

ASSESSMENT OF OPTIMAL PARAMETERS FROM LOCAL RAW MATERIALS AND ORGANIC COMPOSITION PRODUCTS (OCP)

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Annotation: The innovative development of the Republic of Uzbekistan is in many ways directly related to the development of priority industries, including the chemical, biochemical, gas and petrochemical industries. Decree of the President of the Republic of Uzbekistan No. PP-4992 dated February 13, 2021 "On measures for further reforming and financial recovery of chemical industry enterprises, development of production of chemical products with high added value" in order to strategically redraw the development of the chemical industry in the new conditions of economic reforms in Uzbekistan.

Keywords: Cellulose, wood, paulownia, kavrac, degree of polymerization, lignin, starch, solubility, carboxymethyl cellulose, ash content, swelling, degree of substitution, basic substance.

Аннотация: Инновационное развитие Республики Узбекистан во многом напрямую связано с развитием приоритетных отраслей, в том числе химической, биохимической, газовой и нефтехимической промышленности. Постановление Президента Республики Узбекистан № ПП-4992 от 13.02.2021 «О мерах по дальнейшему реформированию и финансовому оздоровлению предприятий химической промышленности, развитию производства химической продукции с высокой добавленной стоимостью» в целях стратегического перекаривать развитие химической промышленности в новых условиях экономических реформ в Узбекистане

Ключевые слова: целлюлоза, древесина, карак, павлония, степен полимеризации, лигнин, крахмал, растворимость, карбокиметил целлюлоза, зольность, набухаемость, степень замищения, основного вещества.

Innovative development of the Republic of Uzbekistan is in many respects directly related to the development of priority sectors, including the chemical, biochemical, gas and petrochemical industries.

The foundation created in the field in recent years can provide the potential of the chemical industry with stable growth dynamics for the next 3-5 years. However, in order to create a solid foundation for the long-term sustainable development of all areas of the chemical industry, it is necessary to accelerate the process of transformation of the industry, based on the best international practices.

Resolution of the President of the Republic of Uzbekistan No. PP-4992 of 13.02.2021 "On measures to further reform and financial rehabilitation of enterprises of the chemical industry, the development of production of high value-added chemical products" in order to strategically reshape the development of the chemical industry in the new conditions of economic reform in Uzbekistan was accepted. The resolution stipulates a total of \$ 1,176 million, including \$ 700 million in foreign direct investment and loans, to diversify production in chemical enterprises in 2021-2025, to develop new high-value-added chemical products through the efficient use of existing raw materials. A list of 16 new investment projects aimed at organizing the production of various types of products. This led to a number of chemical studies and in-depth analysis of their results, using the raw materials and chemical reagents available to us efficiently and rationally.

In particular, research has been conducted to determine the optimal conditions for the synthesis of natural polymer, which can predict the optimal parameters by mathematical modeling of various chemical steps in the synthesis of simple ether carboxymethylcellulose on the basis of cellulose from chemical plant Kavrak. Accordingly, the maturation stage of the process of obtaining OCPs on the basis of Kavrak plant cellulose was automated, ie the stages of creating the ability to pre-adjust the quality of the product formed at different temperatures were analyzed.

It is known that the process of obtaining CPs goes mainly in 3 stages; mercerization, alkylation and maturation stages.

It has been shown that it is possible to automate the process by adjusting the process parameters mentioned above, determining the optimal ones as a result of research.

Table-1

№	Some quality indicators of OCPs	Maturation process time, minutes	Maturation process temperature, C ⁰	
1	The degree of polymerization	1400	20	60
		1220	30	70
		1150	40	80
		1050	50	90
		870	60	100
2	The degree of exchanging, %	68	20	60
		72	30	70
		83	40	80
		86	50	90
		86	60	100
3	Amount of base substance, %	41	20	60
		48	30	70
		54	40	80
		58	50	90
		58	60	100

It can be seen from Table 1 that the possibility of pre-adjusting the quality parameters of OCPs formed at certain temperatures has been studied in advance at different times.

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