DETERMINATION OF THE STABILITY AND SHELF LIFE OF COBALT-30 NEO SUBSTANCE

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Relevance: In the development of any drug, determining the shelf life is one of the main and final processes. The reason is that the quality and therapeutic efficacy of the drug are ensured by its high quality, objective determination of its storage conditions and shelf life [2]. In the production of drugs, the quality of the main active ingredient is important. The quality of the substance is inextricably linked to its stability. The stability of the substance usually depends on external factors (temperature, moisture, light), the technological process and the quality of the materials used [3].

The objective of the research. Determining the storage stability of the substance "Cobalt-30 neo" and determining the shelf life.

Methods and techniques: The technological, qualitative and quantitative indicators of the supramolecular complex obtained during the stability test of the substance "Cobalt-30 Neo" were checked in accordance with the requirements of the MS. Initially, the appearance, solubility, purity, mechanical impurities, mass loss upon drying, microbiological purity and quantitative analysis of the substance met the requirements of the MS. After assessing the quality of the substance, 100 g samples were packed in 2-layer polyethylene bags according to SSt 10354-82 and in jars with screw caps according to SSt 16338-85.

Determining the shelf life and storage conditions of the plant was carried out in a natural way.

To conduct research in natural conditions, samples were taken from the substance every 6 months for analysis, and the appearance, solubility, purity, mechanical impurities, mass loss upon drying, microbiological purity and quantitative analysis were determined in 2-layer polyethylene bags according to ISO 10354-82 and in jars with screw caps according to ISO 16338-85. The appearance, solubility, purity, mechanical impurities, mass loss upon drying, microbiological purity and quantitative analysis results of the substance "Cobalt-30 Neo" did not change for 2 years in both containers and met the requirements of the MS.

Results: The results of determining the stability of Cobalt-30 neo substance tested in a natural way are presented in Tables 1 and 2.

Conclusions: As a result of the research, the stability of the neo substance Cobalt-30 was studied and the shelf life was determined to be 2 years.

Table 1. Packed in 2-layer polyethylene bags according to DST 10354-82 " Cobalt-30 neo " Results of determining the stability of the substance at a temperature of 22±2ºC

№	Studies on MH indicators	Requirements for MH	Storage period, month						
			Pre-examination substance	3	6	9	12	18	24
1	Appearance	pale pink, tasteless crystalline powder with a specific smell.	Proper	Proper	Proper	Proper	Proper	Proper	Proper
2	Solubility	It is slightly soluble in water	Proper	Proper	Proper	Proper	Proper	Proper	Proper
3	Truth -Cobalt -Methionine	The organic layer turns blue Smells like mercaptan	Proper	Proper	Proper	Proper	Proper	Proper	Proper
4	Foreign admixtures -Cobalt salts -Methionine -chlorides	Colorless solution Colorless solution It is less opalescent than the standard solution	Proper	Proper	Proper	Proper	Proper	Proper	Proper
5	Mass loss during drying	4.5 %	4.198 %	4.198%	4,19%	4.195 %	4,199 %	4,201 %	4.2 %
6	Liquefaction temperature	237-241°C	239°C	239°C	23 9 °C	23 8 °C	238°C	23 8 °C	23 8 °C
7	Microbiological purity Total number of aerobic bacteria The total number of yeasts and molds Enterobacteriaceae Pseudomonas aeruginosa Staphylococcus aureus	Less than 10^3 Less than 10^2 It shouldn't be. It shouldn't be. It shouldn't be.	Proper	Proper	Proper	Proper	Proper	Proper	Proper
8	Quantitative analysis	98-102%	101.2%	101.2%	100.%	100.6 %	100.2%	100%	99.8%

Table 2. Packaged in screw cap jars according to DST 16338-85 " Cobalt-30 neo " Results of determining the stability of the substance at a temperature of 22±2ºC

№	Studies on MH indicators	Requirements for MH	Storage period, month						
			Pre-examination substan	3	6	9	12	18	24

			ce						
1	Appearance	pale pink, tasteless crystalline powder with a specific smell.	Proper	Proper	Proper	Proper	Proper	Proper	Proper
2	Solubility	It is slightly soluble in water	Proper	Proper	Proper	Proper	Proper	Proper	Proper
3	Truth -Cobalt -Methionine	The organic layer turns blue Smells like mercaptan	Proper	Proper	Proper	Proper	Proper	Proper	Proper
4	Foreign admixtures -Cobalt salts -Methionine -chlorides	Colorless solution Colorless solution It is less opalescent than the standard solution	Proper	Proper	Proper	Proper	Proper	Proper	Proper
5	Mass loss during drying	4.5 %	4.198 %	4.198 %	4,198 %	4.195 %	4,199 %	4,201 %	4.2 %
6	Liquefaction temperature	237-241°C	239°C	239° C	23 9 °C	239°C	238° C	23 8 °C	23 8 °C

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Pharmaceutical technologies and packaging. Medicines according to GMP. - M.: Publishing house "Med. business", 2015, No. 2, p. 43