ANGERT, L.G., kand.khimicheskikh nauk; ZENCHENKO, A.I.; KUZ'MINSKY, A.S., doktor khimicheskikh nauk

Volatilization of ingredients from crude and vulcanized rubbers. Trudy NIIRP no. 6:92-101 '60. (MIRA 13:12)
(Rubber)

85656

15.9300 (1451, 2209, 2109)

S/138/60/000/009/003/012
A051/A029

AUTHORS: Angert, L.G.; Kuz'minskiy, A.S.

TITLE: Aging of Rubbers Vulcanized with Thiuramdisulfides

PERIODICAL: Kauchuk i Rezina, 1960, No. 9, pp. 15 - 20

TEXT: The aging regularities of thiuramdisulfide-vulcanized rubbers (i.e., thiuram rubbers) and the causes of their heat resistance were studied. The СКБ (SKB) polybutadiene polymer was used as the object of investigation, as well as its non-filled and partially-filled vulcanizates. The aging process of the materials was characterized by the oxidation kinetics, which, in turn, was determined on a "micro-oxidation apparatus" (Ref. 5). The stability index was determined by the oxidation rate in an induction period and by the duration of this period. The change in structure of the vulcanizate during the aging process was determined by the magnitude of the static modulus, i.e., the vulcanizate modulus determined after 3 hours of relaxation of tension in the sample at a constant load. The temperature range of the investigation was between 130 - 150°C. The effect of the presence of zinc oxide in the rubber mixture on the heat-resistance of the vulcanizates was determined. A high heat-resistance was obtained in the presence

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Aging of Rubbers Vulcanized with Thiuramdisulfides

of zinc dithiocarbamates, which are effective inhibitors of the oxidation process. They are formed by a reaction between the zinc oxide and the dithiocarbamic acid. In the oxidation of the I vulcanizate, from which all free ingredients were extracted, the induction period was absent, an autocatalytic process began at the start, and the sample rapidly deteriorated, since in this case the pure polymer was subjected to oxidation, encased primarily by transverse bonds of the C-S-C type. Thus, the effects of the individual free components on the oxidation process of vulcanizate I were investigated, and it was noted that zinc oxide hardly affects the oxidation process, thiuram has only a slight effect and zinc diethyldithiocarbamate is a strong inhibitor, especially at a temperature of 130°C. However, the latter does not inhibit the process of thermal change of the rubber when oxygen is absent. In investigating the reaction mechanism of the dithiocarbamates as oxidation inhibitors it was found that during the inhibition process part of the zinc dithiocarbamate gradually reacts with the molecules of the polymer, as a result of the interaction of the dithiocarbamate with the ROO', RO' or R' radicals, or with the intermediate, non-stable products, such as ROOH, RCHO, forming during the oxidation of the polymer. The data obtained revealed that dithiocarbamate could not act as an inhibitor of the thermal change in the polymer, and therefore, does not react with hydrocarbon radical (R'). Its action

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A051/A029

Aging of Rubbers Vulcanized with Thiuramidisulfides

should be directed at oxygen-containing active centers of the polymer being oxidized. In studying the effect of the mutual action of dithiocarbamate and phenyl-β-naphthylamine on the rubber aging process it was seen that the addition of phenyl-β-naphthylamine to a nonfilled thiuram vulcanizate (containing dithiocarbamate) is rather effective. However, the effect of phenyl-β-naphthylamine in filled thiuram rubbers depends on the rubber contained in it. Phenyl-β-naphthylamine and dithiocarbamate taken together are most effective as inhibitors. The most effective salts of dithiocarbamic acid as oxidation inhibitors proved to be the ethyl and butyl derivatives of zinc, copper and bismuth dithiocarbamates. These compounds should be used in combination with antioxidants of the amino-class in order to increase the aging resistance of a number of other types of rubbers. There are 8 figures and 18 references: 9 Soviet, 8 English, 1 German.

ASSOCIATION: Nauchno-issledovatel'skiy institut rezinovoy promyshlennosti (Scientific-Research Institute of the Rubber Industry).

Card 3/3

B021/B059

15,8000 also 1526

S/030/60/000/011/006/026
B021/B059

AUTHORS: Neyman, M. B., Doctor of Chemical Sciences
Kuz'minskiy, A. S., Doctor of Chemical Sciences
Angert, L. G., Candidate of Chemical Sciences

TITLE: Scientific Problems of Polymer Stabilization

PERIODICAL: Vestnik Akademii nauk SSSR, 1960, No. 11, pp. 36-50

TEXT: This paper on the present state and future trends of Soviet research in the field of polymer stabilization is dedicated in its first part to the problem of aging and stabilization of plastic masses, in its second part to the same problems for rubbers. Degradation of polymers under the action of heat, oxygen, light, and radioactive radiation is discussed. Under external affections linkage, formation of structure between the polymer molecules may occur. Degradation as well as structuration lead to unwanted changes of mechanical and electrical properties of polymeric materials. Oxidation inhibitors, photostabilizers, aging inhibitors and other ingredients must be added to polymers in order to guarantee their working and to satisfy technical requirements. Therefore, production of polymers and of various stabilizers must be developed in parallel. Since years K. I. Ivanov

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and collaborators have been investigating the mechanism of oxidation inhibition of lubricants. Shortly ago it was shown in S. S. Medvedev's laboratory that formic acid and formates inhibit oxidizing of hydrocarbons and of some polymers. A. S. Danyushevskiy and collaborators investigated a large number of stabilizers for polyvinylchloride. A. A. Berlin investigated stabilization of polyvinylchloride with epoxy compounds. The mechanism of the oxidation of organic substances, among them also polymers, was explained by a theory of N. N. Semenov. At the Institut khimicheskoy fiziki Akademii nauk SSSR (Institute of Chemical Physics of the Academy of Sciences USSR) it was shown short time ago that during a mild oxidation of some oxidation inhibitors, stable radicals may form, which were discovered by means of the method of electron paramagnetic resonance (Fig. 1). The action of inhibitors is explained according to a theory by N. N. Semenov. Measurements of the induction period and its dependence on inhibitor concentration are mentioned. P. I. Levin and A. F. Lukovnikov investigated in the laboratory of the Institute of Chemical Physics a number of mixtures of mercaptane and sulfides with aromatic amines as inhibitors of thermal oxidation. It is possible to measure the diffusion coefficients of stabilizers with great accuracy by using the method of tagging with radioactive isotopes. This was shown by B. A. Gromov, V. B. Miller, and Yu. A. Shlyapnikov. The

problem of finding appropriate inhibitor combinations for plastics should be solved not only by the Institutes of the Akademiya nauk SSSR (Academy of Sciences USSR) and the Academies of Sciences of the Republics of the Union, but also by the Institutes of the Gosudarstvennyy komitet Soveta Ministrov SSSR po khimii (State Committee of Chemistry of the Council of Ministers USSR) and the laboratories of the schools of higher learning. This paper deals only with a few problems of the manifold rubbers since many articles have been devoted to that task already. The chief reason for thermal aging of rubber at temperatures below 150°C is an oxidation of polymeric molecules with atmospheric oxygen. Secondary amines and phenols serve as oxidation inhibitors of rubber. The aging processes of rubbers are rendered complicated by various impurities. Aging of vulcanized rubbers is different in this respect from ordinary rubber, chiefly because of a number of various free and bound components. The Nauchnyy sovet po vysokomolekulyarnym soyedineniyam (Scientific Council for Highmolecular Compounds) at the Presidium of the Academy of Sciences USSR, together with the State Committee of Chemistry of the Council of Ministers USSR, on June 6, 1960, adopted a joint resolution concerning the development of scientific and industrial research on the stabilization of polymers. This resolution provides the organization of a new laboratory of the Academy of Sciences

USSR in Gor'kiy for the synthesis of stabilizers for the purpose of finding new types of inhibitors. A number of laboratories and test plants for the same purpose is planned for Tambov. The Institute of Chemical Physics and its Noginskiy filial (Noginsk Branch) are expanding their research work on polymers. The following institutes of the Academy of Sciences USSR are intended to be charged with these investigations: Institut elementoorganicheskikh soyedineniy (Institute of Elemental organic Compounds), Institut vysokomolekulyarnykh soyedineniy (Institute of Highmolecular Compounds), as well as the laboratories of the Moskovskiy universitet (Moscow University), Moskovskiy tekstil'nyy institut (Moscow Textile Institute) of the Kazanskiy khimiko-tekhnologicheskiy institut (Kazan' Institute of Chemical Technology), and of a number of schools of higher learning. The laboratories of the following institutes shall be enlarged and new ones for the stabilization of polymers are planned: Fiziko-khimicheskiy institut im. L. Ya. Karpova (Physicochemical Institute imeni L. Ya. Karpov), Institut plasticheskikh mass (Plastics Institute), Institut polimerizatsionnykh plasticheskikh mass (Institute of Polymerized Plastics), Institut sinteticheskogo kauchuka (Institute of Synthetic Rubber), Institut rezinovoy promyshlennosti (Institute of the Rubber Industry), Institut shinnoy promyshlennosti (Institute of Tire Manufacturing), and Institut iskusstvennogo volokna

66230

Scientific Problems of Polymer Stabilization S/030/60/000/011/006/026
B021/B059

(Institute of Synthetic Fiber). A commission with Academician V. A. Kargin in the chair is entrusted with the coordination of the studies on the stabilization of polymers and with the preparation of construction plans for test plants for the sovnarkhoz. In 1961, the Institute of Chemical Physics intends to convene a special conference for the purpose of generalizing work in the field of the degradation and stabilization of polymers. There are 4 figures and 20 references: 17 Soviet, 2 US, and 1 British.

Card 5/5

66699

S/069/60/022/01/001/025
D034/D003

~~5~~ 15.9130

AUTHOR: Angert, L.G., Zenchenko, A.I., Kuz'minskiy, A.S.

TITLE: Volatilization of Ingredients from Polymers

PERIODICAL: Kolloidnyy zhurnal, 1960, Vol XXII, Nr 1, pp 2-8 (USSR)

ABSTRACT: The present study was carried out to establish the empiric rules characterizing the behaviour of ingredients in caoutchouc and rubber under various conditions, and also to consider the problem from the theoretical standpoint. Object of the study was the volatilization of an antioxidant, phenyl-β-naphthylamine, from a rubber plate, while heating the latter in a gas current. The investigation method was as follows: Sodium butadiene rubber (SKB, without antioxidant) was mixed on micro-rollers with phenyl-β-naphthylamine. From the mixture obtained, plates of a given thickness were pressed. The volatilization of the antioxidant from a caoutchouc plate with

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Volatilization of Ingredients from Polymers

standard surface (150 x 10 mm) was carried out in a glass tube 18 mm in diameter, the caoutchouc sample being placed on a glass support. The tube was laid into a horizontal tube furance heated with a silicone liquid which was forced in from a Vobser (sic) thermostat (see diagram). The nitrogen current passing through the tube carried the vapors of the antioxidant from the heated tube section into an attached trap immersed into a cooling mixture. The antioxidant condensing in the trap was quantitatively determined with the colorimetric method. The volatilization process was studied at temperatures above 100 C. The rate of volatilization of the antioxidant was determined with respect to the velocity of the nitrogen current passing over the plate, to the plate thickness and to the initial concentration of the ingredient. The activation energy of the volatilization process is

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Volatilization of Ingredients from Polymers

equal to 14,0 kcal/mole. It could be observed that the rate of volatilization of phenyl-β-naphthylamine decreases in accordance with the following order of polymers: polyethylene > fluororubber > SKB > SKS-30 > SKN-26 > nairite. The rate of volatilization sharply falls with increasing density of the three-dimensional network of the vulcanizate and also declines in the presence of a filler. The proposed mechanism of this volatilization process was confirmed by corresponding theoretical calculations, as a result of which the equation

$$\frac{c}{c_o} = 1 - e^{-\frac{m}{R}t} \qquad (13)$$

(c - amount of ingredient volatilizing during the period t; c_o - initial amount of ingredient in the rubber (percent by weight); m - constant; R - thickness of rubber plate (in cm)) could be found. The vulcanisates used to

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NEYMAN, M.B., doktor khim.nauk; KUZ'MINSKIY, A.S., doktor khim.nauk; ANGERT, L.G., kand.khim.nauk

Problems in the stabilization of polymers. Vest.AN SSSR 30 no.11:30-50 N '60. (MIRA 13:11)
(Plastics) (Rubber, Artificial)

Angert, L.G.

S/080/60/033/[illegible]

AUTHORS: Kus'minskiy, A.S., Gol'[illegible], [illegible], [illegible] A.I., Kos[illegible], A.P., [illegible], G.I., [illegible]

TITLE: The Synthesis of Some Thi[illegible] Derivatives and the Study of Their Behavior as Rubber Ingredients (Accelerants and Anti-oxidants). Communication 2.

PERIODICAL: Zhurnal prikladnoy khimii, 1960, Vol 33, No 5, pp 1152 - [illegible]

TEXT: Some azomethines of the thiophene series are [illegible] of the vulcanization process [Ref 1], some of them being also [illegible] [Ref 2] which is important for the cable industry. The most suitable [illegible] are those containing hydroxyl groups. Other substances of this type were synthesized, therefore, which differed only in the position of the hydroxyl groups. The following substances were synthesized: bis-[2-thenylid[illegible]]-hydrazine, bis-[5-methyl-2-thenylidene]-hydrazine, bis-[2-[illegible]ylidene]-[illegible]-phenylenediamine, 5'-methyl-2'-thenylidene-6-amino-2-mercaptobenzothiazole, 5-methyl-2-thenylidene-o-aminophenol and 2'-oxybenzylidene-2-[illegible], as well as two new sulfides: [β-oxyethyl]-2-thenylsulfide and 2-thenyl-[n-oxyphenyl]-sulfide. The two sulfides mentioned and 2'-thenylidene-6-

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amino-2-mercaptobenzothiazole and 6-amino-2-mercaptobenzothiazole are accelerants, but their efficiency is less than that of mercaptobenzothiazole. It was evident that the hydroxyl group positively affects the accelerating action of the compounds, if it is located in the para-state of the benzene ring. The introduction of molecules of mercaptobenzothiazole of the amino-group into the benzene ring decreases the efficiency of the compound. A further complication of the molecule decreases the efficiency still more. The cause of these phenomena is not known at the present time. The principal role in the accelerating action of the compounds considered is played by the hydroxyl group.
There are 4 tables and 5 references: 2 Soviet, 2 English and 1 German.

SUBMITTED: August 20, 1959

Card 2/2

26880

S/081/61/000/013/020/028
B117/B203

15.9300

AUTHORS: Angert, L. G., Zenchenko, A. I., Kuz'minskiy, A. S.

TITLE: Volatilization of ingredients from rubbers

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 13, 1961, 652, abstract 13П328 (Tr. N.-i. in-ta rezin. prom-sti, sb. 6, 1960, 92-101)

TEXT: The authors studied the kinetics of volatilization of Neozone D in N_2 flow from СКБ(SKB) plates with a standard surface and given thickness (h). The kinetic curves were described with an equation of the type $C/C_o = [1 - \exp(-kt)]$ (I), where C is the amount of ingredient volatilized at the instant t, in % by weight of rubber; C_o the initial amount of the ingredient; and K the rate constant of volatilization. The activation energy (E) of the process is 14 kcal/mole. The equation $K = K_o[\exp(-E/RT)][(\omega_t/(b + \omega_t)](1 + aC_o)/h$ (II) was derived on the basis of the found dependences of K on temperature (T), flow velocity of the gas (ω_t), C_o, and h. K_o is a constant depending on the nature of the

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substance studied and of the polymer. a and b are experimentally found. The loss of ingredient can be calculated from (I) and(II) for various polymers and test conditions. The volatilization rate decreases in the order of polymers: polyethylene>fluorine rubber>polybutadiene rubber>СКС-30 (SKS-30)>СКН-26 (SKN-26)>nairit (this agrees with data on the change in solubility); volatilization of SKB is slowed down by introduction of filler, more by channel black than by chalk. In radiation vulcanizates of SKB, volatilization is slowed down by an increase in density of the lattice. [Abstracter's note: Complete translation.]

Card 2/2

ANGERT, L.G.; ZENCHENKO, A.I.; KUZ'MINSKIY, A.S.

Structure of butadiene-methylvinylpyridine crude rubber and of vulcanized rubbers based on it. Kauch.i rez. 21 no.9:5-8 S '62. (MIRA 15:11)

1. Nauchno-issledovatel'skiy institut rezinovoy promyshlennosti.

(Rubber, Synthetic)
(Butadiene) (Pyridine)

ANGERT, L.G.

Chlorosulfinated polyethylene

Report submitted for the 4th Scientific research conference on the chemistry and technology of synthetic and natural rubber, Yaroslavl, 1962

ACCESSION NR: AT4029924 S/3087/62/001/000/0123/0131

AUTHOR: Belorossova, A. G.; Tsaylingol'd, T. A.; Epshteyn, V. G.; Angert, L. G.

TITLE: Phenyl-β-naphthylamine derivatives as caoutchouc and rubber stabilizers

SOURCE: Yaroslavl'. Tekhnologicheskiy institut. Khimiya i khimicheskaya tekhnologiya, vol. 1 (8), 1962, 123-131

TOPIC TAGS: caoutchouc, rubber, phenyl, alkylation, phenyl derivative, amine, neozone-D,

ABSTRACT: The authors obtained alkylated derivatives of phenyl-β-naphthylamine which contain different quantities of carbon atoms in the alkyl group. A description of various derivatives is given. Secondary amine derivatives of phenyl-β-naphthylamine were obtained and identified; part of them have not been described in literature. The obtained products were tested as anti-oxidants and age resistors of caoutchouc and rubbers. It was shown that the tested products were anti-oxidants. In their protective effect against rubber aging, they were quite close to one another and similar to neozone-D. The best results, as an oxidation inhibitor and a substance which prevents heat aging, were shown by isopropyl-phenyl-β-naphthylamine which exceeded the currently used neozone-D in the indicated properties. Orig. art.

Card 1/2

ACCESSION NR: AT4029924

has: 3 figures.

ASSOCIATION: none

SUBMITTED: 00	DATE ACQ: 29Apr64	ENCL: 00
SUB CODE: CH	NO REF SOV: 003	OTHER: 001

Card 2/2

L 13538-63 EPR/EWP(j)/EPF(c)/EWT(m)/BDS AFFTC/ASD Ps-4/Pc-4/Pr-4 RM/WW

ACCESSION NR: AP3003288 S/0138/63/000/006/0013/0017 72 70 15

AUTHOR: Angert, L. G.; Andreyeva, A. I.; Kuz'minskiy, A. S.

TITLE: Aging of vulcanized rubbers derived from methylvinylpyridine rubber under static compression

SOURCE: Kauchuk i rezina, no. 6, 1963, 13-17

TOPIC TAGS: compression, static compression, aging of rubber, modulus of compression, kinetics of relaxation, thiuram resins, deformation

ABSTRACT: The present study was undertaken to test the aging of vulcanized rubber articles subject to pressure in hydraulic installations. Six vulcanized rubbers were prepared on a 85% butadiene- and 15% 2-methyl-5-vinylpyridine base. Cylinders (8 by 10mm) were squeezed in a vise at a constant 30% deformation and allowed to age in the air and in nitrogen for a period of 10-20 days, at temperatures ranging from 100-150C. The modulus of initial stress of the vulcanized rubbers and the magnitude of their residual deformation were determined. It was found that the rubbers vulcanized with thiuram as well as with tetrachlorquinone were the most resistant to aging. Unlike the usually observed relationship between the rates of chemical relaxation and the accumulation of residual

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L 13538-63
ACCESSION NR: AP3003288

deformation in rubbers vulcanized with thiuram, sulfur, Altax, and tetraquinone, the present study showed the accumulation of residual deformation proceeding faster than the relaxation of stress. This may be due to the predominance under these conditions of structuration processes. The effect on aging of several organic antioxidants was also studied. Of these p-oxiphenyl-beta-naphthylamine was found to be the most effective in rubber vulcanized with sulfur and Altax. Orig. art. has: 4 charts and 2 tables.

ASSOCIATION: Nauchno-issledovatel'skiy institut rezinovoy promy*shlennosti (Scientific Research Institute of the Rubber Industry)

SUBMITTED: 00	DATE ACQ: 10Jul63	ENCL: 00
SUB CODE: 00	NO REF SOV: 007	OTHER: 002

Card 2/2

L 13662-63 EWP(j)/EPF(c)/EWT(m)/BDS AFFTC/ASD Pc-4/Pr-4 RM/WW

ACCESSION NR: AP3001428 S/0138/63/000/004/0017/0020

AUTHOR: Lyubchanskaya, L. I.; Degteva, T. G.; Angert, L. G.; Kuz'minskiy, A. S.

TITLE: Accelerated method for determining the guaranteed storage life span of vulcanized rubbers

SOURCE: Kauchuk i rezina, no. 4, 1963, 17-20

TOPIC TAGS: vulcanized rubber, storage life, creep, stress, relaxation, thermal aging, extension

ABSTRACT: The principle of the method proposed by the authors consists in extrapolating the recorded aging rate of rubbers at high temperatures to fit the thermal conditions of the storage place. To this end it was important not only to select tests sensitive to changes associated with the aging of rubber but also to make sure that the said changes were proceeding at an even rate. Depending on the actual conditions of storage, the thermal accelerated aging test must be conducted on rubbers either under stress or without it, and in the medium the rubber is surrounded with. It is suggested that the thermal tests be conducted in series at 20C intervals, with an upper temperature level of 90-100C for natural rubber for natural rubber and 110-130C for synthetic rubber. In the present investigation stress was chosen as an index of aging. It was conducted on 10x10-mm plugs of vulcanized SKN-18 rubber

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L 13662-63

ACCESSION NR: AP3001428

under longitudinal pressure stress in an oil medium at 50, 70, 90, and 110C. The magnitude of the stress, sigma, was measured initially and after various time intervals. From these, the kinetics of continuous relaxation of stress as well as the storage life span of rubber SKN-18 at 25C were calculated, the latter amounting to nine years, which approximates the figure found from practice. Orig. art. has: 9 formulas and 3 charts.

ASSOCIATION: Nauchno-issledovatel'skiy institut rezinovoy promy*shlennosti (Scientific Research Institute of Rubber Industry)

SUBMITTED: 00	DATE ACQ: 30May63	ENCL: 01
SUB CODE: 00	NO REF SOV: 009	OTHER: 003

Card 2/2

ANGERT, L.G.; KHANIN, S.Ye.; KUZ'MINSKIY, A.S.

Thermal aging and protection of rubber based on natural caoutchouc.
Kauch. i rez. 22 no.10:19-23 O '63. (MIRA 16:11)

1. Nauchno-issledovatel'skiy institut rezinovoy promyshlennosti.

ANGERT, L.G.; KIRPICHNIKOV, P.A.; KUZ'MINSKIY, A.S.; SARATOV, I.Ye.

Synthesis of mixed esters of α-naphthylphosphorous acid and study of their inhibiting effect in the oxidation of crude and cured rubbers. Zhur. prikl. khim. 36 no.10:2270-2276 O '63. (MIRA 17:1)

L 17562-65 EWT(m)/EPF(c)/EWP(j)/T Pc-4/Pr-4 ASD(p)-3/RAEM(1) RM
ACCESSION NR: AP4049781 S/0138/64/000/011/0004/0010

AUTHOR: Angert, L. G.; Kuz'minskiy, A. S.

TITLE: Aging of chlorosulfopolyethylene

SOURCE: Kauchuk i rezina, no. 11, 1964, 4-10

TOPIC TAGS: chlorosulfopolyethylene, rubber structuring, thermal aging, chlorosulfopolyethylene aging, synthetic rubber, synthetic rubber aging, antioxidant

ABSTRACT: This work is an attempt to improve the thermal-aging resistance of rubber made from this polymer, which is operational only up to 120-130C. By means of qualitative reactions, it was established that molecular chlorine does not separate during heating of the polymer. The cleavage products are HCl and SO_2Cl, groups which, upon liberation, decompose into SO_2 and HCl. The kinetics of this process were investigated and the results plotted. In order to clarify the role of oxygen in the process, a study was made of the kinetics of the separation of these products from the polymer in a nitrogen stream. The absence of oxygen has practically no effect on the rate of cleavage of SO_2, whereas the rate of cleavage of HCl drops about 75%. The stability of the polymer is governed by the processes of dehydrochlorination and oxidation; it is strongly reduced by the influence of

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L 17562-65
ACCESSION NR: AP4049781

carbonyl groups contained in the original polymer. The speed of oxidation of the chlorosulfopropylene is several times greater than that of polyethylene and 33% lower than that of polychloroprene. The chemical changes in the polymer are accompanied by the destruction and structuring of the molecular chains. Structuring is predominant. Aging of chlorosulfopolyethylene can be retarded by the addition of compounds to bind the HCl as well as by "classic" oxidation inhibitors. "The infrared spectra were obtained by N. K. Kosior on an IKS-14 spectrometer, while the EPR spectra were studied in a vacuum by T. Fedoseyeva using the EPR-2 spectrometer." Orig. art. has: 10 figures.

ASSOCIATION: Nauchno-issledovatel'skiy institut rezinovoy promy*shlennosti (Scientific Research Institute for the Rubber Industry)

SUBMITTED: 00 ENCL: 00 SUB CODE: MT

NO REF SOV: 007 OTHER: 002

Card 2/2

L 27866-65 EWT(m)/EPF(c)/EWP(j)/T Pc-4/Pr-4 RM/08

ACCESSION NR: AT4049837 S/0000/64/000/000/0013/0018

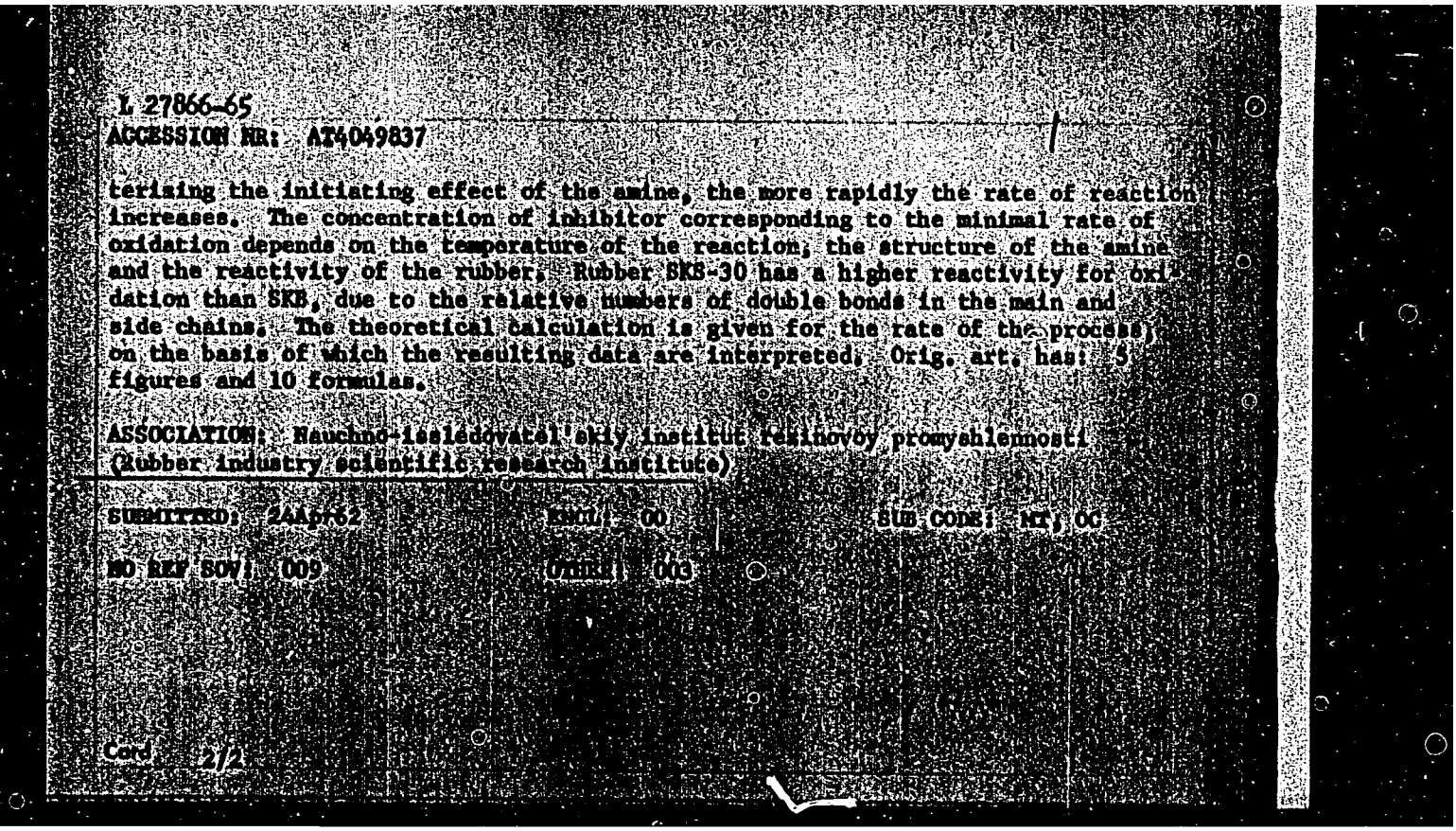
AUTHOR: Angert, L. G.; Kuz'minskiy, A. S.

TITLE: Relationship between the effectiveness of antioxidants for rubbers and their concentrations

SOURCE: Khimicheskiye svoystva i modifikatsiya polimerov (Chemical properties and the modification of polymers); sbornik statey, Moscow, Izd-vo Nauka, 1964, 13-18

TOPIC TAGS: synthetic rubber, antioxidant, aromatic amine, diphenylamine, polybutadiene rubber, butadiene styrene rubber, antioxidant consumption

ABSTRACT: The correlation between the rate of oxidation of rubbers and the concentration of antioxidants of the type of secondary aromatic amines (diphenylamine, phenyl-β-naphthylamine, di-β,β'-naphthylamine) is investigated, using purified polybutadiene and butadiene styrene rubbers as the test samples. At 100C and higher, this correlation for inhibitors containing relatively unstable radicals is described by a curve with a minimum. The kinetic curve of the phenyl-β-naphthylamine consumption during the oxidation of SKB rubber is given. It was shown that the presence of a minimal rate of oxidation is due to the capability of the amine to become an initiator of the oxidative process. The higher the constant charac-



L 27866-65
ACCESSION NR: AT4049837

terizing the initiating effect of the amine, the more rapidly the rate of reaction increases. The concentration of inhibitor corresponding to the minimal rate of oxidation depends on the temperature of the reaction, the structure of the amine and the reactivity of the rubber. Rubber SKB-30 has a higher reactivity for oxidation than SKB, due to the relative numbers of double bonds in the main and side chains. The theoretical calculation is given for the rate of the process on the basis of which the resulting data are interpreted. Orig. art. has: 5 figures and 10 formulas.

ASSOCIATION: Nauchno-issledovatel'skiy institut rezinovoy promyshlennosti (Rubber industry scientific research institute)

SUBMITTED: 24Apr62 ENCL: 00 SUB CODE: MT, OC

NO REF SOV: 009 OTHER: 003

Card 2/2

L 10183-66 EWT(m)/EWP(1)/T RPL WW/RM

ACC NR: AP5028492 SOURCE CODE: UR/0286/65/000/020/0066/0067

AUTHORS: Angert, L. G.; Kuz'minskiy, A. S.; Kovrizhko, L. F.; Piotrovskiy, K. B.; Rayevskiy, A. B.; Sotnikov, I. F.; Ivanova, Z. V.

ORG: none

TITLE: Method for obtaining synthetic rubber. Class 39, No. 175659 [announced by Voronezh Factory for Synthetic Rubber im. S. M. Kirova (Voronezhskiy zavod sinteticheskogo kauchuka)]

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 20, 1965, 66-67

TOPIC TAGS: rubber, synthetic rubber, polymer, copolymer styrene, butadiene

ABSTRACT: This Author Certificate presents a method for obtaining synthetic rubber via an aquo-emulsion copolymerization of butadiene with styrene or α-methyl styrene in the presence of known emulsifiers, initiators, regulators, and buffers and with the use of polymerization terminators. The latter are introduced into the system after obtaining the desired degree of monomer conversion. To increase the variety of polymerization terminators, oxyneozone is used as polymerization terminator. The polymerization process may also be terminated by using oxyneozone along with known polymerization terminators, e.g., sodium dimethyldithiocarbamate.

SUB CODE: 11/ SUBM DATE: 14Jul64

Card 1/1

UDC: 678.762.2—134.622

L 57068-65 EWT(m)/EPF(c)/EWP(j) Pc-4/Pr-4 RM

ACCESSION NR: AP5013050 UR/0190/65/007/005/0765/0771
678.01:53+678.7

AUTHORS: Angert, L. G.; Mikhaylova, G. N.; Kuz'minskiy, A. S. 30

TITLE: The role of oxygen in the mastication of rubber 15 25 B

SOURCE: Vysokomolekulyarnyye soyedineniya, v. 7, no. 5, 1965, 765-771

TOPIC TAGS: rubber, oxygen, mastication, isoprene, IR spectra/ UR 10 spectrometer

ABSTRACT: The role and nature of the oxidation process during rolling of polyisoprene rubber were studied. Chemical changes were identified by IR spectroscopy. The IR spectra were obtained on a UR-10 spectrometer, using the 600-3800 cm^{-1} range, by means of LiF and NaCl prisms. It was found that the rolling of rubber in air without an inhibitor, at temperatures above 80C, causes accumulation of considerable quantities of oxygen-bearing groups. Oxygen may affect the mass in two ways: by mechanically activated oxidation degradation, involving reactions of isomerization and decay of the peroxide radical and also conversion of stable peroxide, and by preventing the recombination of radicals arising during thermomechanical rupture of hydrocarbon chains. The determination of relative importance of these two was made by use of inhibitors, and it was found that the degradation of rubber masticated at high temperatures occurs mainly through oxidative reactions. Mechanical breakdown

Card 1/2

L 57068-65
ACCESSION NR: AP5013050

of the molecular chains becomes the dominant process at moderate temperatures. Here the dominant role of oxygen is retardation of structuration in the polymer by reacting with the recombination radicals. The authors express their thanks to E. G. Rozantsev for supplying the 4-oxypiperidol which was synthesized at the Institute of Chemical Physics AN SSSR in the laboratory of Professor M. B. Neyman. The IR absorption spectra of the rubber were obtained by N. K. Kosior. Orig. art. has: 5 figures.

ASSOCIATION: Nauchno-issledovatel'skiy institut rezinovoy promyshlennosti (Scientific Research Institute of the Rubber Industry)

SUBMITTED: 09May64 ENCL: 00 SUB CODE: MT, OC

NO REF SOV: 020 OTHER: 004

Card 2/2

L 13524-66 EWT(m)/EWP(j) RM

ACC NR: AP6001854 SOURCE CODE: UR/0190/65/007/012/2015/2019

AUTHORS: Angert, L. G.; Mikhaylova, G. N.; Kuz'minskiy, A. S.

ORG: Scientific Research Institute of Rubber Industry (Nauchno-issledovatel'skiy institut rezinovoy promyshlennosti)

TITLE: Effect of oxidation inhibitors upon development of mechanical and chemical processes in rubber

SOURCE: Vysokomolekulyarnyye soyedineniya, v. 7, no. 12, 1965, 2015-2019

TOPIC TAGS: synthetic rubber, oxidative degradation, oxidation inhibition, antioxidant additive / SKI polyisoprene rubber, UR 10 IR spectrometer

ABSTRACT: The effect of secondary aromatic mono- and diamines as oxidation inhibitors (p-phenylenediamine derivatives, $R-NH-C_6H_4-NH-R'$, where R and R' are various alkyl and aryl groups, and phenyl-β-naphthylamine) upon the oxidation and structural changes in polyisoprene rubber SKI during the rolling process was investigated at 30 and 130C. This work is a continuation of the study of chemical processes occurring in rubber during rolling, reported by the authors earlier (Vysokomolek. soyed., 7, 765, 1965). Chemical transformations were investigated by determining the amount of absorbed oxygen, using radioactive methods developed by L. V. Chepel', B. A. Chapyzhnikov, and B. I. Viting (Zh. analit. khimii, 18, 865,

Card 1/3 UDC: 678.01:53+678.41+678.76

1965) and by means of IR spectra using a UR-10 instrument. Structural changes were determined from changes in molecular weight, measured viscosimetrically. The data are summarized in Fig. 1.

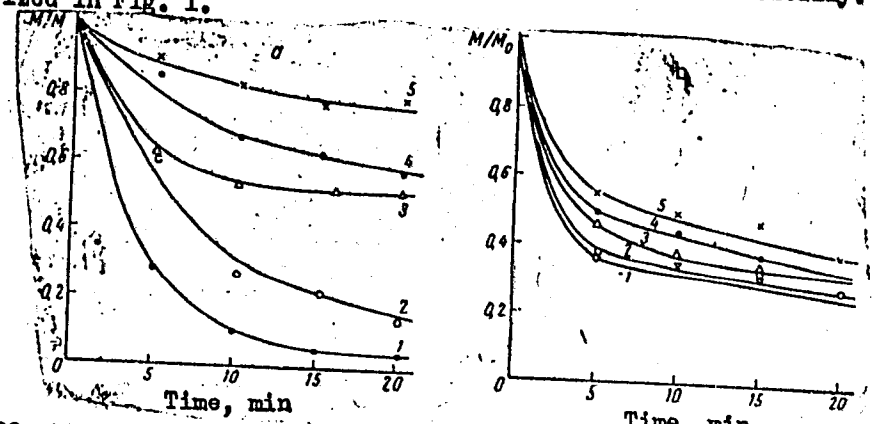


Fig. 1. Effect of amines upon molecular weight changes in rubber during rolling at 130C (a) and 30C (b): 1 - rubber alone; 2 - rubber with phenyl-β-naphthyl-amine; 3 - rubber with N,N'-di-(methylheptyl)-p-phenylene-diamine; 4 - rubber with N-phenyl-N'-isopropyl-p-phenylenediamine; 5 - rubber with N,N'-diphenyl-p-phenylenediamine.

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L 13524-66
ACC NR: AP6001854

It was found that: 1) at high temperatures, where oxidative processes are predominant, the inhibitors are most effective, with more highly conjugated diamines preferable; 2) at lower temperatures, the destruction of the rubber is mainly due to mechanical processes, and inhibitors are ineffective. Radioactive determination of oxygen was performed in the Physico-Chemical Institute, L. Ya. Karpov (Fiziko-khimicheskiy institut). IR absorption spectra were taken by N. K. Kosior. Orig. art. has: 4 figures.

SUB CODE: 11, 07/ SUBM DATE: 07Oct64/ ORIG REF: 014/ OTH REF: 004

Card 3/3

L 42091-66 EWT(m)/EWP(j) IJP(c) JWD/RM

ACC NR: AP6029026 SOURCE CODE: UR/0413/66/000/014/0026/0026

INVENTOR: Ryashentseva, M. A.; Minachev, Kh. M.; Geydysh, L. S.; Kuz'minskiy, A. S.; Angert, L. G.

ORG: none

TITLE: Preparative method for stabilizers of raw and vulcanized rubber. Class 12, No. 183763 [announced by Institute of Organic Chemistry im. N. D. Zelinskiy, AN SSSR (Institut organicheskoy khimii AN SSSR); Scientific Research Institute of the Rubber Industry (Nauchno-issledovatel'skiy institut rezinovoy promyshlennosti)]

SOURCE: Izobret prom obraz tov zn, no. 14, 1966, 26

TOPIC TAGS: stabilizer, ~~raw~~ natural rubber, ~~vulcanized~~ synthetic rubber, ~~hydroquinone, paraphenylene-diamine, ketone alkylation~~ + vulcanization

ABSTRACT: This Author Certificate presents a method for preparing stabilizers of raw and vulcanized rubber. The method involves alkylation of the hydroquinone—p-phenylene-diamine molecular compound at 150—180C and 110—160 atm. Such ketones as acetone or 2-butanone are used as alkylation agents. Alkylation is conducted in the presence of palladium sulfide and glacial acetic acid. [BO]

SUB CODE: 11/ SUBM DATE: 14Jun65/ ATD PRESS: 5062

Card 1/1 af UDC: 547.553.1'53'023.07

S/138/60/000/002/004/009
A051/A029

AUTHOR: Angert, T.G.

TITLE: The Production of Sponge Articles From Latex in the Soviet Union

PERIODICAL: Kauchuk i Rezina, 1960, No. 2, pp. 12 - 16

TEXT: The author stresses the practical significance of foam rubber products, particularly in the manufacturing of automobile and aircraft seats, furniture, etc. Prior to 1957, the production of foam rubber articles in the USSR was in the initial stages, the Leningrad Rubber Article Plant being the only manufacturer. Its production output was 45-50 tons per year. After briefly outlining the shortcomings of the previous production methods in this field, the author describes the steps taken to enlarge the industry. The organization of mass production was divided into 3 stages: 1) The Balanda Plant was opened for the production of foam rubber goods needed for the "Moskvich" Automobile Plant. The technology was adopted from the Leningrad Plant. The Balanda Plant was the center for research of NIIR. The production project undertaken at the Plant was developed by Rezinoproyekt. 2) A

Card 1/3

S/138/60/000/002/004/009
A051/A029

The Production of Sponge Articles From Latex in the Soviet Union

continuous line of production was opened at the Kursk Rubber Article Plant, which began operating in 1958. Foam rubber products were produced here from latex, using similar technology methods as that of the Balanda and Leningrad Plants. The actual procedure is outlined in detail and the equipment is described. Continuous gelatinization and vulcanization of the products has been introduced as a new method which is also outlined by the author. The chambers used in the process were constructed and designed at the Kursk Rubber Article Plant. Figure 1 is a diagrammatic sketch of the continuous line in the foam rubber production. Drying apparatus and an automatic latex-mixing production line will be introduced in the following year. 3) The third stage in the development of foam rubber production involved the solution of various complex technology and composition problems. The following types of latex were used: revertex "Standard" with the dibutylphthalate substituted by vaseline oil, imported qualitex and the Soviet latex CKC-50 (SKS-50). The number of components of the latex mixture has been reduced and the production process simplified. The hydrodynamic vibrator has been recommended for producing one of the components,

Card 2/3

1. ANGERT, M.

2. USSR (600)

4. Accountants

7. Preparing bookkeepers in technical schools. Bukhg. uchet 12, no. 1, 1953.

9. Monthly List of Russian Accessions, Library of Congress, May 1953. Unclassified.

PHASE I BOOK EXPLOITATION 564

Angervaks, A. T.

Bezobloynaya goryachaya shtampovka v zakrytykh shtampakh (Hot Forging in Closed Dies Without Flash) Leningrad, 1955. 19 p. (Leningradskiy dom nauchno-tekhnicheskoy propagandy. Informatsionno-tekhnicheskiy listok, no. 98 /786/) 7,000 copies printed.

Sponsoring Agencies: Leningradskiy dom nauchno-tekhnicheskoy propagandy, Nauchno-tekhnicheskoye obshchestvo mashinostroitelnoy promyshlennosti. Leningradskoye otdeleniye. Komitet kuznetsov i shtampovshchikov, Vsesoyuznoye obshchestvo po rasprostraneniyu politicheskikh i nauchnykh znaniy.

Ed.: Kamnev, P.V., Candidate of Technical Sciences; Tech. Ed.: Gvirts, V.L.

PURPOSE: This pamphlet should be of interest to design and production engineers in forging shops.

Card 1/2

Hot Forging in Closed Dies Without Flash 564

COVERAGE: This booklet describes hot forging processes without flash as used by a Leningrad machine-building plant. This method is reported to have been successfully introduced by the machine-building plant of the Ministry of Aviation in Leningrad for the purpose of forging steel parts in closed dies without flash. The author claims that forging without flash is more efficient and economical, because trimming operations are avoided and no metal is wasted. Pneumatic and steam hammers as well as screw presses can be used in this process. There are numerous drawings illustrating the various forging presses and dies. No personalities are mentioned. There are no references.

TABLE OF CONTENTS: [There is no table of contents. The subject matter is presented under the following headings:]

AVAILABLE: Library of Congress

Card 2/2

GO/ad
9-15-58

137-1958-3-5057

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 3, p 85 (USSR)

AUTHORS: Eduardov, M. S., Angervaks, A. I., Gil'denblat, S. N., Brover, A. V.

TITLE: Adaptation of Hot Seamless Forging in Closed Dies at Leningrad Plants (Opyt leningradskikh zavodov po vnedreniyu bezobloynoy goryachey shtampovki v zakrytykh shtampakh)

PERIODICAL: V sb.: Kuznechno-shtampovochn. proiz-vo. Leningrad, Lenizdat, 1957, pp 96-111

ABSTRACT: The progressive significance of seamless die-forging (SF) of steels and nonferrous alloys is demonstrated by citing instances in which this method was commercially adapted in the production of forgings (F) shaped as bodies of revolution: lids, plate-like valve discs, syringe tips, as well as F's with an elongated form: coupling pins, and blanks for screws. In order to extend successfully the range of application of the SF method, the following factors must be observed: a) the design of F's must be improved so as to ensure proper filling in of the dies with the material undergoing deformation; b) the blanks (B) must be pre-shaped before placement into the calibers of the seamless dies;

Card 1/2

Adaptation of Hot Seamless Forging in Closed Dies (cont.)

c) precise and clean cutting of B's must be ensured by employing a multi-strip electrolytic-mechanical cutting stand capable of cutting several B's simultaneously; d) contact and induction heating must be adapted in place of the flame-heating method; e) dies must be so designed as to guide the flow of excess metal; f) high-powered crankshaft punch presses must be constructed so as to permit disassembly of dies in two different planes, and be equipped with removal devices and hydraulic safety devices, which, in conjunction with a built-in force-measuring apparatus, would prevent overload conditions. It is most important that the greatest number of production personnel become acquainted with the method of SF, its advantages, and peculiarities.

P. S.

Card 2/2

PHASE I BOOK EXPLOITATION SOV/3676

Angervaks, Al'fred Ivanovich, Engineer

Razrabotka i osvoyeniye protsessa sdvoyennoy bezobloynoy goryachey shtampovki (Development and Practice of Duplex Flashless Die Forging) Leningrad, 1958. 24 p. (Series: Informatsionno-tekhnicheskiy listok, no. 60, Kovka i shtampovka) 6,200 copies printed.

Sponsoring Agencies: Nauchno-tekhnicheskoye obshchestvo Mashproma, Leningradskoye pravleniye. Sektsiya obrabotki metallov davleniyem. Komitet kovki i goryachey shtampovki. Leningrad. Dom nauchno-tekhnicheskoy propagandy, and Obshchestvo po rasprostraneniyu politicheskikh i nauchnykh znaniy RSFSR.

Ed.: P. V. Kamnev; Tech. Ed.: D. P. Freger.

PURPOSE: This booklet is intended for personnel in forging shops.

COVERAGE. The book deals with a method of manufacturing flange nuts and plugs for steel barrels. Both parts are cut from a single blank by the "duplex" method, which involves pressing out the blind flange nut and then cutting

Card 1/2

out the blank for the plug from it. The author claims that this method affords economy of materials, reduces the working cycle, and conserves equipment and manpower. No personalities are mentioned. There are 4 references, all Soviet.

TABLE OF CONTENTS: None given. The book is divided as follows:

AVAILABLE: Library of Congress (S3491)

VK/fal
7-8-60

Card 2/2

PHASE I BOOK EXPLOITATION 892

Angervaks, A.I., Brin, I.D., Gil'denblat, S.N., Golovneva, M.A., Golovnev, Ivan Fedorovich, Kamnev, Petr Vladimirovich, Kutsovskiy, F.V., Plyatskiy, V.M., Sokolov, N.L.

Bezobloynaya shtampovka (Flashless Press-forming) Moscow, Mashgiz, 1958. 294 p. 7,000 copies printed.

Ed.(title page): Golovnev, I.F., Candidate of Technical Sciences; Reviewers: Stel'makov, S.M. Engineer, and Eduardov, M.S., Engineer; Ed.(inside book): Obolduyev, G.T., Engineer; Ed.of Publishing House: Chfas, M.A.; Tech. Ed.: Speranskaya, O.V.; Managing Ed. for literature on the technology of machine building (Leningrad Division of Mashgiz): Naumov, Ye.P., Engineer.

PURPOSE: The book is intended for engineering personnel and it may be useful to students of vtuzes and technical schools.

COVERAGE: The book presents the processes of press forming without flash in closed dies from steel and nonferrous alloys later called

Card 1/5

flashless press-forming. The following suggestions for mastering this process are made: technical and economical indices, rules for designing parts to be made by this process, determining heating regimes preventing scale formation, methods of designing and cutting blanks, determination of capacity of forging equipment, design and calculation of dies, and reference tables. Typical production examples are included (with calculation and drawings for dies) and new data on flashless press forming techniques abroad are presented. There are 32 references of which 21 are Soviet and 11 are English.

TABLE OF CONTENTS:

AVAILABLE: Library of Congress

GO/hcr
12-15-58

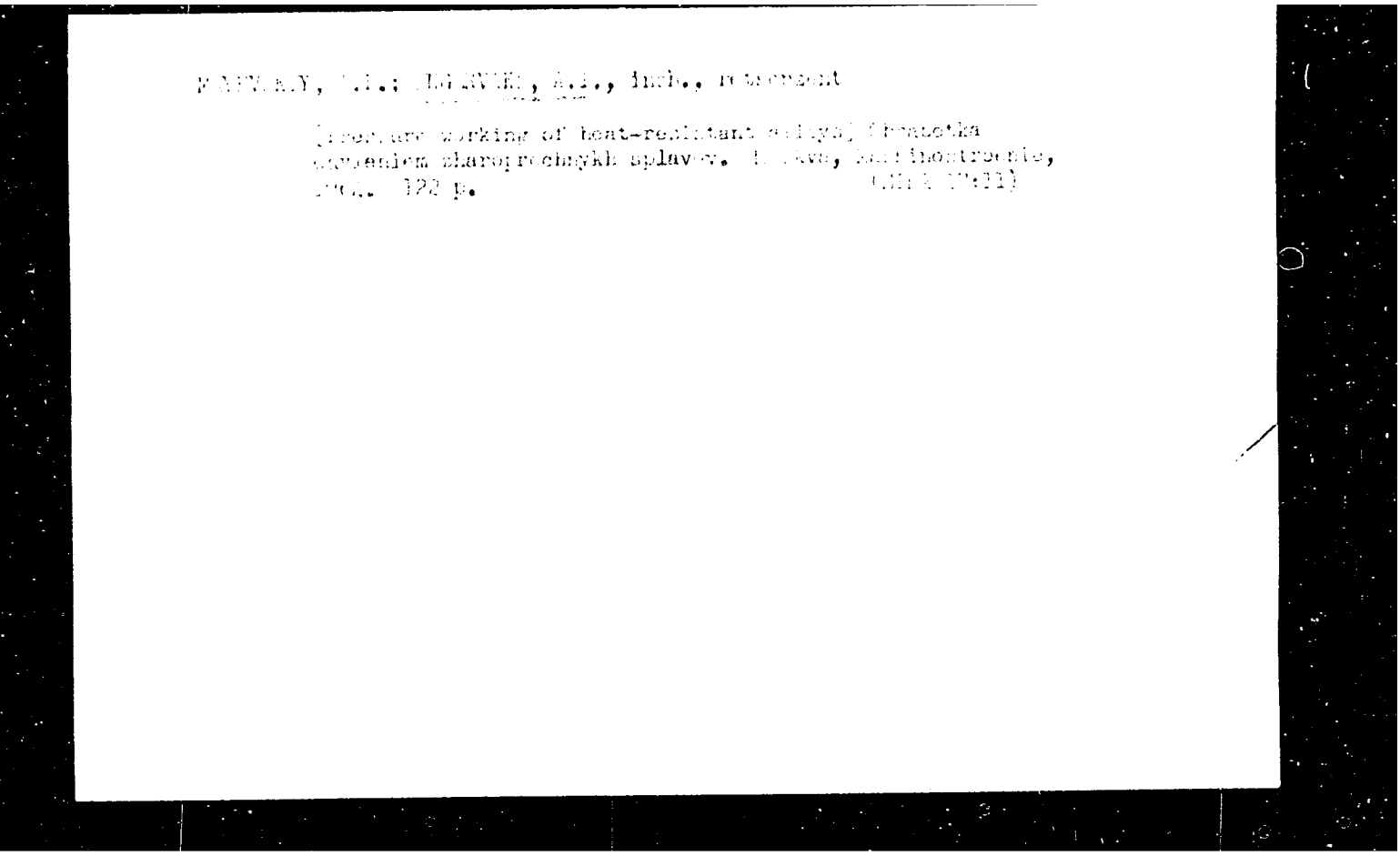
Card 5/5

SMIRNOV-ALYAYEV, G.A., prof., doktor tekhn. nauk; ANGERVAKS, A.I., inzh., retsenzent; KAMAYEV, P.V., kand. tekhn. nauk, red.

[Fundamentals of the calculation of forces in the technology of forging and stamping] Osnovy rascheta usilii v tekhnologii kovki i shtampovki. Izd.2., perer. i dop. Moskva, Izd-vo "Mashinostroenie," 1964. 92 p. (Bibliotechka kuznetsa-novatora, no.2) (MIRA 17:8)

ABRAMYAN, Al'fred Ivanovich; KOLESNIKOV, Adolf Pavlovich; KHRUSHCHEV, S.N., red.

[Precision flashless die forging of bevel gear] bezobtolnaia shtampovka konicheskikh zubchatykh koles s profilem zuba. Leningrad, 1964. 21 p. (MIRA 17:7)



[illegible], V.I.; [illegible], A.I., Inch., reviewer

[Pressure working of heat-resistant alloys] Obrabotka davleniem zharoprochnykh splavov. Moskva, Metallurgiia, 1965. 322 p. (MIRA 17:11)

ANGENVALS, Al'fred Ivanovich, inzh.; [illegible], V.A., red.

[Using glass lubricants in the hot pressure working of metals and alloys] Primenenie stekol dlia smazok pri goriachei obrabotke metallov i splavov davleniem. Leningrad, 1965. 22 p. (MIRA 18:10)

ANGHEL, A.

Aspects for the determination fo dimensions of transmission with cone belts. p. 9, (Standardizarea, Vol. 9, No. 1, Jan. 1957, Bucuresti, Rumania)

SO: Monthly List of East European Accessions (EEAL) Lc. Vol. 6, No. 8, Aug 1957. Uncl.

BARGLAZAN, Aurel, dr. ing. [deceased]; GYULAI, F.; ANGHEL, A.

Experimental research on the conduct of annular chamber in centrifugal pumps. Studii tehn Timisoara 7 no.3/4: J1-D '60.

1. Membru corespondent al Academiei R.P.R. (for Barglazan).

GYULAI, F.; ANTON, Viorica; ANGHEL, A.; DOBINDA, V., ing.; CIOCIRIAN, C.

Station for the experimental research on axial pumps. Studii tehn Timisoara 9 no.1/2:153-161 Ja-Je '62.

1. Secretar stiintific al Comitetului de redactie, "Studii si cercetari, Stiinte tehnice" - Timisoara - (for Dobinda).

PREDA, I.; ANGHEL, A.; BARGLAZAN, M.

Characteristics of the energy and cavitation of the turbines for the Rozrov II. Hydroelectric Plant. Studii tehn Timisoara 10 no.1:21-33 Ja-Je '63.

ANION, I.; PREDA, I.; ANGHEL, A.

Defining the characteristic phases of cavitation in axial turbine functioning. Studii tehn Timisoara 10 no.1:7-19 Ja-Je '63.

ANGHEL, A., Ing.

Conference on Hydraulic Machines, Timisoara, September 23-26, 1964.
Hidrotehnica apele meteor 10 no.2:108 F '65.

L 31829-66 T JK/RM

ACC NR: AP6021177 SOURCE CODE: RU/0026/65/016/005/0399/0401

AUTHOR: Anghel, A. S. 28 B

ORG: Laboratory of Biochemistry, "Dr. Victor Babes" Hospital for Contagious Diseases (Laboratorul de Biochemie, Spitalul de Boli Contagioase "Prof. Dr. Victor Babes")

TITLE: Testing for dyslipoproteinemias in epidemic hepatitis with polyvinyl pyrrolidone

SOURCE: Studii si cercetari de inframicrobiologie, v. 16, no. 5, 1965, 399-401

TOPIC TAGS: hepatitis, protein, serum, metabolic disease, diagnostic medicine

ABSTRACT: The author reports on the polyvinyl pyrrolidone testing of 200 serum samples from patients suffering from epidemic hepatitis. The test was positive in 96.5 percent of the cases, indicating a metabolic disturbance similar to that occurring in atherosclerosis. Orig. art. has: 1 table. [JPRS]

SUB CODE: 06 / SUBM DATE: none / ORIG REF: 004 / OTH REF: 003

Card 1/1 mc UDC: 612.397.2:612.398.2:616.36-002

RUMANIA 616.15-07:616.15

ANGHEL, A. S., of the"Dr V. Babes" Hospital for Infectious Diseases (Spitalul de Boli Infectioase "Dr. V. Babes"), Bucharest.

"The Potential Activity of Serum Aldolase, a New Peculiarity of Infectious Hepatitis."

Bucharest, Studii si Cercetari de Inframicrobiologie, Vol 17, No 4, 66, pp 275-278.

Abstract: The author used comparative determinations in diluted and undiluted sera to show the potential (as opposed to actual) activity of serum aldolase in infectious hepatitis. This activity is only shown in diluted sera. Includes 2 tables and 22 references, of which 10 Rumanian, 3 Russian, 4 German and 5 Western. -- Manuscript submitted 12 January 1966.

1/1

RUMANIA / Organic Chemistry. Synthetic Organic Chemistry. G

Abs Jour : Ref. Zhur. - Khimiya, No. 15, 1958, No. 50289

Author : Anghel, Cecilia
Inst : -
Title : Synthesis of Ethyl and Hydrazide n-Amino Salicilate.

Orig Pub : Studii si cercetari chim. Acad RPR Fil. Cluj, 1956, 7, #1-4, 151-154

Abstract : Using H_2SO_4 BF_3 and $SOCl_2$ as catalysts, ethyl n-aminosalicilate is obtained (I, acid II). The ester is then utilized for synthesis of hydrazide of II (III). 2 grams of II, 2 ml conc. H_2SO_4 and 20 ml of absolute alcohol were heated for 6 hours, then the alcohol was distilled off, and the residue was diluted with twice its amount of

Card 1/3

Abs Jour : Ref. Zhur. - Khimiya, No. 15, 1958, No. 50289

water. The mixture was then neutralized with $NaHCO_3$. (I) was extracted with ether at 25% yield, m.p. 113-114° (from water). (I) may be also obtained with a yield of 33% either by heating 20 ml H_2SO_4, 5 g II and 50 ml of absolute alcohol, or by keeping a mixture of 50 ml of absolute alcohol, 10 ml of 45% solution of BF_3 and 5 grams of II for 5 days at 20°C. 5 g of II in 12 ml of $SOCl_2$ were left standing for 5 hours, then were heated for 1.5 hours on a water bath. Subsequently 50 ml of abs alcohol were added and the mixture was heated again for 18 hours. The filtered substance (m.p. 210°), apparently was a chlorohydrate of II. I (30% yield) may be separated from the filtrate.

TANASESCU, I., acad. [deceased]; ANGHEL, C.

On the structure of dioxolanes. Rev chimie 5 no.1:23-33 '60. (EEAI 10:2)

1. Academie de la Republique Populaire Roumaine, Membre de l'Academie de la Republique Populaire Roumaine, Comite de redaction, Revue de chimie (for Tanasescu)
(Dioxolane)

ANGHEL, C., dr., laboratorul veterinar; DRAGHICI, C., dr.

Contribution to the study of the hydrolysis of sodium hippurate by streptococci. Microbiologia (Bucur) 8 no.3:271-275 My-Je '63.

1. Statiunea I.P.I.A., Cluj (for Draghici).
(STREPTOCOCCUS) (METABOLISM)
(HIPPURATES) (BACTERIOLOGICAL TECHNICS)

ROMANIA

[illegible], C., Dr, of the Veterinary Laboratory (Laboratorul Veterinar) and DRAGHICI, C., Dr, of the IPIA [Institutul de Protectari din Industria Alimentara; Planning Institute for the Food Industry], Cluj.

"Contributions to the Study of Sodium Hippurate Hydrolysis by Streptococci."

Bucharest, Microbiologia, Parazitologia, Epidemiologia, Vol 8, No 3, May-Jun 63, pp 271-275.

Abstract: Describes a new method for the identification of benzoic acid formed by the splitting of sodium hippurate caused by some streptococci. The hippurate-serum-broth medium favors the development of the streptococci and thus intensifies the hydrolysis of the hippurate. The benzoic acid can only be identified by the extraction method, as in the direct test with ferric chloride all reactions are positive due to the precipitation of seric proteins.

Contains 1 table and 9 Western references.

1/1

AICHEL, C.

On the S.Stoilow extreme method. Comunicarile AR 13 no.5: 401-404 My '63.

1. Comunicare prezentata de Al. Ghica.

TANASESCU, Ioan, acad. [deceased]; ANGHEL, Cecilia; POPESCU, Alexandru

On the condensation of o-nitrobenzaldehyde with aniline. Pt. 5. Studia Univ B-B S, Chem 9 no. 1:89-93 '64.

COSTACHEL, O.; POPP, I.; TEITEL, S.; BEJU, D.; ANGHEL, E.

The effect of the administration of lymph-node and epithelial homogenates on the metastasis of some experimental tumors. Stud. cercet. endocr. 14 no.4/5/6:571-577 '63.

TEODORESCU, P., prof.; NICOLAESCU, V., dr.; ANGHEL, [illegible], dr.; ANDRONACHE, I., dr.; GEORGESCU, M., dr.

Comparative study of the morbidity of cardiovascular diseases in the Clinica medicala "Bernat Andrei" and in several population groups. Med. intern. 14 no.4:549-554 My '62.
(CARDIOVASCULAR DISEASES) (MORBIDITY)

NICOLAESCU, V., dr.; SIRBULESCU, R., dr.; ANGHEL, E., dr.; CIMPEANU, S., dr.; TEODORESCU, P., prof.

Comparative study of the effectiveness of drug therapy in hypertensive disease. Med inter 15 no. 5:631-637 My '63.

1. Lucrare efectuata in Clinica medicala a Spitalului "Bernat Andrei" (director: prof. P. Teodorescu)
(HYPERTENSION) (VASODILATOR AGENTS) (RESERPINE) (HYDROCHLOROTHIAZIDE) (GUANETHIDINE) (HYDRALAZINE)

A[illegible]EL, [illegible].

[illegible] (Orobanche [illegible] Novopokrovski) new parasite of Rumanian flora. p. 833. [illegible] Rumania Vol. 5, No. 5, May 1955.

SOURCE: East European Accessions List (EEAL) Library of Congress Vol. 5, No. 11, August 1956

ANGHEL, I.; VELEA, C.; ZAHARIADI, C.

Lathyus cicera L. in Rumania's flora. p. 1323. Academia Republicii Populare Romine. COMUNICARILE. Bucuresti. Vol. 5, no. 6, June 1955

SOURCE: East European Accessions List (EEAL) Library of Congress, Vol. 5, no. 9, Sept. 1955

Anghel, Gh.

Institute Cercetari Agronomice Romine

1.

Laboratory determination of germinating power of sugar-beet seeds. Gh. Anghel and M. Raianu (*Anal. Inst. Cerc. agron. Romîn*, 1952—3, [1955], 22, 493—500).—The effects of various factors, particularly temp., soil humidity and the amount of prior moistening of the seeds, on the germination of sugar-beet seeds were studied and a method of determining the germinating power of seeds in the most favourable standard conditions was devised. The conditions defined for this method are: temp. 20°, soil humidity 60—70% of max. water capacity. In these conditions, germinative energy is determined after five days and germinating power after 10 days. Preliminary moistening of seeds prior to germination is not advisable except in cases of necessity. (From French summary.) J. S. C.

Agric. 2 1

RUMANIA / Cultivated Plants. Technical, Oleaceous, Sugar Bearing Plants. M-6

Abs Jour : Ref Zhur - Biologiya, No 13, 1958, No. 58706

Author : Anghel, Gh.; Raianu, M.; Slusanschi, H.
Inst : Sci. Res. Inst. of Agriculture
Title : Germination of Seed Bolls of Sugar Beet Depending on Their Degree of Ripeness

Orig Pub : An. Inst. cercetari agron., 1957, 24, No 5, 549-558

Abstract : Experiments carried out at the Ziganesci (Bucarest oblast) and Megurele (Stalinskaya Oblast) experimental stations and in different farms of the Stalinskaya Oblast showed that bolls gathered during the phase of green ripeness produced no more than 50% germination and grew moldy after storage. However, the bolls gathered at the beginning of the waxy stage can give the minimum, required by standards of germination, if

Card 1/2

ANGHEL, GH.

N. Ceapoiu's Cinepa - Studiu monographic (Hemp; a Monographic Study); a book review, p. 199.

STUDII SI CERCETARI DE BIOLOGIE. SERIA BIOLOGIE VEGETALA. Bucuresti, Rumania. Vol. 11, no. 2, 1959.

Monthly list of East European Accessions (EEAI) LC, Vol. 9, no. 8, August 1959.

Uncl.

LUCA, Ioan; POTEC, Ioan; COTEA, Valeriu; FILIP, Dumitru; ANGHEL, Gheorghe

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Public Health

HUNGARY

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"The Diabetes Morbidity of Somogy Megye."

Budapest, Orvosi Hetilap, Vol 107, No 48, 27 Nov 66, pages 2276-2278.

Abstract: [Author's Hungarian summary] Based on the number of registered diabetics, the diabetes morbidity of Somogy Megye is reported. In the total population of 363,306, the morbidity rate is 3.29/1000; the distribution is 6.7%/1000 among city dwellers and 2.7%/1000 among villagers. There was a higher than 50 per cent increase during the past 3 years. By using data from experience for correction, the morbidity rate is estimated at 7.5/1000 among the total population, 13.5/1000 in cities and 6/1000 in villages. The distribution of diabetes morbidity with respect to sex, age, residence and occupation is presented in detail. In conclusion, the causes of the increase in diabetes morbidity are also discussed briefly. 12 Hungarian, 7 Western references.