Material Specification

Manganese Chelate 20%

Product Code	TMNAR0220	**Date**	February 16, 2023
Country of Origin	United States of America	**Shelf Life**	3 Years from manufacture date
Storage	Store in a cool, dry location	**Other**	Kosher Certified and non-GMO

Product Description

Manganese Chelate 20% is a complex of manganese sulfate and rice protein as rice flour.

Actives		
Test	**Specification**	**Method**
Manganese	20.0 - 23%	ICP-OES

Physical		
Test	**Specification**	**Method**
Appearance	Off White to Light Tan Powder	Visual
Loss on Drying	<5%	Ohaus MB23
Particle Size	≥75% thru 50 mesh	Rotap
Tapped Density	1.0 – 1.4 g/cc	In House

Heavy Metals		
Test	**Specification**	**Method**
Lead	<1 ppm	ICP-MS
Mercury	<0.1 ppm	ICP-MS
Arsenic	<1 ppm	ICP-MS
Cadmium	<0.3 ppm	ICP-MS

Microbiological		
Test	**Specification**	**Method**
Total Plate Count	<1,000 cfu/g	AOAC 990.12 or USP <2021>
Yeast and Mold	<100 cfu/g	FDA BAM or USP <2021>
Coliforms	<100 cfu/g	AOAC 991.14
E. Coli	Negative/10 g	USP <2022>
Salmonella	Negative/25 g	FDA BAM or USP <2022> Mod
Staphylococcus aureus	Negative/10 g	USP <2022>
Pseudomonas aeruginosa	Negative/10 g	USP <62>

Packaging
25 kg double-lined, food-grade bags in corrugated cartons

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