

Gracefruit Limited, 209 Glasgow Road  
Longcroft, Bonnybridge, FK4 1QQ

ARM CO., LTD.

NO. 978 HANGCHUAN ST., NINGBO-NEW DEVELOPMENT ZONE,  
JIANAN, CHINA 350101

**CERTIFICATE OF ANALYSIS**      19-E031314

Product Name: Low Molecular Weight Sodium Hyaluronate Standard: SF/JS ZL-001-19  
(HA-TLM)

Batch No.: 1903068

Production Date: Mar.06, 2019

Quantity: 313.048 kg

Expiry Date: Mar.06, 2022

Item	Standard	Result
1. Characters	White or almost white powder or granules	Complied
2. Identification		
A. Infrared absorption	Consistent with the <i>reference spectrum</i> <i>of sodium hyaluronate</i>	Complied
B. Reaction of sodium	Positive	Complied
3. pH	6.0~7.5	6.5
4. Transparency	≥99.0%	99.7%
5. Loss on drying	≤10.0%	7.2%
6. Limiting viscosity	<17.3dl/g	17.0dl/g
7. Molecular weight	<1.00M Da	0.98M Da
8. Protein	≤0.05%	0.023%
9. Heavy metals	≤20ppm	<20ppm
10. Glucuronic acid	≥46.0%	47.0%
11. Sodium hyaluronate	≥95.0%	97.3%
12. Bacteria counts	<10cfu/g	Complied
13. Mold & Yeast	<10cfu/g	Complied
14. <i>Staphylococcus aureus</i>	Negative	Negative
15. <i>Pseudomonas aeruginosa</i>	Negative	Negative

Conclusion: up to the standard

Reported by: 张同祥 2019.03.13

Approved by: 王世 2019.03.13