F.; DUMANSKIY, A.V.; KURILENKO, O.D.

Dielectric properties of the vanadium-pentoxide sol in a flow. Koll.zhur.  
15 no.4:234-237 '53. (MLRA 6:8)

1. Institut obshchey i neorganicheskoy khimii Akademii nauk SSSR (Kiyev).  
(Dielectrics) (Vanadium pentoxide)



V Dielectric properties of solutions and gels of agar. A. V. Dumanskii, O. D. Kurilenko, and Yu. F. Delneva. *Kolloid. Zhur.* 17, 180-3 (1955); cf. preceding abstr.—The dielec. const.  $\epsilon$  of 1% agar soln. at 45° is 64.2 and 115 for wave lengths  $\lambda$  of 27 and 135 m., resp., and  $\epsilon$  of 1% agar gel is at 20° 71.3, 80.7, and 102, and at 45° 64.3, 80.0, and 110 for  $\lambda$  of 27, 47, and 135 m., resp. Thus, gelation affects  $\epsilon$  at large  $\lambda$  only. Temp. coeff. of  $\epsilon$  varies its sign when  $\lambda$  changes; this explains the discrepancies in the literature (cf. Saulman, *C.A.* 35, 7763). Also in *Kolloid J. U.S.S.R.* 17, 167-9 (1955) (Rusl. translation). J. J. Bikerman

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*Inst. Gen. Inorg. Chem. AS USSR, Kiev*

KURILENKO, O.D.

Investigating the dielectric properties of hydrophilic high  
polymer solutions. Trudy KTIPP no.17:151-160 '57.  
(MIRA 13:1)  
(Macromolecular compounds--Electric properties)

ИИ ВЛЛЛ ВМММ С.С.  
KURILENKO, O.D.

The specific heat of bound water [with summary in English].  
Koll.zhur. 19 no.5:584-586 S-0 '57. (MIRA 10:10)

1.Kiyevskiy tekhnologicheskij institut pishchevoy promyshlennosti.  
(Heat capacity) (Water)

FEDOROV, P.D.; STABNIKOV, V.N.; GLYBIN, I.P.; BELYAVSKIY, V.V.; BOYCHENKO,  
N.G.; BUZYKIN, N.A.; GOLOVIN, P.V.; DEMCHUK, A.P.; ZHURA, K.D.;  
KORCHINSKIY, A.I.; KUMILENKO, O.D.; KLIMKO, N.G.; LITVAK, I.M.;  
MAL'TSHV, P.M.; NIKOLAYCHUK, I.M.; NAUMOV, A.L.; POPOV, V.D.; RYKO,  
F.A.; SKOBLO, D.I.; KHRISTENKO, M.M.; TSYGANKOV, P.S.; SHLIPCHENKO,  
Z.S.; SHVETSOV, P.D.

Gleb Mikhailovich Znamenski; obituary. Sakh. prom. 31 no.12:68  
D '57. (MIRA 11:1)

(Znamenski, Gleb Mikhailovich, 1901-1957)



AUTHORS: Kurilenko, O. D., Mikhalyuk, R. V. SOV/156-58-3-11/52

TITLE: The Adsorption of Steam on Aminobentonite Complexes (Adsorbtsiya parov vody na amino-bentonitovykh kompleksakh)

PERIODICAL: Nauchnyye doklady vysshey shkoly, Khimiya i khimicheskaya tekhnologiya, 1958, Nr 3, pp. 447 - 451 (USSR)

ABSTRACT: The adsorption of steam at aminobentonite complexes was measured; it was found that at all partial pressures a series is obtained. It corresponds to the decrease of the hydrophilic properties of the aminobentonite complexes, which develops parallel to the increase of the organic cation, or the substitution degree of the exchange complex, respectively. It was shown that the equation of Brunauer, Emmet and Teller (Ref 4) may be used for the isothermal lines of the adsorption of steam on aminobentonite complexes within the range of the partial pressures  $P/P_s = 0,05 \dots 0,35$ . The amount of water adsorbed on the mono-layer was calculated. These quantities are reduced when the hydrophilic character of the surface of bentonite decreases. Bentonite from the Kavkaz (askangel') (Caucasus) and the Ukraine (pyzhevskiy) was investigated. Diagrams 1 and 2 give the

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The Adsorption of Steam on Aminobentonite Complexes

307/156-58-3-11/52

adsorption isothermal lines at 20° after various types of pre-treatment. Tables 1 and 2 give the experimental results. They agree well with the equations of Brunauer, Emmet and Teller (Diagram 3). The values for the adsorption constant  $a_m$  were calculated for the various bentonite complexes (Table 3). There are 3 figures, 3 tables, and 6 references, 1 of which is Soviet.

ASSOCIATION:

Kafedra fizicheskoy i kolloidnoy khimii Kiyevskogo tekhnologicheskogo Instituta pishchevoy promyshlennosti (Chair of Physical and Colloidal Chemistry of the Kiyev Technological Institute for the Food Industry)

SUBMITTED: December 2, 1957

Card 2/2

*KURILENKO, O.D.*

21-58-7-15/27

AUTHORS: Ovcharenko, F.D., Corresponding Member of the AS UkrSSR, Mikhalyuk, R.V. and Kurilenko, O.D.

TITLE: Ion Exchange and Hydrophilia of Bentonites (Ionnyy obmen i gidrofil'nost' bentonitov)

PERIODICAL: Dopovidi Akademii nauk Ukrain's'koi RSR, 1958, Nr 7, pp 747-751 (USSR)

ABSTRACT: Several investigators have studied adsorption capacities of various types of ground, as e.g. Dumanskiy (Ref. 2), Bykov (Ref. 3 and 7), Goncharov (Ref. 10) and many foreign ones. The authors performed a series of experiments on wetting bentonites with water and then measuring the heat and water adsorption. It was established that at first the adsorption of water occurs in the more active sites, i.e. corresponds to the greater energetic effects. The entropy of water adsorption considerably reduces, which indicates that the water molecules are there in a most orderly state. The authors compared the results of their experiments with their calculations of pure adsorption heats, obtained from the values of the energy constant C derived from the Lamb and Coolidge (Ref 13) theory, and found that the results of the adsorption and calorimetric measurements agree well. On the basis of adsorption and calorimetric

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Ion Exchange and Hydrophilia of Bentonites

21-58-7-15/27

data, some thermodynamic functions of the bentonite-water system were determined. The character of the changes in some thermodynamical properties of this system warrants a presumption that the bentonite surface is energetically non-homogeneous. There are 5 graphs, 1 table and 13 references, 6 of which are Soviet, and 7 American

ASSOCIATIONS: Institut obshchey i neorganicheskoy khimii AN UkrSSR (Institute of General and Inorganic Chemistry of the AS Ukr.SR) Kiyevskiy tekhnologicheskiy institut pishchevoy promyshlennosti (Kiyev Technological Institute of the Food Industry)

SUBMITTED: March 14, 1958

NOTE: Russian title and Russian names of individuals and institutions appearing in this article have been used in the transliteration.

1. Bentonite-water systems--Adsorptive properties
2. Bentonite-water systems--Thermodynamic properties
3. Heat--Adsorption
4. Water--Adsorption

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