CHOOSING THE COMPONENTS OF COBALT-30 NEO CAPSULE

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Relevance: The drug Cobalt-30 is an original drug synthesized at the Tashkent Pharmaceutical Institute under the leadership of Prof. M.A. Azizov. In medical practice, a 0.1% solution in 0.5% novocaine for injection is approved for use as an effective hemostimulating agent for anemia [1]. The shelf life of this drug is 1 year, and its production was stopped due to the lack of stability under storage conditions. Later, tablet dosage forms of the drug Cobalt-30 weighing 0.015 and 0.02 g were developed [1]. The radioprotective properties of this drug were also revealed during preclinical studies [1]. In order to eliminate the unpleasant odor characteristic of methionine in its composition, which was observed during clinical studies, it was recommended to wrap the drug in a shell. In the production of Cobalt-30 neo, a promising method was used to obtain cyclodextrin complexes of active substances [2].

The objective of the research. Selection of the composition of the "Cobalt-30 neo" capsule by determining the technological parameters of the mass.

Methods and techniques: In selecting the composition of the “Cobalt-30 neo” capsule, 6 different formulations were prepared with a number of excipients, and the fractional composition, dispersibility, dispersible density, and residual moisture of the samples were determined.

Results: Technological parameters of 6 different compositions for the “Cobalt-30 neo” capsule were determined: fractional composition using a set of sieves of different sizes, dispersibility - using a special VP-12A vibrating device, dispersible density - using special molds, and moisture - using a specific moisture measuring device MH-50. The composition and the results obtained are presented in Tables 1-2.

Table 1. Ingredients studied for Cobalt-30 neo capsules

№	Composition and studied excipients, mg	Ingredients, mg					
		1	2	3	4	5	6
Substance, mg							
1.	Cobalt-30 neo	81.7	81.7	81.7	81.7	81.7	81.7
Excipients, mg							
2.	Magnesium stearate	2.5		2.5		2.5	
3.	Calcium stearate		2.5		2.5		2.5
3.	Croscarmellose sodium	7.5	7.5		7.5		
4.	Corn starch	158.3	158.3			158.3	

5.	Sodium starch glycolate			7.5		7.5	7.5
6.	Microcrystalline cellulose			158.3	158.3		158.3
	Amount of mass per capsule	250±10	250 ±10	250 ±10	250 ±10	250 ±10	250 ±10

Table 2. The results of determining the technological properties of the studied compositions

Learned indicators	**The results obtained**					
	T-1	T-2	**T-3**	T-4	T-5	T-6
Fractional composition, µm %:						
+ 10 00	2.6	2.3	**2.1**	2.8	2.2	2.9
-1000 + 500	9.4	4	**9.8**	9.4	9.8	5
- 500 + 355	64.0	9.1	**67.**	65.1	63.4	9.5
- 355 + 250	9	65.	**73**	1	8	1
-250 +180	18.3	22	**15.**	17.3	18.7	64.
-180	5	17.	**8**	4.2	4.54	08
	4.3	5	**3.4**	1.19	1.28	18.
	1.26	4.6	**1.1**			1
		1.2	**7**			4.1
		4				1
						1.2
						5
Spreadability, g/s	3.85	3.9	**4.5**	4.28	3.95	4.1
		1				9
Spreading density, kg/m ^{3}	502	5	**569**	5 25	5 28	5
		12				23
Angle of natural deviation, grad	43	45	**35**	42	40	37
Residual moisture,%	4.14	4.1	**4.0**	4.11	4.15	4.1
		6	**7**			
Disintegration time, min	13.3	13.	**9.2**	10.3	11.3	9.5
	3	33	**4**		3	5

The results of determining the technological properties of the studied compositions showed that the amount of excipients selected for composition 3 exhibits the most optimal indicators (fractional composition, dispersibility, dispersible density, angle of refraction, residual moisture).

Conclusions: as a result of research, the composition of neo capsule of Cobalt-30 is according to technological indicators The following composition was selected for 1 capsule:

Cobalt-30 neo 81.7 mg
Sodium starch glycolate 7.5 mg
Magnesium stearate 2.5 mg
Microcrystalline cellulose 158 .3 mg
***The average mass* is 250 mg**

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