



INNOVATION AND EXCELLENCE SINCE 1992

OptiMSM® Certificate of Analysis

SKU NUMBER: 10120 LOTNUMBER: 2DDD8D1 MFGDATE: 1/2812020 EXPIRATION DATE: 1/2812025

PRODUCT: METHYLSULFONYLMETHANE (Dimethyl Sulfone, Methyl Sulfone, MSM, DMSO)

MANUFACTURER: Bergstrom Nutrition, 1000 West 8th Street, Vancouver, WA 98660 -(360)693-1883 -Country of Origin: USA

EXCIPIENT: Amorphous Silicon Dioxide QUANTITY: 0.1% by weight

PHYSICAL DESCRIPTION: White powder, microprill

CHEMICAL ABSTRACTS REGISTRY NUMBER: 67-71-0 MOLECULAR WEIGHT: 94.13 PERCENT SULFUR: 34.1%

PHYSICO-CHEMICAL ANALYSIS	METHOD	SPECIFICATION	LOT RESULT
VOLATILE PURITY:	MSM - GC/FID ^{1,2}	>99.8%	99.9%
ASSAY (Finished)	MSM - GC/FID	97.9-101.9%	99.8%
DENSITY	USP Method B	Pass	Pass
MELTING POINT:	USP/NF <741>	109.5°C ± 1.0°C	110.0°C
WATER CONTENT:	USP/NF <9211a>	< 0.1%	< 0.1%
DMSO CONTENT:	MSM - GC(FID) ^{1,2}	< 0.05%	< 0.05%
INDIVIDUAL IMPURITY	GC/FID ¹	NMT 0.05%	< 0.05%
PARTICLE SIZE: 40 ³	USP/NF <7861>	NLT 95% THROUGH	99.6%
100 ³	USP/NF <7861>	NMT 55% THROUGH	38.8%
BULK DENSITY:	USP/NF <6161>	NLT 0.72 g/ml	0.76 g/ml
TAPPED DENSITY:	USP/NF <6161>	NLT 0.80 g/ml	0.83 g/ml
MICROBIOLOGICAL ANALYSIS	METHOD	SPECIFICATION	LOT RESULT
Total Aerobic Microbial Count:	USP <61>	< 10 cfu/g	< 10 cfu/g
Total Yeast and Mold Counts:	USP <61>	< 10 cfu/g	< 10 cfu/g
Enterobacteria:	USP <62>	Absent	Absent
Escherichia coli	USP <62>	Absent	Absent
Salmonella:	USP <62>	Absent	Absent
Staphylococcus aureus:	USP <62>	Absent	Absent
METALS ANALYSIS	METHOD	SPECIFICATION	LOT RESULT
As (Arsenic):	EPA 200.8 - ICPMS ²	< 0.01 ppm	< 0.01 ppm
Cd (Cadmium):	EPA 200.8 - ICPMS ²	< 0.005 ppm	< 0.005 ppm
Hg (Mercury):	EPA 7471A.1.2	< 0.001 ppm	< 0.001 ppm
Pb (Lead):	EPA 200.8 - ICPMS ²	< 0.01 ppm	< 0.01 ppm