

PHARMACOSMOS A/S

Batch Release Certificate

Product name: Dextran 40 USP/JP

Specification No.: 40165

Batch No.: xxxxxx

Manufacturing date: mmmm_yyyy

Retest date (3 years): mmmm_yyyy

Manufacturing sites: Pharmacosmos A/S, Roervangsvej 30, DK-4300 Holbaek, Denmark

DKMA* No.: 254629

GMP certificate No.: DK API-H 00083617, DK API-V 00083617

FDA establishment No.: FEI 3002807874

FDA facility classification: Acceptable

EDQM* certificate No.: Certificates for Dextran 1, 40, 60 & 70 Ph.Eur. available

Method:	Parameter:	Results of analysis:	Limits:
JP	Appearance of powder:	Complies	White, amorphous powder
JP	Identification:	Complies	** Solution does not change in color
USP	Infrared Absorption:	Complies	Complies
USP	Specific rotation, (+/-) °:	+x	+195 – +203
JP	Appearance of solution:	Complies	Clear and colorless
USP	Color of solution (Absorbance at 375 nm, 6% sol., 4 cm):	x.xx	≤0.15
USP	pH (6% solution):	x.x	5.0 – 7.0
USP	Average molecular mass, Mw:	x,xxx	35,000 – 45,000
USP	Mw of 10% high fraction:	x,xxx	≤120,000
USP	Mw of 10% low fraction:	x,xxx	≥5,000
USP	Mw/Mn:	x.x	1.4 – 1.9
USP	Mn:	x,xxx	16,000 – 30,000
USP	Viscosity, intrinsic, ml/g:	x	18 – 23
JP	Assay (dextran after drying, % w/w):	x.x	98.0 – 102.0
JP	Viscosity, intrinsic, dL/g:	x.x	0.16 – 0.19
JP	Viscosity, intrinsic, high fraction, dL/g:	x.xx	≤0.27
JP	Viscosity, intrinsic low fraction, dL/g:	x.xx	≥0.09
JP	Chloride, % w/w:	Complies	≤0.018
JP	Arsenic, ppm:	Complies	≤1.3
JP	Nitrogen containing impurities, % w/w:	x.xxx	≤0.010
USP	Nitrogen containing substances, ppm:	x	≤100
USP	Heavy metals, ppm lead:	Complies	≤5
USP	Sulfate, % w/w:	Complies	≤0.03
JP	Reducing substances per g:	Complies	≤0.15 (mg glucose)
JP	Loss on drying (105°C, 6h), % w/w:	x.x	≤5.0
USP	Loss on drying (105°C, 5h), % w/w:	x.x	≤7.0
JP	Residue on ignition, % w/w:	x.x	≤0.1
USP	Bacterial endotoxins (10% sol.) EU/ml:	x.x	≤1.0
JP	Bacterial endotoxins, IU/g:	x.x	<2.5
JP	Antigenicity:	Not tested	Complies
USP	Antigenic impurities:	Complies	Complies
USP	Safety:	Complies	Complies

References to official monographs are to be considered as current editions.

*) EDQM refers to 'European Directorate for the Quality of Medicines and Healthcare'. DKMA refers to 'Danish Medicines Agency'

***) This test is not performed. The identification of the product is assured through strict adherence to established GMP rules throughout the manufacturing procedure.

We hereby confirm that no class 1, class 2 and class 3 solvent, cf. ICH Q3C and VICH GL 18, is used in the manufacturing of this product.

We hereby confirm that no metal catalysts or metal reagents, cf. EMEA/CHMP/4446/2000 and Ph. Eur. 5.20 are used in the manufacturing of this product.

CERTIFICATE OF CONFORMITY

I hereby certify that the above information is authentic and accurate. This batch of Active Pharmaceutical Ingredient has been manufactured, including packaging and quality control at the above mentioned site in full compliance with the GMP requirements for active starting materials and with the above mentioned specifications. The batch processing, packaging and analysis records were reviewed and found to be in compliance with GMP.

Date (dd.mm.yyyy):

Qualified Person, Heidi Skjødt Andersen, M.Sc. Pharm

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