

Gracefruit Limited
 209 Glasgow Road
 Bonnybridge
 FK4 1QQ

Certificate of Analysis

Hyaluronic acid sodium (Food grade)

Batch	Manufactured	Expiration	Quantity
HA2017042117	21/04/17	20/04/20	500 Kg

Description	white or similar white powder	Conforms
Molecular weight	$\geq 8.0 \times 10^5$	11.2×10^5
Assay of Sodium Hyaluronate %	≥ 90	96.97
Glucuronic acid %	≥ 44	46.9
Loss on drying%	≤ 10	6.99
PH(0.1% Solution)	6.0-7.5	6.70
Residue on ignition (500-600°)	$\leq 20\%$	11.8%
Heavy Metal	$\leq 10\text{ppm}$	$< 10\text{ppm}$
Lead (Pb)	$\leq 3\text{ppm}$	$< 3\text{ppm}$
Arsenic(As)	$\leq 1\text{ppm}$	$< 1\text{ppm}$
Cadmium (Cd)	$\leq 1\text{ppm}$	$< 1\text{ppm}$
Mercury (Hg)	$\leq 0.1\text{ppm}$	$< 0.1\text{ppm}$
Chloride (Cl)	$\leq 200\text{ppm}$	$< 200\text{ppm}$
Iron(Fe)	$\leq 10\text{ppm}$	$< 10\text{ppm}$
Sulfate (SO ₄)	$\leq 300\text{ppm}$	$< 300\text{ppm}$
Ammonium	$\leq 200\text{ppm}$	$< 200\text{ppm}$
Proteins %	≤ 0.1	0.007
Transparency%(0.1% Solution)	≥ 98.5	100
Total Plate Count	$\leq 1000\text{cfu/g}$	Conforms
Yeast and Molds	$\leq 100\text{cfu/g}$	Conforms
Salmonella	Negative in 10g	Conforms
E.Coli	Negative in 1g	Conforms
Staphylococcus Aureus	Negative in 1g	Conforms

Conclusion: Passed the Enterprise standard.
 CAS No.: 9067-32-7
 Packing: 5kg/drum