

L 07579-67

ACC NR: AP6006554

0

food samples in the bottle and flasks develop a strange odor and taste after a period of 3 and 7 days which becomes more pronounced with the prolongation of the contact time, 4) this phenomenon does not appear in samples enveloped in wrappers, 4) some low molecular weight compounds pass from the packaging material into the food samples after a contact time of 7 and 14 days, and 5) PE-500 polyethylene powder injected in animals for 8 months do not change their general condition. Sealed bags 10 x 20 cm in size prepared from the 50 and 100 micron wrapping material were tested on pork, beef, half-smoked sausage, lard, and other meat products and the results compared with those obtained from packaging similar food samples in glass jars. The test data lead to the conclusion that PE-500 polyethylene has good prospects as a packaging material for meat products. It is suggested that the polyethylene wrapping material be used in the main for wrapping meat products and the bottles and flasks be limited to packaging dry products. It is also suggested that meat products with a low fat content be packaged in the polyethylene packaging material for storing at temperatures higher than 4 C.

SUB CODE: 11, 08/ SUBM DATE: none

Card 2/2 *pl*

YURIN, V.A.

KUVASHINSKIY, V.V., kand.tekhn.nauk; YURIN, V.A., inzh.

Combination cutting tools used in lot production. Mashinostroitel'
no.10:29-30 0 '57. (MIRA 10:11)

(Cutting tools)

YUBIN, V.A.; MYAGKOV, N.Ya.

Using thermistors for taking ground surface temperature. Izv.AN
Turk.SSR no.4:51-54 '56. (MLRA 9:12)

1. Turkmenskiy gosuniversitet imeni A.M.Gor'kogo.
(Thermistors) (Soil temperature)

USSR/Physics - Crystallography

Card 1/1 Pub. 22 - 8/45

Authors : Zheledev, I. S.; Proskurnin, M. A.; Yurin, V. A.; and Boberkin, A. S.

Title : Some peculiarities in the polarization of Segnette's salt subjected to radioactive radiation

Periodical : Dok. AN SSSR 103/2, 207-208, Jul 11, 1955

Abstract : A study of peculiarities observed in the polarization of Segnette's salt, $\text{KNaC}_4\text{H}_4\text{O}_6 \cdot 4\text{H}_2\text{O}$, and some other segnettes exposed to a radioactive radiation is described. The hysteresis loop method was used in the study. Four references: 1 USSR, 1 Swiss and 2 USA (1930-1951). Oscillograms.

Institution : The Acad. of Sc., USSR, Institute of Crystallography, Physico-Chemical Institute named L. Ya. Yarpov

Presented by : Academician A. V. Shubnikov, April 2, 1955

Y. B. V. A.

517 136.2: 485.7

1949 THE QUESTION OF ANOMALOUS POLARIZATION OF
ROCHELLE SALTS (MORALIN, V. A. Yerm.
• *Prilozheniya*, Vol. 1, No. 3, 1949 (1950) In Russian.

On exposure to radiation from Co^{60} , hysteresis in the field-
polarization curve of Rochelle salt diminishes and ultimately dis-
appears, the curve changing to a reversible straight line. At
the same time, the shape of the permittivity-temperature curve at
the Curie points becomes less pronounced and on prolonged exposure
they too disappear.

R. F. S. Hartman

Handwritten initials and marks

Physical properties of Selenium salt crystals subjected to radioactive irradiation. L. A. Yudin. *Sov. Acad. Sci. U.S.S.R. (English translation)*. Ser. 4, 20, 1953 (1954).

[Handwritten signature]
[Handwritten initials]

YURIN, V.A.

G

USSR / Electricity

Abs Jour : Ref Zhur - Fizika, No 4, 1957, No 9653

Author : Zheludev, I.S., Yurin, V.A.

Inst : Institute of Crystallography, Academy of Sciences USSR

Title : Certain Physical Properties of Rochelle Salt Crystals Subjected to Radioactive Radiation.

Orig Pub : Izv. AN SSR, ser. fiz., 1956, 20, No 2, 211-214

Abstract : An anomalous polarization P was observed in an X-cut of Rochelle salt (I) measuring 20 x 10 x 1.5 mm after exposure by means of a Co^{60} compound (irradiation dose amounted to approximately 10^5 roentgen/hour). As the time of exposure increased the curve of the hysteresis narrows down at small values of field intensity up to the formation of sections with linear polarization. After prolonged exposure, I polarizes like a linear dielectric. An investigation was made of the influence of a dc bias field E on the shape of

Card : 1/2

USSR / Electricity

Abs Jour : Ref Zhur - Fizika, No 4, 1957, No 9653

G

Abstract : the anomalous hysteresis loop. Increasing E deforms one of the branches of the loops until it vanishes fully at $E = E_a$ (E_a is the amplitude value of the alternating field). Further increase in E distorts the second branch of the hysteresis loop. When $E \geq E_a$ the dependence of P on E becomes linear. It was established that the domain structure of irradiated I is retained even at large exposure times. Prolonged exposure produces a large number of damages to the crystalline structure of I , but does not change the value of the piezo-constant. It is proposed that the anomalous polarization of I , subjected to exposure, is due to the damage of a portion of the molecules of I , to a loss of the spontaneous P on the part of a portion of the elementary cells, to the appearance of transition layers between the domains, and also to atomic or ionic inclusions within the limit of a single domain.

Card : 2/2

Yurin, V.A.

48-3-5/26

SUBJECT: USSR/Luminescence

AUTHOR: Yurin V.A.

TITLE: Peculiarities in the Ferroelectric Properties of Seignette's Salt Crystals Subjected to Radioactive Irradiation (Osobennosti segnetoelektricheskikh svoystv kristallov segnetovoy soli, podvergshikhsya radioaktivnomu oblucheniyu)

PERIODICAL: Izvestiya Akademii Nauk SSSR, Seriya fizicheskaya, 1957, Vol 21, #3, pp 329-333 (USSR)

ABSTRACT: An irradiation of Seignette's salt crystals with gamma-rays changes the character of their electric polarization. Patterns of an X-section of the Seignette's salt were placed in front of an apparatus containing radioactive Co^{60} ; the intensity of gamma-radiation amounted to 10^5 roentgen/hour.

Figure 1 in the article shows hysteresis loops after irradiations of various durations.

The process of polarization of ferroelectrics is closely connected with the re-building and re-orientation of their domain structure. The shape of hysteresis loops changes with irradiation time.

Card 1/2

48-3-5/26

TITLE:

Peculiarities in the Ferroelectric Properties of Seignette's Salt Crystals Subjected to Radioactive Irradiation (Osobennosti segnetoelektricheskikh svoystv kristallov segnetovoy soli, podverghikhaya radioaktivnomu oblucheniyu)

The dependence of dielectric permittivity in weak fields on temperature was studied before irradiation and after various times of irradiation. As a result, it was shown that the shape of the dielectric permittivity-temperature curve changes considerably, as is shown in Fig 5, and the peaks corresponding to Curie points are gradually decreasing and finally disappear.

The value of the piezoconstant ϵ_{14} remains almost the same after irradiation.

Seignette's salt markedly decomposes under effect of irradiation liberating thereby CO, CO₂ and CH₄ gases.

The introduction of admixtures into crystallic lattice of Seignette's salt gives rise to the phenomenon of anomalous polarization. The article contains 6 figures. The bibliography lists 7 references, of which 4 are Slavic (Russian)

INSTITUTION: Institute of Crystallography of the USSR Academy of Sciences
PRESENTED BY:
SUBMITTED: No date indicated
AVAILABLE: At the Library of Congress.
Card 2/2

YURIN, V.A.

AUTHOR: Konstantinova, V.P. and Yurin, V.A.

70-2-18/24

TITLE: Peculiarities in the polarisation of crystals of Rochelle salt containing impurities. (Osobennosti polarizatsii kristallov segnetovoy soli s primesyami)

PERIODICAL: "Kristallografiya" (Crystallography), 1957, Vol.2, No.2, pp. 294-296 (U.S.S.R.)

ABSTRACT: Description of experimental results. Curves are given of the dependence of the dielectric constant of Rochelle salt on field strength for different contents of impurities; Al, H_3BO_3 and $CuCO_3$ were added in solution. Measurements were made by ballistic galvanometer at 11 C. The most significant change is that due to the addition of 2% $CuCO_3$, when the d.c. does not rise from about 100 until a field strength of 450 V/cm is reached. This case was examined further to show the anisotropic distribution of Cu in the crystals. The blue colour of the crystals was most intense for the pyramid on the 001 face and in decreasing intensity on the faces 210, 110, 100 and 010. The temperature dependence of the d.c. in various directions was measured. An abnormal hysteresis loop was found for a specimen cut from the 001 growth pyramid immediately after annealing at 40 C. 50 hours later the

Card 1/2

Peculiarities in the polarisation of crystals of Rochelle salt
containing impurities. (Cont.)

70-2-18/24

specimen behaved normally. There are 3 figures and 6
references, 5 of which are Slavic.

ASSOCIATION: Institute of Crystallography Ac.Sc. U.S.S.R.
Card 2/2 (Institut Kristallografii AN SSSR)

SUBMITTED: February 7, 1957.

AVAILABLE: Library of Congress

SOV/70-4-2-25/36

AUTHORS: Yurin, V.A. and Zheludev, I.S.

TITLE: The Influence of Thermal Treatment on the Electric Properties of Rochelle Salt Containing Impurities (Vliyaniye termicheskoy obrabotki na elektricheskiye svoystva segnetovoy soli, soderzhashchey primesi)

PERIODICAL: Kristallografiya, 1959, Vol 4, Nr 2, pp 253-255 (USSR)

ABSTRACT: Rochelle salt crystals damaged by γ -radiation and also crystals grown from solutions containing impurities have been studied. Crystals were grown from a solution containing 2% CuCO_3 . It was found that an abnormal loop was obtained which returned to normal after annealing at $40-45^\circ$ for some hours with slow cooling (1-2 hours) to room temperature. After some 200 hours "rest" at room temperature the abnormal loop returned. Measurements were made on an X-cut crystal at 50 c.p.s. A minimum field strength is needed to establish the abnormal double loop and this depends on the times of exposing the specimen at different temperatures. It follows that the arising in the crystal of the state in which a double hysteresis loop is observed takes place

Card1/3

The Influence of Thermal Treatment on the Electric Properties of
Rochelle Salt Containing Impurities

SOV/70-4-2-25/36

only in the presence of a domain structure, the domains being in a state of rest. If the specimen is exposed to a temperature lying outside the Curie interval (where the domain structure is present) then the state in which the normal hysteresis loop is observed can be retained as long as necessary. If the specimen is at a temperature between the Curie point but a constant or alternating electric field is applied to it, under the action of which the crystal either becomes a single domain or undergoes a continuous process of reorientation of the domains, then the state with the normal hysteresis loop is also retained. Graphs of the temperature dependence of dielectric susceptibility of specimens under different conditions are given. There are 5 references, 4 of which are Soviet and 1 Japanese and 3 figures.

Card 2/3

SOV/70-4-2-25/36

The Influence of Thermal Treatment on the Electric Properties of
Rochelle Salt Containing Impurities

ASSOCIATION: Institut kristallografii AN SSSR (Institute of
Crystallography of the Ac.Sc.USSR)

SUBMITTED: October 21, 1958

Card 3/3

SOV/70-4-1-25/26

AUTHORS: Konstantinova, V.P., Sil'vestrova, I.M. and Yurin, V.A.

TITLE: Twinning and the Dielectric Properties of a Crystal of Triglycine Sulphate (Dvoynikovaniye i dielektricheskiye svoystva kristalla triglitsinsul'fata)

PERIODICAL: Kristallografiya, 1959, Vol 4, Nr 1, pp 125-129 (USSR)

ABSTRACT: The Y-axis in $(\text{NH}_2\text{CH}_2\text{COOH})_3\cdot\text{H}_2\text{SO}_4$ is the direction of ferroelectric polarisation and plates cut perpendicular to this axis were examined here. Etching these plates showed the twin structure with individuals from tenths of a millimetre to several centimetres. The faces at the two ends of the polar axis are etched differently, one kind of etching giving a matte effect and the axes of the individuals are parallel or anti-parallel to the plate normals. This observation is confirmed by the complementary patterns observed on two sides of the plate. The hysteresis loop (dielectric hysteresis) of the plate was studied between -80 and $+53$ °C. The spontaneous polarisation at 23 °C is 2.02×10^{-6} coul/cm². The

Card1/2

SOV/70-4-1-25/26
Twinning and the Dielectric Properties of a Crystal of Triglycine Sulphate

coercivity for most specimens lay between 200 and 300 V/cm, but some were ^{from} 90 to 1 000 V/cm. The dielectric constant was measured at various frequencies, temperatures and field strengths; ϵ_{22} shows a sharp dielectric anomaly (λ -point) at 49.2-49.6 °C and ϵ_{11} also shows a small peak at this temperature but ϵ_{33} does not. The spontaneous polarisation falls to zero at about 52 °C. Acknowledgments are made to Academician A.V. Shubnikov and I.S. Zheludev for their advice. There are 9 figures and 1 English reference.

ASSOCIATION: Institut kristallografii AN SSSR (Institute of Crystallography of the Ac.Sc., USSR)

SUBMITTED: June 17, 1958

Card 2/2

YURIN, V.

Production of a stable single-domain state of seignettelectric substances. Izv. AN SSSR Ser. fiz. 24 no.11:1329-1333 N '60.
(MIRA 13:12)

1. Institut kristallografi AN SSSR.
(Ferroelectric substances)

84999

S/048/60/024/010/008/033
B013/B063

9.2180

AUTHORS: Konstantinova, V. P., Sil'vestrova, I. M., Shuvalov, L.A.,
and Yurin, V. A.TITLE: Production and Piezoelectric Properties¹ of Crystals of
Deuterized Triglycin SulfatePERIODICAL: Izvestiya Akademii nauk SSSR. Seriya fizicheskaya, 1960,
Vol. 24, No. 10, pp. 1203-1205

TEXT: Monocrystals of deuterized triglycin sulfate (DTGS) were obtained from monocrystals of ordinary triglycin sulfate (TGS) dissolved in D₂O. The solution was boiled, whereupon large DTGS monocrystals with a weight of up to 100 g were bred from it. The external form of the DTGS crystals is the same as in TGS crystals. In their symmetry they belong, like TGS crystals, to the monocline system. The form of the domain boundaries in DTGS crystals is shown in Fig. 1. Measurements have shown that the dependencies of all of the characteristics of reversion of polarization on temperature, on the field, on the frequency, and other quantities (Figs. 2-5) in DTGS crystals exhibit a qualitative similarity with the

Card 1/2

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Production and Piezoelectric Properties of Crystals of Deuterized Triglycin Sulfate S/048/60/024/010/008/033
B013/B063

corresponding dependencies of TGS crystals. Fig. 6 illustrates the relations $i_{\max}/S = f(E)$ and $1/\tau_{\max} = f(E)$, taken at different temperatures. (S - electrode area, E - field strength during the pulse). Fig. 7 gives the temperature dependence of mobility μ , as calculated from formula

$$\mu = \frac{d}{\tau_{\max}(E - E_{\alpha})} \cdot (d - \text{thickness of plate, } E_{\alpha} - \text{activation field}).$$

Owing to the fact that DTGS crystals, compared with TGS crystals, are usable within a much wider temperature range, and that their characteristics at room temperature exhibit a lesser temperature dependence, they can be used in the same cases as the TGS crystals in spite of their considerable electrical hardness. The authors thank I. S. Zheludev for his discussion of results, and Ye. M. Akulenok, K. A. Pluzhnikov, and L. N. Kurnakovskaya for assistance given in the experiments. The present paper was read at the Third Conference on Piezoelectricity which took place in Moscow from January 25 to 30, 1960. There are 7 figures and 8 references: 5 Soviet.

ASSOCIATION: Institut kristallografii Akademii nauk SSSR
(Institute of Crystallography of the Academy of Sciences
USSR)

Card 2/2

85868

S/048/60/024/011/004/036
B006/B056

24,7760(1043,1143,1559)

AUTHORS: Konstantinova, V. P., Sil'vestrova, I. M., Shuvalov, L. A.,
and Yurin, V. A.

TITLE: Production of and Some Ferroelectric Properties of
Lithium Hydroselenite ↗

PERIODICAL: Izvestiya Akademii nauk SSSR. Seriya fizicheskaya, 1960
Vol. 24, No. 11, pp. 1318 - 1323

TEXT: The present paper is a reproduction of a lecture delivered on the
3rd Conference on Ferroelectricity, which took place in Moscow from
January 25 to 30, 1960. Lithium hydroselenite (denoted by LHS),
 $\text{LiHSeO}_3 \cdot \text{H}_2\text{SeO}_3$ form monocline crystals of the space group P_n . Already in
Ref.1 it has been identified as ferroelectric, and some data were given.
In the present paper the authors first describe the synthesis and che-
mical properties of this compound. Fig.1 shows the solubility of LHS as
a function of temperature (straight line), from which it may be seen
that this crystal may be grown in the usual manner by temperature

Card 1/3

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S/048/60/024/011/004/036
B006/B056Production of and Some Ferroelectric
Properties of Lithium Hydroselenite

decrease. A monocrystal of 100 g grown by the authors is shown in Fig.2. The fusing point of LHS was found to be at 110.5°C , density $\rho = 3.185 \text{ g/cm}^3$, the angle of monoclinity was 105° . The orientation of the crystallographic axes and the position of the main faces are shown in Fig.3. Fig.4 shows the various hysteresis loops, which are found to exist in the individual crystallographic directions of LHS. Also the direction-dependence of the dielectricity constant ϵ_{33} (broken line) and

the spontaneous polarization P_s in the cleavage face are shown. Figs.5-6 show ϵ , the coercitive force E_c and the spontaneous polarization as a function of temperature. It was found that ϵ and P_s increase with increasing temperature, whereas E_c decreases. Fig.7 shows ϵ as a function of the electric field strength at various frequencies. (E_c) in all cases has a maximum. The authors thank V. A. Frolova, L. N. Kurkovskaya, and K. A. Pluzhnikov for their collaboration and I. S. Zheludev for valuable advice. There are 7 figures, 1 table, and 5 references: 3 Soviet and 2 US.

Card 2/3

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S/048/60/024/011/004/036
B006/B056

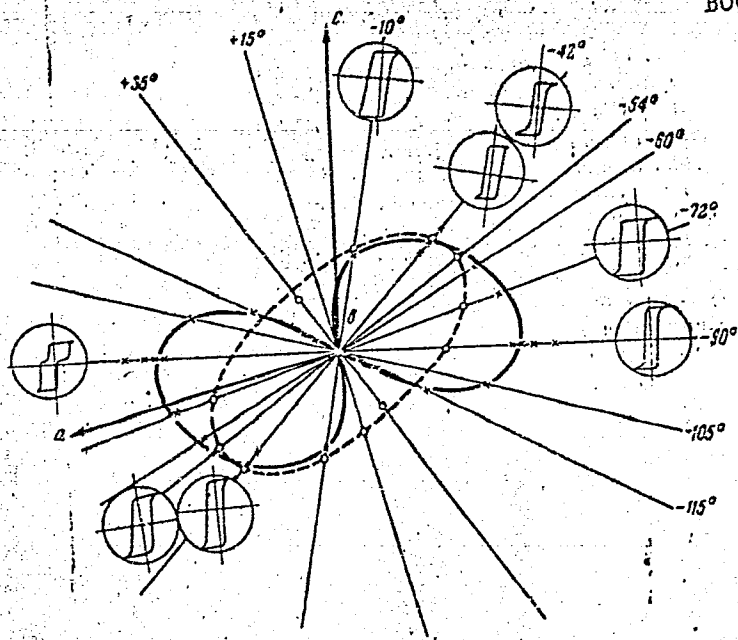


Fig. 4

Card 3/3

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B006/B056

24,7800 (only 1144)
9,2181 (2303, 3203, 1162)

AUTHOR: Yurin, V. A.

TITLE: Production of a Stable Single-domain State in Ferroelectrics 21

PERIODICAL: Izvestiya Akademii nauk SSSR. Seriya fizicheskaya, 1960,
Vol. 24, No. 11, pp. 1329 - 1333

TEXT: The present paper is a reproduction of a lecture delivered on the 3rd Conference on Ferroelectricity, which took place in Moscow from January 25 to 30, 1960. As shown by the author together with others in earlier papers (Refs. 1-4) it is possible, by irradiating Rochelle salt with gamma rays, to influence their properties considerably. Similar changes may also be effected by introducing copper ions into the Rochelle salt. Also in other ferroelectrics, such as triglycine sulfate and barium-titanate, changes in their properties occur by irradiations. The present paper is a continuation of Refs. 1-6. Again the influence of external actions (such as heat treatment, electric fields) upon the properties and domain structure were investigated. A copper-doped Rochelle salt (0.01 wt% Cu) was chosen as object to be investigated. X-cuts of such

Card 1/5

85871

Production of a Stable Single-domain State in Ferroelectrics S/048/60/024/011/007/036
B006/B056

crystals showed double (in some cases asymmetric) hysteresis loops with a field $E_{cr} = 1 - 2$ kv/cm. The domain structure (observed in a polarization microscope) had the usual appearance, but it reacted differently to field action than in crystals not copper-doped. The various changes in the form of the hysteresis caused by heating and exposure to an electric field respectively are shown in Fig.1. Fig.2 shows the time dependence of the critical field strengths in transition $\epsilon - a$ (Fig.1) at 18 and 50°C, respectively. The shape of the curves corresponds to a function

$E_{cr}(t) = E_0(1 - e^{-t/\tau})$, where E_0 is a function of temperature and copper concentration. The relaxation time of the regeneration of the double hysteresis is given by $\tau = \tau_0 \exp(U/kT)$. Fig.3 shows the dependence of the steady field on the time during which the sample was exposed to a field $E = 5$ kv/cm for the processes $2 - \epsilon$ and $\epsilon - 2$. The curves may be described by $E_{st}(t) = E_0(1 - 2e^{-t/\tau})$ and $E_{st}(t) = E_0(2e^{-t/\tau} - 1)$. It follows from the investigations that by the external influences in Rochelle salt crystals every kind of domain structure from 50% twinning up to single-

Card 2/5

85871

Production of a Stable Single-domain State
in Ferroelectrics

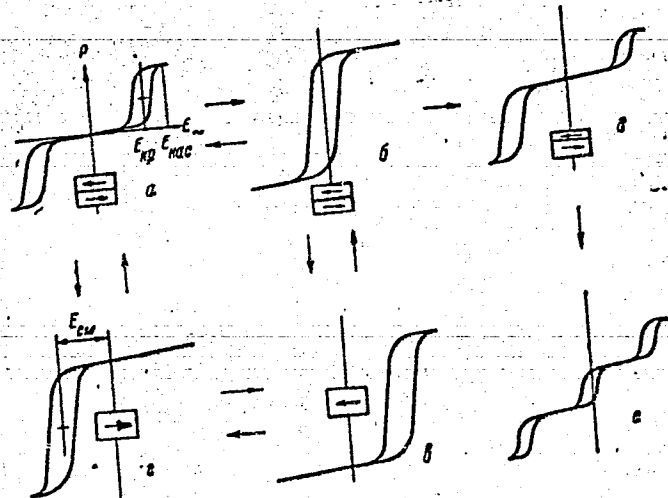
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B006/B056

domain states may be stabilized. The author thanks I. S. Zheludev for his instructions relating to this work, as well as V. P. Konstantinova and I. Ya. Eysner for placing the crystals at his disposal. There are 3 figures and 16 references: 10 Soviet, 2 US, 1 British, 1 Dutch, 1 French, and 1 Czechoslovakian.

ASSOCIATION: Institut kristallografii Akademii nauk SSSR (Institute of
Crystallography of the Academy of Sciences USSR)

Card 3/5

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S/048/60/024/011/007/036
B006/B056



Card 4/5

85871

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B006/B056

Legend to Fig.1: Re-formation of the hysteresis loops from Rochelle salt containing Cu-ions. a - σ and σ - a: heat treatment at 35-45°C. The other re-formations took place at temperatures of between the Curie points. a - σ : exposure to a field $E_{\sim} \gg E_{cr}$; σ - a: exposure without field. σ - σ : exposure to $E_{\sim} > E_{sat}$ ($E_{\sim} < 0$) σ - σ the same, with $E_{\sim} \gg E_{st}$ a - σ the same, with $E_{\sim} > E_{sat}$; σ - σ the same, with $E_{\sim} \gg E_{st}$; σ - σ the same, with $E_{\sim} < E_{sat}$; σ - a: $E_{\sim} = E_{st}$; σ - e: $E_{\sim} = E_{cr}$. The loops were recorded at 50 cps without a constant field.

Card 5/5

85872

S/O48/60/024/011/008/036
B006/B056

24,7800 (1035,1144)
9,2180 (3203,1162)

AUTHORS: Yurin, V. A., Baberkin, A. S., Korniyenko, E. N.,
Gavrilova, I. V.

TITLE: The Action of γ -Radiation Upon the Ferroelectric Properties
of Triglycine Sulfate Crystals

PERIODICAL: Izvestiya Akademii nauk SSSR. Seriya fizicheskaya, 1960,
Vol. 24, No. 11, pp. 1334 - 1336

TEXT: The present paper is a reproduction of a lecture delivered on the
3rd Conference on Ferroelectricity, which took place in Moscow from
January 25 to 30, 1960. The authors investigated the influences exerted
by γ -radiation upon the properties of triglycine sulfate (TGS), taking
special account of the stabilization of the single-domain state. TGS
Y-cuts of different shape and size were investigated, upon which silver
electrodes had been sputtered in vacuo. From the Co^{60} source the sample
received a dose rate of 235 r/sec. From an observation of the hysteresis
loops and their changes due to γ -radiation above and below Curie point,
with and without external (variable or constant) electric field, the

Card 1/4

85872

The Action of γ -Radiation Upon the Ferro-
electric Properties of Triglycine Sulfate
Crystals

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B006/B056

following conclusions could be drawn: 1) Under the influence of gamma irradiation either stable polydomain states are formed in TGS crystals (to which the double hysteresis corresponds), or single stable domain states (to which the displaced hysteresis corresponds); this means that that form of domain structure is "solidified", which existed during irradiation and during holding time after irradiation at a temperature below Curie point. 2) The stability of domain structures is explained by the formation of "internal displacement fields" in the crystal, where in polydomain samples the signs of the "internal displacements" in neighboring antiparallel domains are reversed, and in single-domain samples these signs are then uniform in the whole sample. These displacements are not formed immediately during irradiation, but in the course of relaxation processes, above all during diffusion processes, due to which the radiolysis products in the lattice are deposited at the places of minimum energy. These places are interrelated with the existence of a spontaneous polarization in the crystal (as well as with their direction). This conception corresponds in ferromagnetic materials to an oriented ordering, which causes a uniaxial magnetic anisotropy, whose

Card 2/4

85872

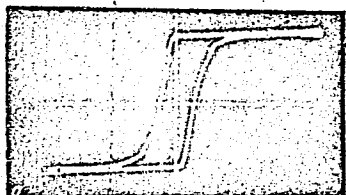
The Action of γ -Radiation Upon the Ferro-
electric Properties of Triglycine Sulfate
Crystals

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B006/B056

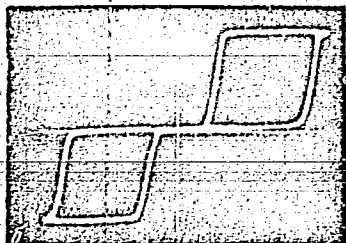
occurrence is explained as a perminvar effect or magnetic aftereffect.
3) The results obtained by the authors and their explanations agree with
the results obtained by the irradiation of TGS with X-ray- or ultra-
violet irradiation. The authors thank I. S. Zheludev, M. A. Proskurnin,
and I. S. Rez for their interest in this paper. There are 1 figure and
7 references: 5 Soviet, 1 US, and 1 French.

ASSOCIATION: Institut kristallografii Akademii nauk SSSR (Institute of
Crystallography of the Academy of Sciences USSR)

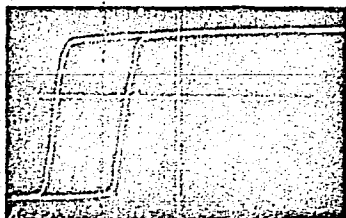
Card 3/4



a



b



c

85872

S/048/60/024/011/008/036
B006/B056

Legend to the Figure:
Hysteresis loop of TGS: a - before irradiation; b - after an irradiation with $2 \cdot 10^6$ r; c - after irradiation with $2 \cdot 10^6$ r, the irradiation taking place while a field $+E > E_{sat}$ was applied. E_{sat} was maximally 2 kv/cm at 50 cps; $t = 20^\circ C$.

X
V

Figure

Card 4/4

24.7800(1137, 1138)


26645
S/070/61/006/005/003/011
E132/E560

AUTHORS: Zheludev, I.S., Filimonov, A.A., Yurin, V.A. and Romanyuk, N.A.

TITLE: The observation of the domain structure of ferroelectric crystals by means of electroluminescent materials

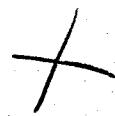
PERIODICAL: Kristallografiya, 1961, Vol.6, No.5, pp.676-680
+ 1 plate

TEXT: A basically new method of showing up the domain structure of a ferroelectric has been tried out. It consists in using a paste of ZnS in a silicone oil spread on one surface of a plate of the crystal cut perpendicular to the ferroelectric axis. An electrode is applied to the opposite surface and a transparent electrode is firmly pressed down on to the luminescent paste. A glass plate coated with SnO₂ will serve as the latter. When an alternating voltage is applied across the assembly the field divides itself between the two layers inversely as the dielectric constants. A frequency below 1 kc/s was used, higher frequencies giving too much heating. A constant field can be applied to hold the domain structure fixed. The polarization of the domains then
Card 1/2



The observation of the domain ...

26045
S/070/61/006/005/003/011
E132/E56C



adds and subtracts from the alternating field and at the optimum value regions oppositely polarized can be seen as light and dark. The method has been successfully tried for specimens of triglycine sulphate and guanidine aluminium sulphate. Specimens with the domain structure stabilised by irradiation with gamma-rays have been preferred. These have a very large hysteresis for the reversal of the polarization of the domains and are not so disturbed by the applied voltage as other specimens. The resolving power is poor. There are 5 figures and 18 references: 13 Soviet and 5 non-Soviet. The English-language references read as follows: Ref.1: W. I. Merz, Phys. Rev., 95, 3, 690, 1954; Ref.8: H. Toyoda, S. Waku, H. Hirabayashi, J. Phys. Soc. Japan, 14, 8, 1003, 1959; Ref.9: G. L. Pearsall, W. L. Feldman, Bull. Amer. Phys. Soc., 7, 336, 1958.

ASSOCIATION: Institut kristallografi AN SSSR
(Institute of Crystallography AS USSR)

SUBMITTED: March 11, 1961

Card 2/2

L0877

24.2800,

S/181/62/004/009/005/045
B108/B186

AUTHORS: Sil'vestrova, I. M., and Yurin, V. A.

TITLE: Effect of gamma radiation on the piezoelectric and elastic properties of triglycine sulfate crystals

PERIODICAL: Fizika tverdogo tela, v. 4, no. 9, 1962, 2319 - 2327

TEXT: The results of this paper were presented at the III soveshchani po segnetoelektrichestvu (III Conference on Ferroelectricity), Moscow, January 1960. Previous studies by the authors et al., (Izv. AN SSSR, ser. fiz., 24, 11, 1354, 1960; Kristallografiya, 7, 3, 1962) are continued. The elastic yield s_{33}^E , the electromechanical coupling factor k_{23}^I , and the piezoelectric modulus d_{23}^I were determined by the resonance method with transverse oscillations in the direction of the crystallographic axis c. The temperature dependences of the mentioned factors above show similar characteristics which are not changed by gamma irradiation. The curves have a peak at about 50°C (Curie point) and then rapidly drop to zero.

Card 1/2

S/181/62/004/009/005/045
B108/B186

Effect of gamma radiation ...

Irradiation only shifted the whole curves somewhat towards lower temperatures and reduced the peak heights. In a constant electric field, k'_{23} and d'_{23} show hysteresis features. The reduction in peak height is due to the formation of a self-consistent field. It is shown that it is not necessary to apply in irradiated specimens a constant polarizing field to obtain a piezoelectric effect. There are 6 figures.

ASSOCIATION: Institut kristallografii AN SSSR, Moskva (Institute of Crystallography AS USSR, Moscow)

SUBMITTED: March 19, 1962

Card 2/2

34733

S/070/62/007/001/019/022
E039/E435AUTHORS: Yurin, V.A., Baberkin, A.S., Zheludev, I.S.TITLE: The influence of γ -radiation on ferroelectric properties of crystals of guanidine (aminomethanamidine) aluminium sulphate

PERIODICAL: Kristallografiya, v.7, no.1, 1962, 147-150

TEXT: Preliminary results are presented of an investigation of the influence of γ -radiation on the ferroelectric property of a single ferroelectric crystal of guanidine aluminium sulphate (GAS) $C(NH_2)_3Al(SO_4)_2 \cdot 6H_2O$. The sample was placed in a holder with electrodes and arranged so that its hysteresis loop could be directly observed during the exposure (carried out at room temperature). The exposure of a non-polarized sample caused its normal single hysteresis loop to change gradually into a double loop (see Fig.1 a, 6). The critical field E_{cr} increased proportionally with the dose of radiation. At the same time the coercive field E_{coer} increased in both halves of the double loop. If the exposure was carried out after applying to the sample a constant field $E =$ greater than its saturation

Card 1/2

S/070/62/007/001/019/022
E039/E435

The influence of γ -radiation ...

field E_{sat} (i.e. single domain condition) then, after irradiation and removal of E_{\perp} , instead of a double hysteresis loop there was a single displaced loop (Fig. 13). The displacement field E_{dis} also increased proportionately with radiation dose. The direction of displacement was opposite to that of the external field E_{\perp} . No noticeable increase in saturated polarisation P_{sat} was observed up to the maximum dose applied (80 Mr). There are 2 figures.

4

ASSOCIATION: Institut kristallografii AN SSSR
(Institute of Crystallography AS USSR)

SUBMITTED: July 14, 1961

Card 2/3

S/070/62/007/003/007/026
E132/E460

AUTHORS: Yurin, V.A., Sil'vestrova, I.M., Zheludev, I.S.

TITLE: The ferroelectric properties of crystals of
triglycine sulphate irradiated by γ -rays

PERIODICAL: Kristallografiya, v.7, no.3, 1962, 394-402

TEXT: An experimental investigation has been made of the influence of gamma rays on the form and parameters of the hysteresis loop, the influence of steady electric fields and of the temperature on the hysteresis loops of irradiated crystals, and the influence of the γ -rays on the dielectric properties of triglycine sulphate $(\text{NH}_2\text{CH}_2\text{COOH})_3\text{H}_2\text{SO}_4$. The results are compared with analogous data for Rochelle salt containing Cu ions. Like the Cu^{++} ion, the products of the radiolysis of TGS are charged and interact with the spontaneous internal polarization field. In an applied external field, the radiolysis products redistribute themselves leading to changes in the hysteresis loop (which splits into two loops or may be displaced). The rearrangement of the products tends to stabilize the spontaneous polarization in a particular direction and a much stronger field is required to move it. The greater
Card 1/2

The ferroelectric properties ...

S/070/62/007/003/007/026
E132/E460

the dose the more stable the configuration. . Electron
paramagnetic resonance has shown the presence of free radicals
in irradiated TGS confirming this interpretation.
There are 7 figures.

ASSOCIATION: Institut kristallografii AN SSSR
(Institute of Crystallography AS USSR)

SUBMITTED: July 17, 1961

Card 2/2

YURIN, V. A., ZHELUDEV, I. S.,

"Stabilization of Spontaneous Polarization in Ferroelectric Crystals."

report presented at the Symposium on Ferroelectricity and Ferromagnetism,
Leningrad, 30 May-5 June 1963.

g...
L 19205-63 EPF(c)/EWT(1)/EWG(k)/BDS/T-2/EEC(b)-2/ES(s)-2/ES(t)-2
AFFTC/ASD/IJP(C)/SSD Pr-h/Pz-h/Pk-h/Pt-h TF/WW/JHB/AT/MLK(a)
ACCESSION NR: AP3007577 S/0286/63/000/010/0038/0038

AUTHOR: Zheludev, I. S.; Yurin, V. A. 86

TITLE: Method for direct ²⁵conversion of heat energy to electric energy. Class 21, No. 154625 ²¹

SOURCE: Byul. izobret. i tovarny*kh znakov, no. 10, 1963, 38

TOPIC TAGS: direct energy conversion, energy conversion, heat to electricity conversion, pyroelectric crystal, polarized crystal, gamma irradiation, energy converter

ABSTRACT: The patent introduces a method for direct conversion of heat to electricity by alternate heating and cooling of a pyroelectric crystal polarized in a constant electric field. The resulting electric charges are drawn by an electric energy receiver. To improve the efficiency of the energy converter and to secure its stable operation, the polarized crystal is irradiated beforehand with gamma rays, and the energy receiver is disconnected during heating and cooling. The receiver is connected to crystal electrodes at intervals between certain of the operations.

Card 1/2

L 19205-63

ACCESSION NR: AP3007577

ASSOCIATION: none

SUBMITTED: 17Jul62

DATE ACQ: 14Oct63

ENCL: 00

SUB CODE: PH

NO REF SOV: 000

OTHER: 000

Card 2/2

ACCESSION NR: AP4030652

S/0048/64/028/004/0726/0730

AUTHOR: Yurin, V.A.; Zheludev, I.S.

TITLE: Stabilization of the spontaneous polarization and the pyroelectric effect in gamma-irradiated triglycine sulfate [Report, Symposium on Ferromagnetism and Ferroelectricity held in Leningrad 30 May to 5 June 1963]

SOURCE: AN SSSR. Izv. Ser.fiz., v.28, no.4, 1964, 726-730

TOPIC TAGS: ferroelectricity, pyroelectricity, triglycine sulfate, gamma irradiation, unipolar anisotropy

ABSTRACT: The spontaneous polarization of gamma-irradiated triglycine sulfate crystals was measured. Gamma-irradiation of this material greatly increases its initial unipolar anisotropy, and a sufficiently irradiated crystal forms a single stable domain. It is not possible to reverse the polarization of such a crystal with an applied electric field, and an attempt to do so, and thus to measure the spontaneous polarization by observing the hysteresis loop, results in destruction of the specimen. Therefore the spontaneous polarization was determined from pyroelectric measurements. Gold electrodes were deposited on the faces of Y-cut plates. The tempera-

Card 1/3

ACCESSION NR: AP4030652

ture of the crystals was varied between about 0 and 70°C at the constant rate of 1°C/min while the pyroelectric current was measured with a sensitive low resistance galvanometer. The polarization was obtained, with an estimated accuracy of 10%, by integrating the pyroelectric current. Measurements were made both with increasing and with decreasing temperature, and a slight pyroelectric hysteresis was observed. The polarization of unirradiated or only slightly irradiated crystals could be determined only with increasing temperature, for such crystals, after cooling through the Curie point, did not form a single domain, but contained domains of both signs. Although gamma-irradiation greatly increased the unipolar anisotropy (stabilized the spontaneous polarization), it decreased the magnitude of the polarization. The decrease was the greater, the higher the temperature. A gamma-ray dose of 10 Mr decreased the spontaneous polarization by 17% at 1°C and by 23% at 20°C. The gamma-irradiation reduced the sharpness of the maximum of the dielectric constant as a function of temperature; this maximum was barely perceptible after a dose of 30 Mr. Crystals that were not initially unipolar retained their multidomain structure even after irradiation, and did not show an observable pyroelectric effect. It is suggested that such materials be called "antipyroelectrics". The stabilization of polarization in triglycine sulfate by gamma-irradiation has been shown to be related to an ordering of radiation centers analogous to the directed ordering of oxtrane-

Card 2/3

ACCESSION NR: AP4030652

ous atoms that leads to uniaxial magnetic anisotropy in ferromagnetic materials (V. A. Yurin, A. S. Baberkin, E. N. Korniyenko, I. V. Gavrilova, Izv. AN SSSR, Ser. fiz. 24, 1334, 1960; V. A. Yurin, I. M. Sil'vestrova and I. S. Zheludev, Kristallografiya, 7, 312, 1962). More experimental data are required. Orig. art. has: 1 formula and 3 figures.

ASSOCIATION: none

SUBMITTED: 00

DATE ACQ: 30Apr64

ENCL: 00

SUB CODE: EM

NR REF SOV: 005

OTHER: 003

Card 3/3

L 7817-66 EWT(1)EPA(c)-2/EWT(m)EPE(-)/EWT(n)-2/EWT(1) 10P(c) 13,2M
R/0048/65/029/011/2000/2004

TITLE: Phase stabilization in gamma-irradiated ferroelectric materials/Report. Fourth
1965

SOURCE: AN SSSR. Izvestiya. Seriya fizicheskaya, v. 29, no. 11, 1965, 2000-2004

TOPIC TAGS: ^{21, 41, 55} ferroelectric crystal, gamma irradiation, phase transition, Curie point,
electric ferroelectric structure

A ...

... at 30° in ... This, the monoclinic phase persists in irradiated crystals over a considerable range of ...

... from -40° to +400°. This, the monoclinic phase persists in irradiated crystals over a considerable range of ...

... constants of the ...

... phase transformation, and ...

... are in good agreement with the ...

... J. Phys. Chem. Sol., 24, 1961 Q9631

Card 200

The author thanks I.S. Zheldev and V.L. Indenbon for discussing the results and E. Freyzer,
D. Shiran, Ya. Fousekij and L.A. Shuvalov, for discussions following the Symposium on
the mathematical Hermiticity at Leningrad, 1967. Orig. art. has 4 figures.

... effect and internal friction in gamma-irradiated Rochelle
salt crystals [Report, Fourth All-Union Symposium on Piezoelectricity, 1965]

SOURCE: AN SSSR. Izvestiya. Seriya fizicheskaya, v. 29, no. 11, 1965, 2005-2008

TOPIC TAGS: piezoelectric crystal, single crystal, gamma irradiation, piezoelectric
crystal, elastic modulus, internal friction, electric field

ABSTRACT: The authors have measured the piezoelectric modulus and
mechanical quality factor of Rochelle salt crystals as a function of the
temperature dependence of the piezoelectric modulus and mechanical quality factor.

... the temperature dependence of the piezoelectric modulus and mechanical quality factor
... (1965). The effect of gamma irradiation on the piezoelectric modulus and mechanical quality factor
of Rochelle salt crystals is investigated. The piezoelectric modulus and mechanical quality factor
are measured as a function of the temperature dependence of the piezoelectric modulus and mechanical quality factor.

increasing irradiation was to produce these maxima, which were
... and then out. The occurrence of maxima in s_{22} and d_{14} at non-zero bias

... the experimental. Orig. art. and figures.

ORIG REF: 002 OTH REF: 007

Card 2/2

YURIN, V.V. (Moskva)

Hygienic characteristics of food products stored in containers
manufactured from Soviet-made high-pressure polyethylene. Vop.
pit. 24 no.1:25-28 Ja-F '65. (MIRA 18:9)

1. Otdel gigiyeny (zav.- prof. A.I. Shtenberg) Instituta pitaniya
AMN SSSR i otdel gigiyeny pitaniya (zav.- kand. med. nauk A.P.
Shitskva) Moskovskogo Instituta gigiyeny imeni F.F. Erismana.

YURIN, Yu.F.

Agate and amethyst in the Novo-Lyalinsk region of the Urals.
Trudy Inst. geol. UFAN SSSR no.70:331-333 '65. (MIRA 18:12)

YAROSH, P.Ya.; YURIN, Yu.F.

Photoluminescence of sphalerite from pyrite deposits in the
Urals. Dokl. AN SSSR 165 no.3:664-665 N '65. (MIRA 18:11)

1. Institut geologii Ural'skogo filiala AN SSSR. Submitted
May 22, 1965.

GRACHEV, B.A.; YURIN, Yu.N.

EBT-1 electric wireless turbotachometer. Izrenie no. 4:5-9 '64.
(MIRA 18:5)

1. Groznenskiy filial Vsesoyuznogo nauchno-issledovatel'skogo
i proyektno-konstruktorskogo instituta kompleksnoy avtomatizatsii
neftyanoy i gazovoy promyshlennosti.

GRACHEV, B.A.; YURIN, Yu.N.; AKNIYEV, G.E.; DUMCHIKOV, G.K.; KUCHUGUROV,
V.F.; BATAL'SHCHIKOV, M.V.

EBT-1 pipe tachometer has passed plant tests. Izv. vys.
ucheb. zav.; neft' i gaz 7 no.3:112 '64. (MIRA 17:6)

1. Vsesoyuznyy nauchno-issledovatel'skiy i proyektno-
konstruktorskiy institut kompleksnoy avtomatizatsii neftyanoy
i gazovoy promyshlennosti.

KATS, Ya.G.; MARTYNOVA, M.V.; USPENSKIY, Ya.F.; ASATULLAYEV, N.R.;
YURINA, A.L.

Jivet and Upper Devonian sediments in the western margins of
the Chigiztau. Izv. vys. ucheb. zav.; geol. i razv. 7 no.4:
23-24 Ap '64. (MIRA 18:3)

1. Moskovskiy gosudarstvennyy universitet, Moskovskiy geologorazve-
dochnyy institut im. S.Ordzhonikidze i Tsentral'no-Kazakhstanskoye
geologicheskoye upravleniye.

ZONENSHAYN, L.P.; BERTEL'S-USPENSKAYA, I.A.; SAFRONOV, V.S.; NEYMAN, V.B.;
GENDLER, V.Ye.; CHURIKOV, V.S.; YEREMIN, N.I.; KOGAN, B.S.; YAKOVLEVA,
M.N.; LANGE, O.K.; KABANOV, G.K.; KUZNETSOVA, K.I.; SINITSYNA, I.N.;
SMIRNOVA, T.N.; VENKATACHALAPATI, V.; MASLAKOVA, N.I.; BELOUSOVA, Z.D.;
YAKUBOVSKAYA, T.A.; YURINA, A.L.; RYBAKOVA, N.O.; MOROZOVA, V.G.;
BARASH, M.S.; FONAREV, V.I.; NIKONOV, A.A.

Activity of the Geological Sections of the Moscow Naturalists'
Society. *Biul. MOIP. Otd. geol.* 39 no.6:127-151 N-D '64.

(MIRA 18:3)

YURINA, A.L.

New prefern from the Middle Devonian of Kazakhstan. Paleont.
zhur. no.3:119-122 '65. (MIRA 18:9)

1. Moskovskiy gosudarstvennyy universitet imeni Lomonosova.

YURINA, A.L.

New Devonian species of the genus *Cooksonia* (Psilophytales),
Paleont. zhur. no. 1:107-113 '64. (MIRA 17:7)

1. Moskovskiy gosudarstvennyy universitet.

Thermodynamic study of copolymer solutions. I. *1968*

✓ Effect of chemical structure of butadiene-styrene copolymers on their transformation temperatures. *Chem. Abstr.* 1965, 60:10000. *Chem. Abstr.* 1965, 60:10000. The vitrification temperature of styrene-butadiene copolymers decreases sharply with rising butadiene content from 100°C to 50°C. The glass transition temperature of the copolymers with 10% butadiene is 70°C. The temp. at which fluid flow begins falls sharply with increasing butadiene content.

Chem. Abstr.
2

...with increasing ...
...the content of
...that for
...Et. Ea.
...H. L. ...

Handwritten:
MA
DM
ASH

YURINA, I.V., Cand Agr Sci—(disc) *cluster sowing*
check-row layout "On the planting of apple seeds
and the ~~square and~~ arrangement of plants in the nursery." Len, 1956.
18 pp (Min of Agr USSR. Len Agr Inst) (ML, 22-56, 112)

YURINA, L.V.

USSR / Cultivated Plants. Fruits, Berries.

M-7

Abs Jour : Ref Zhur - Biologiya, No 13, 1958, No. 58736

Author : Yurina, L. V.

Inst : Leningrad Agricultural Institute

Title : Nidus Planting of Apple Trees in a Nursery

Orig Pub : Vestn. s.-kh., 1957, No 9, 117-121

Abstract : Experiments of growing planting material of apple trees, carried out by the Leningrad agricultural institute, showed that nidus planting of growing seedlings, effected according to the method without transplanting, permits to grow in the first field more uniform wilding material, as compared with planting in rows. It permits also to provide seedlings with uniform food area in all fields of the nursery and to obtain a stronger wild material in the grafting period.

Card 1/2

USSR / Cultivated Plants. Fruits, Berries.

M-7

Abs Jour : Ref Zhur - Biologiya, No 13, 1958, No. 58736

Methods of agricultural engineering of nidus plantings
of apple tree seeds are recommended. -- V. M. Kol'

Card 2/2

137

YURINA, M. S., LAVROVA, M. F., and LOMAKINA, N. N.
(USSR)

"A New Antibiotic -- Actinoidin."

Report presented at the 5th International Biochemistry Congress,
Moscow, 10-16 Aug 1961

LOMAKINA, N.N.; YURINA, M.S.; LAVROVA, M.F.; BRAZHNIKOVA, M.G.

Actinoidin and its separation into biologically active variants.
Antibiotiki 6 no.7:609-618 JI '61. (MIRA 15:6)

1. Institut po izyskaniyu novykh antibiotikov AMN SSSR.
(ACTINOIDIN)

BRAZHNIKOVA, M.G.; LOMAKINA, N.N.; LAVROVA, M.F.; TOLSTYKH, I.V.; YURINA,
M.S.; KLYUYEVA, L.M.

Isolation and properties of ristomycin. Antibiotiki 8 no.5:392-
396 My'63 (MIRA 17:3)

1. Institut po izyskaniyu novykh antibiotikov AMN SSSR.

YURINA, N. A. Cand Med Sci -- (diss) "Morphological and histochemical
~~changes~~ ^{formed} in the ~~form~~-elements of blood and bone marrow under conditions of
partial removal and chronic ^{stimulation} ~~irritation~~ of the cerebral cortex." Mos, 1957.

16 pp (1st Mos Order of Lenin Med Inst im I. M. Sechenov), 200 copies

(KL, 3-58, 100)

YURINA, N.A.

Inflammatory reaction in the subcutaneous connective tissue of albino rats to the destruction of the hypothalamus and the simultaneous removal of the adrenal glands. Trudy Un. družh. nar. 7. Vop. med. no.1:158-164 '64. (MIRA 18:9)

1. Kafedra gistologii Universiteta Družby Narodov imeni Patrisa Lumumby, Moskva.

YURINA N. A.

USSR / Human and Animal Physiology (Normal and Pathological). Blood. General Problems T

Abs Jour: Ref Zhur-Biologiya, No 21, 1958, 97364

Author : Yurina, N. A.

Inst : Moscow First Medical Institute

Title : The Influence of Partial Removal and Chronic Irritation of the Cortex of Large Hemispheres on Morphologic Composition of Blood and Bone Marrow

Orig Pub: Tr. 1-go Mosk. med. in-ta, 1957, 2, 160-165

Abstract: The blood of 35 male rats after partial bilateral decortication (D), 35 after chronic irritation of the cortex (ChI), and 30 after trepanation (T; control) was investigated. After D in the first days the number of erythrocytes (E) decreased by 800 M--

Card 1/5

USSR / Human and Animal Physiology (Normal and Patho-
logical). Blood. General Problems

T

Abs Jour: Ref Zhur-Biologiya, No 21, 1958, 97364

one million per cubic millimeter, Hb by 10 to 20 percent; the number of reticulocytes (R) on the third to fifth day increased to 100 to 120 percent. From the first day leucocytosis developed, maximal (up to 20,000) between the seventh and 14th day. During the first seven days the number of neutrophils (N) increased, that of eosinophiles (Eph) decreased; the content of lymphocytes and Eph increased in the second and third week. During the third and fourth week normalization took place and then the number of E increased to 8 to 9 million per cubic millimeter. With Chi the number of E decreased by 300 to 500 M per cubic millimeter, Hb by 5 to 8 percent. From the third week the number of E increased, and on the fourth to sixth week

Card 2/5

10

USSR / Human and Animal Physiology (Normal and Patho-
logical). Blood. General Problems

T

Abs Jour: Ref Zhur-Biologiya, No 21, 1958, 97364

exceeded the original by 100 to 200 M per cubic millimeter; the number of R increased on the fifth to sixth day, reached the maximum by the 10th day, and from the third week decreased, but by the 35th day remained 3 to 6 percent over the standard. Maximal leucocytosis was observed in the third week. In the first days the number of N and Eph increased and on the 14th to 21st day that of lymphocytes and Eph increased. Normalization took place in six weeks. Then the number of E increased up to 10 million per cubic millimeter. After T the number of E decreased during the first day to 300 to 600 M per cubic millimeter and Hb by 3 to 5 percent; L increased up to 10,000 per cubic millimeter. By the third day the number of R increased; normali-

Card 3/5

USSR / Human and Animal Physiology (Normal and Pathological). Blood. General Problems T

Abs Jour: Ref Zhur-Biologiya, No 21, 1958, 97364

zation took place on the 8th to 10th day. After D, the number of erythroblasts (EB) in bone marrow (BM) increased. The figures of mitotic and amitotic cell division appeared. In nuclei there was much DNA. The number of basophiles sharply decreased on the 7th to the 14th day and later increased up to standard. On the 30th to 48th day erythropoiesis increased and 5 to 7 percent of promyelocytes were found; the number of megakaryocytes decreased on the first day and again increased on the 14th, 21st, and 30th days even higher than standard. After 40 to 45 days leucopoiesis normalized. The number of EB remained increased. With ChI, in BM after four to seven days, erythropoiesis increased but to a smaller degree than by D. The

Card 4/5

USSR / Human and Animal Physiology (Normal and Pathological). Blood. General Problems T

Abs Jour: Ref Zhur-Biologiya, No 21, 1958, 97364

number of lymphocytes increased, segmento-nuclear N, and particularly that of eosinophylic myelocytes (up to 18 to 20 percent). The number of basophiles sharply decreased on the 7th to 14th days. Toward one and one-half to two months, EB were still predominant; a high percentage of Eph was found. In the first days after T the number of Eph increased but normalized up to the 30th day; the number of basophiles decreased on the 7th to 14th days but came up to standard by three weeks. The number of megakaryocytes decreased during the second week and was normal by the 21st to 23rd days. Restoration of hemopoiesis ended by 30 days. --A. D. Beloborodova

Card 5/5

YURINA, N.A.

Cytochrome oxidase in the formed elements of the blood and bone marrow under normal conditions and following partial decortication and long-term stimulation of the cerebral cortex. Trudy 1-go MMI 2:166-170 '57. (MIRA 12:10)

(CYTOCHROME OXIDASE) (CEREBRAL CORTEX) (BLOOD--EXAMINATION)
(MARROW)

L 4090-66 EMT(m)/EPF(c)/EWP(j) RM SOURCE CODE: UR/0286/65/000/017/0067/0067
ACC NR: AP5026777

INVENTOR: ⁴⁴Zimh, E. V.; ⁴⁴Reykh, V. N.; ⁴⁴Borisova, T. A.; ⁴⁴Yurina, N. G. ²⁶₃

ORG: none
TITLE: Vulcanization of carboxylated rubbers. Class 39, No. 174353 ⁴⁴₅ (announced by
All-Union Scientific Research Institute of Synthetic Rubber im. Academician S. V.
Lebedev (Vsesoyuznyy nauchno-issledovatel'skiy institut sinteticheskogo kauchuka))

⁴⁴SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 17, 1965, 67

TOPIC TAGS: synthetic rubber, carboxylated rubber, vulcanization, calcium aluminate

ABSTRACT: An Author Certificate has been issued for a method for vulcanizing carboxylated rubbers with metal compounds. To reduce the tendency of rubber mixtures to premature vulcanization, calcium aluminates, alone or in combination with other vulcanizing agents (peroxides, sulfur), are used as the metal compounds. [EO]

SUB CODE: MF, GC/ SUBM DATE: 12May64/ ORIG REF: 000/ OTH REF: 000/ ATD PRESS: ⁴¹²⁸

Card 1/1

678.028.293

CHESALIN, G.A., kand. sel'skokhoz. nauk; YURINA, N.V.

Effectiveness of chemical weed control among certain vegetable crops.
Agrobiologiya no.4:599-608 J1-Ag '64. (MIRA 17:12)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut udobreniy i
agropochvovedeniya.

S/786/61/000/009/002/006
I065/I242

AUTHORS: B.V.Yerofeyev, S.F.Naumova, V.P.Mardykhin, O.D.Yurina,
A.M.Konovalova

TITLE: The polymerization of ethylene in the presence of butyl
lithium and titanium tetrachloride

SOURCE: Akademiya nauk Belorusskoy SSR. Institut fiziko-organiche-
skoy khimii. Sbornik nauchnykh rabot. no.9. 1961. Monomery,
svoystva i protsessy polucheniya polimerov, 63-70

TEXT: Catalyst systems containing lithium organic compounds are
capable of initiating stereospecific polymerizations. Maximum
yields of polyethylene are obtained at a $C_4H_9Li/TiCl_4$ ratio of
about 2. The activity of the catalyst depends on the atmosphere
in which it was formed. Highest activities were achieved in an
ethylene atmosphere, lowest in nitrogen. The purpose of this work
was to study the mechanism of polymerization of ethylene with
 $C_4H_9Li/TiCl_4$ catalysts. A cylindrical double-jacket glass vessel.

Card 1/2

The polymerization of ethylene in ...

S/786/61/000/009/002/006
I065/I242

equipped with a mechanical stirrer, reflux condenser and gas inlet tube reaching the bottom was used for the polymerizations. The polymerization reactions were continued for 20 mins. at 30°C. The reaction mixture was poured into excess ethanol, the precipitate was collected, washed, and dried in vacuo at 80°C. Viscosities were determined at 135°C. The properties and molecular weights of the polyethylene samples obtained at different $C_4H_9Li/TiCl_4$ ratios are practically independent of catalyst composition (as long as $C_4H_9Li/TiCl_4 > 1$). The order of addition of the catalyst components is of major importance. Fourfold higher activities are obtained when C_4H_9Li solution is added to the $TiCl_4$ solution. These observations can be explained tentatively by assuming the formation of the very unstable complex $2 C_4H_9Li + TiCl_4$. There are 3 figures and 1 table.

Card 2/2

COUNTRY : USSR
 CATEGOR : Cultivated Plants. Potatoes. Vegetables.
 ANNOT : Cucurbits.
 AUTH. SOURCE : Ref Zhurn - Biologiya, No. 1, 1959, No. 1581
 AUTHOR : YURINA, O.V.
 INST. : Gribovskiy Vegetable Station
 TITLE : Grafting of Pollinated Melon Flowers on Squash.

ORIG. PUB.: Seleksiya i sennovodstvo, 1957, No. 6, 68-71

ABSTRACT : At the Gribovskiy vegetable station, from 1946 through 1951, grafting experiments of squash on pollinated melon flowers were carried out. The squash varieties--Golosemennaya Gribovskaya, Ispravskaya, Vitaminaya and plants of the interspecies of hybrid 31 were used in the nature of the uncultivated plants. Flowers from melon plants of Gruntovaya Gribovskaya, Gribovskaya 13 and from plants of the hybrid Kolkhoznitca x Gribovskaya 13 were taken for grafting. At

CARD : 1/3

COUNTRY :
CATEGORY :

ABS. JOUR: Bot Zashch-Biologiya, No. 1, 1959, No. 1681

ABSTRACT : the moment of the squash blooming, a prick at a depth of 0.8 -1 cm was made near the top of the stem or in the leaf's base and the squash flower peduncle was inserted after removing from it the epidermis. In the greenhouse the plants were placed in a grafting chamber for a week, their ground was watered while the grafting places were covered with lacer glasses, jars, also for one week duration. Further, the fruit sets are cut off and the top of the grafts were partially pinched. The development period of the melon offsprings on the squash was prolonged considerably in comparison with root-possessing melons and they had a rough network, a hard bark, a notable decrease of dry substances and sugars, and an elevated vitamin C content. Plants, cultivated from

CARD:

2/5

COUNTRY
CATEGORY

ABSTRACT : Ref Zhur -Biologiya, No. 1, 1959, No. 1581

melon seeds, grafted on squash, had stronger stems, bigger leaves and gave a crop which was 1 1/2 - 2 times higher than the control crop. The fruits distinguished themselves by having diverse taste qualities, but in general they were sweeter; however, under storage conditions some plants inherited from squash an increased preservation time. -- O.I. Gorbunova

CARD :

3/3

ACC NR: AT7000938

SOURCE CODE: UR/2850/66/014/000/0222/0225

AUTHOR: Sokol'skiy, D. V.; Goryayov, M. I.; Sarmurzina, A. G.; Dzhardamaliyeva, K. K.
Yurina, R. A.; Dembitskiy, A. D.

ORG: none

TITLE: Liquid-phase hydrogenation of 1-heptene on ruthenium-palladium catalysts of various compositions

SOURCE: AN KazSSR. Institut khimicheskikh nauk. Trudy, v. 14, 1966. Katalizatory, zhidkofaznoy gidrogenizatsii (Catalysts of liquid-phase hydrogenation), 222-225

TOPIC TAGS: hydrogenation, heptene, ruthenium, palladium

ABSTRACT: 1-Heptene was hydrogenated in 96% ethanol at 20°C on Ru-Pd catalysts in which the Ru content was varied (19, 30, 44, 80 wt. % Ru). As the Ru content increased, the hydrogenation rate rose at first, reached a maximum at 70 wt. %, then decreased. The reaction was studied most thoroughly on catalyst with 30% Ru at 10, 20, 30, 40 and 50°. The S-shaped kinetic curves obtained suggest that the hydrogenation is associated with isomerization involving the displacement of the double bond to the center of the molecule and cis-trans isomerization. Chromatographic analysis and IR spectra showed that this isomerization of 1-heptene is limited to the formation of cis- and trans-2-heptene (in 20.5 and 33.7% maximum yield respectively). Orig. art. has 4 figures.

Card 1/1 SUB CODE: 07/ SUBM DATE: none/ ORIG REF: 007/ OTH REF: 008

GORAYEV, M.I.; YURINA, R.A.

Investigating the terpene fraction of the etherial oil from
licorice (*Glycyrrhiza triphilla* Fisch et Mey). Zhur. prikl.
khim. 36 no.5:1112-1116 My '63. (MIRA 16:8)

(Terpenes) (Essences and essential oils) (Licorice)

GORYAYEV, M.I.; YURINA, R.A.; DEMBITSKIY, A.D.

Study of the high-boiling part of the essential oil from
Glycyrrhiza triphilla Fisch et Mey. Zhur.prikl.khim. 38
no.11:2622-2624 N '65. (MIRA 18:12)

1. Submitted October 28, 1963.

USSR

Card 1/1 Pub. A3 - 9/10

Authors : Dekhtyar, K. V.; Dekhtyar, L. M.; and Yurina, T. A.

Title : On the method of studying the phase transformations in non-metallic compounds (ferrites) and metallic alloys

LAVRENT'YEV, P.F.; GOLUBTSOV, V.V.; YURINA, Ye.G.

Mean runoff and its variations in the lake basins of the
Balkhash-Alakul' trough. Trudy KazNIGMI no.18:3-28 '63.

(MIRA 17:4)

VOSKRESSENSKIY, K.A.; YURINA, Yu.V.

Asteromonas gracilis Artari as an object of mass cultivation.
Vest.Mosk. un. Ser. 6: Biol., pochv. 20 no.2:29-35 Kr-Ap '65.

(MIRA 18:5)

1. Kompleksnaya laboratoriya po izucheniyu sredstv i sposobov
bor'by s vrednymi zhivotnymi i boleznymi rasteniy Moskovskogo
universiteta.

YURINA, Ye.V.; ZOLOTAREV, Ye.Kh.

Increase in productivity of *Pyrethrum roseum* Scop. and *Pyrethrum carneum* Scop. Vest. Mosk. un. Ser. 6; Biol., pochv. 19 no.3:48-50 My-Je '64. (MIRA 17:12)

1. Kafedra entomologii Moskovskogo universiteta.

GULIDOVA, I.V.; YURINA, Ye.V.

Water balance of soil and seasonal course of photosynthesis
and transpiration in tree stands. Biul. MOIP. Otd. biol. 67
no.6:102-112 N-D'62 (MIRA 17:7)

ACCESSION NR: AR4036033

S/0299/64/000/006/G008/G008

SOURCE: Referativnyy zhurnal. *Biologiya*, Abs. 6G45

AUTHOR: Ivanov, L. A.; Gulidova, I. V.; Tsel'niker, Yu. L.; Yurina, Ye. V.

TITLE: Photosynthesis and transpiration of woody species in different climatic zones

CITED SOURCE: Sb. Vodn. režim rast. v svyazi s obmenom veshchestv i produktivnost'yu. M., AN SSSR, 1963, 121-128

TOPIC TAGS: photosynthesis, transpiration, tree, climatic zone, drought, forest ecology

TRANSLATION: Generalized material is presented which was obtained in different climatic zones (Kadnikovsk forest preserve in Vologda oblast, Serebryanobrosk forest preserve in Moscow oblast, Tellermanovsk forest preserve in Voronezh oblast, Derkul'sk forest preserve in Lugansk oblast). The photosynthesis were determined by the method of Ivanov and Kossovich, usually on uncut shoots. Transpiration was determined by the method of rapid weighing. The data obtained on the principal forest species, the English oak and the birch, were analyzed in detail. Comparison of the average seasonal indices for the intensity of photosynthesis, respiration, and transpiration of the leaves showed that the species differences are masked by ecological ones. Under conditions of sufficient moisture, the ratio of

Card 1/2

YURINA, YE. V.

Inst of Forestry, Acad Sci USSR. Moscow, 1956

YURINA, YE. V.: "The photosynthesis of basic field-protective crops under conditions of sufficient and insufficient moisture." Inst of Forestry, Acad Sci USSR. Moscow, 1956
(Dissertation for the Degree of Candidate in Biological Sciences)

SO: Knizhnaya Letopis', No. 20, 1956

YURINA, YE. V.

USSR/Physiology of Plants - Photosynthesis.

I-1

Abs Jour : Ref Zhur - Biol., No 3, 1958, 10358

Author : Yurina, Ye.V.

Inst : Institute of the Forest, Academy of Sciences USSR

Title : Photosynthesis of Tree Varieties Under Conditions Both of Sufficient and of Insufficient Moisture.

Orig Pub : Fiziol. rasteniy, 1957, 4, No 1, 60-71

Abstract : The intensity of photosynthesis and respiration (determined by Ivanov and Kossovich's method on uncut shoots of the middle part of the crown) of British oak, sharp-leaf maple, common ash, fluffy ash, and yellow acacia was much higher under conditions of sufficient moisture (Serebryanobor forest area) than when there was insufficient moisture (Derkul'skaya steppe). The oak proved to be the hardiest of all the species. During vegetation there was

Card 1/2

ACC NR: AP7007507

SOURCE CODE: UR/0444/66/000/005/0035/0038

AUTHOR: Yurina, Ye. V.; Pakhomova, M. V.

ORG: Zoological-Entomological Laboratory, Moscow State University (Zoologo-entomolo-gicheskaya laboratoriya Moskovskogo gosudarstvennogo universiteta); Department of Plant Biochemistry, Moscow State University (kafedra biokhimi rasteniy Moskovskogo gosudarstvennogo universiteta)

TITLE: The effect of nitrogen feeding sources on the growth of the green alga *Asteromonas gracilis* Artari and its biochemical composition

SOURCE: Moscow. Universitet. Vestnik. Seriya VI. Biologiya, pochvovedeniye, no. 5, 1966, 35-38

TOPIC TAGS: nitrogen ^{fertilizer,} feeding, algae, plant growth, plant chemistry, photosynthesis, DNA, RNA

ABSTRACT: Investigations of the effect of nitrogen feeding sources on the growth *A. gracilis* studied the following indices: growth rate of cultures grown on various nitrogen sources (urea and ammonium nitrate), photosynthesis intensity, and biochemical analysis. Data showed that culture growth rate was significantly higher in the urea culture (20% increase in biomass

Card 1/3

UDC: 581.133:582.26

ACC NR. AP7007507

quantity) than in ammonium-nitrate cultures. Photosynthesis intensity of *A. gracilis* increased an average 30% in urea cultures as compared to ammonium-nitrate cultures (see Table 1). It was established that maximum

Table 1. The effect of nitrogen feeding source on the photosynthesis intensity of *A. gracilis*

Culture, number of cells / 1 cm ³	Series 1		Series 2	
	$\mu\text{l O}_2$	%	$\mu\text{l O}_2$	%
C-1.10 ⁶	13.5±0.3	100	15.0±0.7	100
M-1.10 ⁶	16.1±0.5	123	20.3±0.5	136

photosynthetic intensity occurs in the immature period of the culture when its density is small, and that intensity drops significantly as density increases. Data on the chemical composition of algae are presented in Table 2. Quantitative content of RNA changes sharply during culture growth

ACC NR: AP7007507

Table 2. Chemical composition of algae (in % to organic part of algae)

Culture, number of cells/1 cm ³	General	Protein	Non-protein	RNA	DNA	Protein	RNA	DNA	Total nucleic acid	Carbohydrate	General phosphorus	Raw fat	Ash content*
M-2.10 ⁶	8.27	6.91	1.36	0.47	0.054	13.18	2.84	0.32	3.16	6.45	1.15	24.24	13.6
M-4.10 ⁶	7.90	7.20	0.70	0.17	0.047	15.0	1.01	0.28	1.29	6.59	0.84	36.18	8.93
C-2.10 ⁶	8.38	6.70	1.68	0.57	0.046	11.87	3.46	0.27	3.73	6.51	1.28	23.48	15.2
C-4.10 ⁶	8.45	7.32	1.13	0.43	0.051	15.75	2.61	0.30	2.91	7.20	1.21	29.44	18.5

*Ashes are calculated in % to absolutely dry weight of algae and development. RNA content is 2.5 times greater in a younger culture grown on urea with 2.10⁶ kl/cm³ density than in a culture with 4.10⁶ kl/cm³ density. A similar reduction of RNA was also noted in ammonium-nitrate cultures. The large quantity of RNA in both investigated cultures with 2.10⁶ kl/cm³ density confirms the higher level of biochemical activity in the young algae cells. Quantitative content of DNA, proteins, fats, and polysaccharides neither changes during culture growth nor depends essentially on nitrogen source. Orig. art. has: 1 figure and 2 tables. [SW]

SUB CODE: 06/ SUBM DATE: 10Dec65/ ORIG REF: 004/ OTH REF: 002
 ATD PRESS: 5117

Card 3/3

REF ID: A66448
CLASSIFICATION: CONFIDENTIAL
AUTHORITY: EHP(a)/EHP(b)/EHP(c)
BY: [unclear] ID/NW/MW/WB/DJ/MLK/WH

ACCESSION NO: AT4045569

S/0000/64/000/000/0293/0300

AUTHOR: Anisimova, I. V.; Gushchina, I. I.; Yarina, Z. I.

TITLE: Glass lubricants in machine building

3

SOURCE: *Novyye materialy v mashinostroyeni* (New materials in machinery manufacturing) Moscow, Izd-vo Mashinostroyeniya, 1964, 293-300

ABSTRACT: Glass lubricant used in hot pressing, pressing lubricant, pipe manufacturing, forging, stamping

ABSTRACT: In connection with the production of pipes, bars, and other shapes from materials with low ductility, such as nickel alloy steels, and heat-resistant and corrosion-resistant alloys, glass lubricants have been developed for effective lubrication during hot working (1200-1600C). However, each technological process, type of metal, and shape of product requires special glass lubricants because of the different interactions between glass and different metals and the high temperature of working. The physical form (powder, liquid, etc.) and the method of application also vary. This article describes the different types and use of glass lubricants in the Soviet Union. It also describes the construction of bars (glass lubricant in the hot rolling process) and other articles. It also gives details (application of suspended

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ACCESSION NO. AF4345904

glass lubricant: cleaning and flowing of details after heating of blanks in a glass bath, and protection of metals and alloys from oxidation during heat treatment (working with molten glass suspension). The chemical composition of glass lubricants is usually close to that of industrial glass. However, some alloys require a special composition. Most frequently, three types of glass are used: borosilicates with a low alkali content, silicates together with boron and lead compounds, and alkali silicates. The first group exhibits good wetting properties and forms a continuous protective coating on the part. Boron-free glasses with a high alkali content do not produce a continuous protective coating because of high surface tension. Alkali boron-free glasses are used for protection against oxidation in a bath, and for non-suspension lubrication. The presence of lead oxide prevents the use of a glass lubricant at temperatures above 1100-1200C because of lead deposition on the surface of the part. A correctly selected glass lubricant covers the part with a uniform protective coating, does not react with the metal, protects it from oxidation, dissolves scale, and is easily removed after working. As shown in Fig. 1 of the Enclosure, "long" and "short" glasses can be distinguished from the relationship between viscosity and temperature. For lubrication, "long" glasses are generally used with a viscosity of 10^2 -- 10^4

Cont. 4

1. 1969. 05

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... components which regulate the viscosity include the oxides of sodium, potassium, lead, silicon, aluminum, calcium, and magnesium. An increase in the boron oxide content improves the wetting properties of glass on alloys with chromium, nickel, and titanium. The granular form of glass lubricant (frit) is produced by flattening molten glass in water. To obtain the suspension type of lubricant, glass is ground in vibration mills, and afterwards mixed with water. Iron alloy steels and carbon steels react violently with suspension glass lubricants (see references page 100). For such steels, an adhering glass coat is undesirable, following hot working. A promising trend is the use of glass suspensions as a protective coating during heat treatment, for example for pipe manufacture in hydroblast press. Original has: 3 figures.

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