



SHANDONG ZESHENG CHEMICAL CO., LTD.
CERTIFICATE OF ANALYSIS

Product: Manganese Gluconate Dihydrate USP39 Powder		Manufacturer's Lot#: ZS20210311			
Quantity: 1000Kg	Expiry date: March 28, 2022		Manufacture date: March 28, 2021		
REQUIREMENTS		SPECIFICATIONS		TEST RESULTS	
Appearance		Light pink coloured powder		Meets requirements	
Identification A B		To pass test To pass test		Passes test Passes test	
Assay (on dry basis)		98.0-102.0%		100.0%	
Water		6-9%		8.0%	
Chloride		0.05% max.		0.02%	
Sulfate		0.2% max.		0.02%	
Arsenic		3ppm max.		<3ppm	
Lead		10ppm max.		<10ppm	
Heavy metals		20ppm max.		<20ppm	
Reducing substances		1.0% max.		0.3%	
Organic volatile impurities		Meets requirements		Meets requirements	
Manganese content(as dihydrate)		11.19%-11.64%		11.42%	
Particle size		Thru 60 mesh		90%	
Microbial Limits Total aerobic count		1000cfu/g max.		10/g	
Total molds-yeasts		300cfu/g max.		10/g	
E.Coli and Salmonella		Absent		Absent	

Shandong Zesheng Chemical Co., Ltd. verifies that the information contained herein is true and correct to the best of our knowledge.

Verified by: Xue Li

Date: June 30, 2020

Conversion Guide: 1ppm = 0.0001% 10ppm = 0.001% 100ppm = 0.01% 1000ppm = 0.1%