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Low-Substituted Cellulose Ethers and the Prospects of Their Application

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solutions of this methylcellulose were coagulated with 10% ammonium sulfate, and gave films with breaking load varying from [illegible].2 to 1..4 kgs/mm², and with elongation of 17.9 to 20.5%. The authors established that carboxymethylcellulose with low degree of etherification (starting with γ = [illegible] and up) was also soluble in 4-6% NaOH solution after congealing and thawing (Trudy Inst. Khim AN SSSR, 1958, Vol 45, p 94; ZhPKh., 1957, Vol 30, p 1830). Films made from this material by precipitation with 10% ammonium sulfate solution showed a very high mechanical resistance (breaking load up to [illegible] kgs/mm²). Addition of low-substituted carboxymethyl cellulose fibers to paper pulp considerably increased the paper's mechanical characteristics. Low-substituted cellulose nitrate with γ = 6-20 were similarly soluble in 4-6% NaOH solution (ZhPKh., 1958, Vol 31, p 1842); the solubility decreased with increasing degree of

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Low-Substituted Cellulose Ethers and the Prospects of Their Application

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substitution, and amounted to % only at γ = . Films made from this material showed a breaking load of . kgs mm². There are tables; and references, 5 U.S., 1 U.K., 3 Soviet. The U.S. and U.K. references are: Brit. Pat. 212804, 1924, J. C. Bletzinger, Ind. Eng. Chem., 3, 474 (1943); F. C. Magne, H. J. Portas, H. Wakham, J. Am. Chem. Soc., 68, 1697 (1947).

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PETROPAVLOVSKIY, G.A.; NIKITIN, N.I.

Properties of nitric acid esters of cellulose of low substitution. Zhur.prikl.khim. 31 no.12:1862-1869 D '58. (MIRA 12:2)
(Nitrocellulose)

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CHOCHIYEVA, M.M.; TSVETAYEVA, I.P.; YUR'YEVA, M.K.; ZAYTSEVA, A.F.; PETROPAVLOVSKIY, G.A.; NIKITIN, N.I.

Distribution of arabogalactan in the Dahurian larch wood. Trudy Inst. lesa 45:31-49 '58. (MIRA 11:11)
(Larch) (Galactan)

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"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00124(

G. A. Petropavlovskiy

5(0)

SOV/62-59-3-36/37

AUTHOR: None Given

TITLE: General Meetings of the Department of Chemical Sciences of the Academy of Sciences, USSR on October 23 and November 27-28, 1958 (Obshchiye sobraniya Otdeleniya khimicheskikh nauk Akademii nauk SSSR 23 oktyabrya i 27-28 noyabrya 1958 g.)

PERIODICAL: Izvestiya Akademii nauk SSSR. Otdeleniye khimicheskikh nauk, 1959, Nr 3, pp 564-568 (USSR)

ABSTRACT: This is a report on the General Meetings of the Department of Chemical Sciences, AS USSR. On October 23, 1958 the General Meeting of the Department of Chemical Sciences of the AS USSR took place under the chairmanship of Academician N. N. Semenov. A. V. Novoselova delivered a lecture on the "Investigations in the Field of Tellurium Chemistry". She emphasized the fact that the interest in tellurium has considerably increased in the course of the last years because of the valuable semiconductor properties of tellurium and numerous tellurides. In her lecture Novoselova reported on the production of pure tellurium, on the investigations of the behavior of admixtures and on investigations of numerous tellurides. The lecturer was asked numerous questions. M. A. Poray-... Candidate of

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Physical and Mathematical Sciences spoke on the "Stereochemistry of Complex Compounds of Bivalent Nickel". On the basis of direct X-ray structural analyses carried out at the Institut obshchey i neorganicheskoy khimii AN SSSR (Institute of General and Inorganic Chemistry, AS USSR) and the MGU it was found that all ammonia thiocyanate compounds of nickel which are separated from the solution at different concentrations represent, according to their structural character, complex six-coordination compounds. The analysis of the crystalline structures makes it possible to set up common crystallochemical rules in the series of ammonia thiocyanate compounds. G. B. Bokiy and S. Z. Roginskiy, Corresponding Members, AS USSR, took part in the discussion. M. G. Gonikberg, Doctor of Chemical Sciences spoke on the "Application of High Pressure in the Investigation of the Transition Stage and the Mechanism of Reaction" By means of experimental data the lecturer proved that the application of high pressure opens new prospects in this field. S. Z. Roginskiy B. V. Deryagin, Corresponding Members, AS USSR, M. I. Temkin

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and A. I. Kitaygorodskiy, Doctors of Chemical Sciences took part in the discussion. On the occasion of the general meeting held under the chairmanship of Academician A. P. Vinogradov from November 27 to 28, 1958 N. I. Nikitin, Corresponding Member, AS USSR and G. A. Petropavlovskiy, Candidate of Technical Sciences spoke on the "Properties of Low-substituted Cellulose Nitrates and Their Solutions". The following scientists took part in the discussion: S. N. Danilov, Corresponding Member, O. P. Golova, Doctor of Chemical Sciences, et al. G. V. Samsonov, Doctor of Chemical Sciences spoke on the "Specific Sorption of Ions of Organic Substances". The synthesis of weakly swelling ion-exchange resins, which cannot absorb certain ions of organic substances allow the establishment of a new effective method of producing chemically pure streptomycin and penicillin. The lecturer was asked many questions. M. V. Vol'kenshteyn, Doctor of Physical and Mathematical Sciences dealt with the "Problems of Statistical Physics of the Polymer Chains". The lecturer and his collaborators have developed a general statistical method of

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computing the properties of macromolecules which is based on the application of the rotational isomer model. The following scientists took part in the discussions: V. I. Ivanov, Doctor of Chemical Sciences B. V. Deryagin and V. G. Levich, Corresponding Members, AS USSR. V. N. Tsvetkov, Doctor of Physical and Mathematical Sciences spoke on the "Intermolecular Interaction and the Form of Macromolecules in Solutions". The lecturer demonstrated that the molecular weight of the fraction may be determined by a joint determination of the characteristic viscosity and diffusion. B. V. Deryagin, Corresponding Member, AS USSR M. V. Vol'kenshteyn, Doctor of Physical and Mathematical Sciences and A. I. Kitaygorodskiy, Doctor of Chemical Sciences took part in the discussion.

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"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00124(

AUTHOR: Petrov-Ivlovskiy, [illegible]

TITLE: Carboxymethyl-Cellulose - The Chemical and Physical Properties (Karboksimetiltsellyuloza - khimicheskiye i fiziko-khimicheskiye svoystva)

PUBLICATION: Chemical [illegible], Vol XXXII, [illegible], pp 241-243

ABSTRACT: Carboxy[illegible] used in the production of detergents, [illegible], industrial, paper, textile, industry, etc. In the [illegible] types of CMC the [illegible] polymerization varies between [illegible] - 2,000. CMC is not soluble in water. [illegible] forms of the free CMC may be obtained by [illegible] solutions of sodium-CMC through cation exchange resins of high acidity. These CMC dispersions are slightly turbid viscous liquids containing 2 - 6% of the solid substance. They have good film-forming properties. The films have good mechanical properties (Table 1). The solubility of the films may be controlled by changing the pH value, the drying temperature and the composition of the film. The sodium salt of CMC forms highly-viscous aqueous solutions. This is due to the highly-polymer molecule chains of CMC. The viscosity is at a maximum between pH 6 and 9 (Figure 3).

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SOV/80-32-1-1

Carboxymethyl-Cellulose - Its [illegible] Physical-Chemical Properties

After a heating-cooling cycle the final viscosity of a [illegible] is less than half of the initial v[illegible] viscosity from [illegible] hour of [illegible] the heating temper[illegible] 65 centipoise (Figure 6). The heating temper[illegible] at 70°C. The rheogram of a thixotropic CMC solution is [illegible] in Figure 7. It is due to the structure of CMC. The [illegible] mination of the molecular [illegible] of Na-CMC by the capillar[illegible] is given in Ref. [illegible] shows the degree of [illegible] tion of several samples [illegible] ated by this method. The [illegible] cipient of the [illegible] nt of a C.l.-solution of [illegible] in water is also [illegible] dition of Na-CMC to [illegible] improves [illegible] er tion of Na-CMC by [illegible] is due to [illegible] polymer ion. [illegible] types of Na-[illegible] many fund. [illegible] The [illegible] 29 references, [illegible] Soviet, 11 English, 2 German, 2 Austrian, 2 American, 1 Canadian, 1 French, and 1 Swiss.

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PETROPAVLOVSKIY, G.A.; NIKITIN, N.I.

Properties of low-substituent caroxylmethylcellulose from the Dahurian larch wood. Trudy Inst. lesa 45:93-102 '58. (MIRA 11:11)

(Cellulose) (Larch)

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PETROPAVLOVSKIY, G.A.; [illegible]

Determination of [illegible] esterification [illegible] by X-ray diffraction analysis. [illegible]
Zhur. prikl. khim. [illegible]

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