



**CERTIFICATE OF ANALYSIS**

Product name	Glucono delta-lactone	Manufacture date	Oct. 20 2020
Batch number	GDL201020	Analysis date	Oct. 20, 2020
Batch quantity	500kg	Expiry date	Oct.20, 2022
ANALYSIS	SPECIFICATION	RUSULT	
Assay	99.0-101.0%	99.43%	
Characters/appearance	White powder	conform	
Parameter	Colorless and clear	conform	
Identification	IR Spectra of sample should match with that of standard	conform	
solubility	Freely soluble in water,sparingly soluble in alcohol,insoluble in ether	conform	
Optical rotation	+18~+20	+18.6	
Residue on ignition %≤	0.1%	0.07%	
Loss on drying %≤	0.5%	0.10%	
Impurity (Organic)	≤ 0.1%	conform	
Reducing substances	≤0.5%	conform	
Residual solvent	≤0.1%	conform	
Chloride %≤	0.003%	0.002%	
(SO <sub>4</sub> ) %≤	0.005%	0.003%	
Heavy Metals			
As	≤ 3.0 ppm	1 ppm	
Pb	≤ 8.0 ppm	1 ppm	
Cd	≤ 0.5 ppm	negative	
Hg	≤ 0.5 ppm	negative	
Sum	≤ 20.0 ppm	2 ppm	
(NH <sub>4</sub> ) %≤	Negative	Negative	
Total Plate Count	NMT1,000cfu/g	28cfu/g	
Total Yeast & Mold	NMT100cfu/g	9cfu/g	
E.Coli.	Negative	Conform	
Salmonella	Negative	Conform	
Staphylococcus	Negative	Conform	
Conclusion	Conform with USP40		
Shelf Life	Two years if sealed and store away from direct sun light.		
Packing & Storage	Store in cool & dry place. Keep away from strong light and heat.		