



XI'AN GREEN SPRING TECHNOLOGY CO., LTD.

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## CERTIFICATE OF ANALYSIS

<b>Product Name:</b>	Sodium hyaluronate
<b>Synonyms:</b>	Hyaluronic Acid, Hyaluronic acid sodium salt
<b>Description:</b>	White or almost white powder
<b>Grade:</b>	Food Grade
<b>Source:</b>	Fermentation
<b>Identification:</b>	Passes all criteria tests
<b>Batch No</b>	210816
<b>Batch quantity:</b>	800kgs
<b>Analysis Date:</b>	Aug 19,2021
<b>Country of Origin:</b>	China

Item	Specification	Results
Infrared Absorption	The infrared absorption spectrum should be consistent with the control spectrum	Complies
Assay of Sodium Hyaluronate	$\geq 95\%$	96.30%
Average molecular weight	0.80- 1.50MDa	1.05MDa
Glycuronic acid	$\geq 45\%$	46.8%
Loss on drying	$\leq 8.0\%$	6.80%
Residue on Ignition	$\leq 13.0\%$	11.8%
PH	5.0~8.5	6.49
Transparency( 0.1% Solution)	$\geq 99.0\%$	100%
Intrinsic viscosity value	14.16-24.86	20.68
Bulk Density	$\geq 0.2\text{g/ml}$	0.55g/ml
Proteins	$\leq 0.10\%$	0.041%
Organic volatile impurities	Meet the requirements	Complies
Heavy Metals	$\leq 10\text{ppm}$	Complies
Arsenic (As)	$\leq 2\text{ppm}$	Complies
Cadmium (Cd)	$\leq 1\text{ppm}$	Complies
Mercury (Hg)	$\leq 0.1\text{ppm}$	Complies
Sulfate (SO <sub>4</sub> )	$\leq 300\text{ppm}$	Complies
Ammonium	$\leq 200\text{ppm}$	Complies
Iron(Fe)	$\leq 80\text{ppm}$	$< 80\text{ppm}$
<b>Microbiological control</b>		
Total plate count	$\leq 100\text{cfu/g}$	Complies

Yeast & mold	≤50/cfu/g	Complies
E.coil	Negative	Negative
Salmonelia	Negative	Negative

**Storage**      Cool & dry place, Do not freeze.      Keep away from strong light and heat.  
**Shelf**        2 year when properly stored.

