

**Stanford Chemicals Company**

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## Certificate of Analysis

<b>Product Name:</b>	Sodium Hyaluronate	<b>Origin:</b>	Fermentation
<b>Intrinsic Viscosity:</b>	1.6~2.2 m <sup>3</sup> /kg	<b>Intended Use:</b>	Intra-ocular preparations & intra-articular preparations
<b>Batch No.:</b>	15111301	<b>Manufacturing Date:</b>	11/14/2015
<b>Analysis Date:</b>	11/15/2015	<b>Retest Date:</b>	11/14/2017
<b>Standard:</b>	Ph. Eur. 7.0	<b>Grade:</b>	HA-EP-1.8

<u>Items</u>	<u>Specifications</u>	<u>Results</u>
Appearance	White or almost white powder or fibrous aggregates	White powder
Identification		
A. Infrared absorption	Complies with Ph. Eur. Reference spectrum of Sodium hyaluronate	Complies
B. Reaction of sodium	Positive	Positive
Appearance of solution	Clear, $A_{600nm} < 0.01$	Clear, 0.00
pH	5.0-8.5	6.4
Intrinsic viscosity	1.6~2.2m <sup>3</sup> /kg	2.01 m <sup>3</sup> /kg
Nucleic acids	$A_{260nm} < 0.5$	0.01
Protein	≤0.1%	0.00%
Heavy metal	≤10ppm	<10ppm
Chlorides	≤0.5%	<0.5%
Iron	≤30ppm	<30ppm
Loss on drying	≤15.0%	2.8 %
Residual solvents(Ethanol)	≤5000 ppm	72 ppm
Microbial contamination	≤100cfu/g	<20cfu/g
Bacterial endotoxins	≤0.05 IU/mg	<0.05 IU/mg
Assay(on dried substance)	95%~105%(dried substance)	102.0%

Stored: Store in a cool, dry location in a tightly sealed container.

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By