

Certificate of Analysis

Product: **Caninsulin 1x10ml**
Batch: **A315A01**

Results of Analysis

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GERMANY



<u>Test</u>	<u>Method</u>	<u>Specification</u>	<u>Result</u>
Characters - Color	Visual Examination	White or Almost White	Complies
Characters - Physical State	Visual Examination	Suspension	Complies
Color (supernatant)	Ph. Eur. 2.2.2.	≤ B9	Complies
Clarity (supernatant)	Ph. Eur. 2.2.1.	Opalescence ≤ Reference I	Complies
pH	Ph. Eur. 2.2.3	6.9 - 7.8	7.3
Particle Size Amorphous: 100 % ≤ 2 µm	Light Microscopy	Rarely Exceeding 2 µm	Complies
Particle Size rhombohedral: 10 - 40 µm	Light Microscopy	> 10 µm, but Rarely Exceeding 40 µm	Complies
Resuspendability	Visual Examination	≤ 30 Seconds	Complies
Assay, Total Zinc	AAS	48 - 100 µg/mL	77 µg/mL
Assay, Zinc Supernatant	AAS	20 - 65 %	61 %
Extractable Volume	Ph. Eur. 2.9.17.	10.0 - 11.0 mL	10.5 mL
Fill Volume	Weight Measurement	10.0 - 11.0 mL	10.3 mL
Identification Insulin	HPLC	Rt of the Corresponding Peaks Comply	Complies
ID Methyl Parahydroxybenzoate	HPLC	Rt and Size of the Corresp. Peaks Comply	Complies
Assay Methyl Parahydroxybenzoate	HPLC	0.90 - 1.10 mg/mL	0.99 mg/mL
Assay Insulin + A21 Desamido Insulin	HPLC	36.0 - 44.0 IU/mL	39.5 IU/mL
Assay Insulin, non extractable	HPLC	63 - 77 %	65 %
Assay Insulin, in Solution	HPLC	≤ 1.0 IU/mL	0.1 IU/mL
Rel. Sub., A21 Desamido Porcine Insulin	HPLC	≤ 5.0 %	1.1 %
Related Proteins, (Sum Other)	HPLC	≤ 6.0 %	1.4 %
Impur. with Mol.Mass > Insulin	HPLC	≤ 2.0 %	0.2 %
Bacterial Endotoxins	Ph. Eur. 2.6.14.	≤ 31 IU/mL	31 IU/mL
Sterility	Ph. Eur. 2.6.1.	No Growth Detectable	Complies

a) The only ingredients of animal origin used in manufacture of Caninsulin are:
insulin manufactured by Diosynth and derived from porcine pancreatic materials of Dutch and/or
French origin. The porcine pancreatic material was processed to inactivate pathogenic viral agents
by treatment with 88% alcohol for several hours at a pH no greater than 2;

and

bovine insulin crystals manufactured by Novo Nordisk as described in the European Directorate for the Quality of Medicines Certificate of Suitability No. CEP 2000-230. This Product is manufactured from bovine pancreas of Australian and New Zealand origin. The bovine pancreatic material was processed to inactivate pathogenic viral agents by treatment with low pH of approximately 3.0 and with alcohol at a concentration of a minimum of 60%.

b) The insulin is purified by chromatograph