

**Wanbury Limited**

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**Certificate of Analysis***Lot 0110612*

Product : **Metformin Hydrochloride BP/ PhEur/USP**  
Batch No. : **BMS1200911** Mfg. Date : September-2011  
Batch Size : 2002.32 kg Exp. Date : **August -2016**  
Qty. Supplied : 2000 kg Date of Sampling : September 19, 2011  
Qty. Sampled : 100 g Date of analysis : September 21, 2011  
Mfg. Lic. No. : **KD-242**

Sr. No.	Tests	Observations	Specifications
01.	Appearance	White Crystals	White Crystals
02.	Solubility	Freely soluble in water, slightly soluble in alcohol	Freely soluble in water, slightly soluble in alcohol, practically insoluble in acetone and in methylene chloride.
03.	Identification A. Melting point B. IR Spectrum  C. By TLC  D. Colour test E. Chlorides	223°C Concordant  Conforms  Complies Positive	222 °C to 226 °C Infrared absorption spectrum of sample should concordant with that of Metformin hydrochloride working standard. The principal spot in the chromatogram obtained with the test solution should be similar in position, colour and size to the principal spot in the chromatogram obtained with reference solution. A pink colour should develop Should be positive
04.	Appearance of solution (10% solution in water)	Solution is clear and colourless	Should be clear and colourless
05.	Related substances (by HPLC) a) Impurity A (Cyanoguanidine) b) Other impurity c) Total impurities	0.005% 0.048% 0.096%	Not more than 0.02% Not more than 0.1% Not more than 0.3%
06.	Heavy metals	Less than 10 ppm	Not more than 10 ppm
07.	Loss on drying at 105°C for 5 hours	0.19%	Not more than 0.5 %
08.	Sulphated ash	0.04%	Not more than 0.1 %
09.	Assay (% on dry basis)	99.6%	98.5% - 101.0%
10.	Additional Test Residual Solvent Methanol Xylene	275 ppm Not detected	NMT 1000 ppm NMT 500 ppm

Remarks: Product Complies with B.P-2011 / PhEur -7<sup>th</sup> Edition /USP-33/Customer Specifications/COS NO.: RI-CEP 1998-079-Rev. 0.

Declaration: Product is free from animal derived materials and is manufactured from synthetic sources only.

Analysed By:

Checked By:

Approved By:

*S.K. Dalvi*  
26.09.11  
S. K. Dalvi  
Analyst

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