

**CERTIFICATE OF ANALYSIS**

Product Name	Alpha GPC powder	Batch Number	HS180612
Molecular Formula	C <sub>8</sub> H <sub>20</sub> NO <sub>6</sub> P	Manufacture Date	June 12, 2018
CAS Number	28319-77-9	Retested Date	June 11, 2020

Items	Specifications	Results	Analysis Method
Appearance	White powder, neutral odor, highly hygroscopic	Conforms	Visual
Identification	TLC: Standard solution and test solution same spot, RF	Conforms	TLC
Specific Optical	-2.4°~ -2.8°	-2.72°	
Heavy metals (as PB)	≤10ppm	Conforms	AAS
Sulfate (SO <sub>4</sub> )	≤0.02%	Conforms	Colorimetry
Chloride (Cl)	≤0.02%	Conforms	Colorimetry
Phosphate Ion (P)	≤5ppm	Conforms	Colorimetry
pH	5.0~7.0	5.57	
Related substance	Spot not bigger than standard solution spot	No spot	TLC
Residual solvent	≤2.0%	Conforms	HS-GC
Water Content	≤2%	0.23%	KF
Assay (dried basis)	98.0%--102.0%	99.02%	Potentiometric titration

Result: Sample meets the Standard.

**Q.C Center of Health Sources**

Analysis by: Dr. Huang Ping

Q.C Manger: Dr. Luo Yan

