

**Stanford Chemicals Company**

72 Fairbanks, Suite 100, Irvine, CA 92618, USA

Tel: (949) 468-0555 Fax: (949) 812-6690

Certificate of Analysis

Product Name:	Sodium Hyaluronate	Origin:	Fermentation
Intrinsic Viscosity:	>2.0 m ³ /kg	Intended Use:	Intra-ocular preparations & intra-articular preparations
Batch No.:	15041401	Manufacturing Date:	4/14/2015
Analysis Date:	4/14/2015	Retest Date:	4/14/2017
Standard:	Ph. Eur. 7.0	Grade:	HA-EPM2.0

<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	6.9
Intrinsic viscosity	>2.0 m ³ /kg	3.63 m ³ /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%	7.0 %
Residual solvents(Ethanol)	≤5000 ppm	273 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)	100.4%

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

Stanford Chemicals Company

By