

CERTIFICATE OF ANALYSIS

DATE : 02/12/2015
 CUSTOMER : M CASSAB ARGENTINA
 ISEGEN REF. : 011804
 D / N NO. : 011804
 CONTAINER NO. : MSKU 7892202
 SEAL NO. : ML-ZA 4213740
 VESSEL : MOL PROFICIENCY
 MANUFACTURING DATE : 28/11/2015
 EXPIRY DATE : 28/11/2017 PROVIDED PRODUCT STORED IN DRY, COOL CONDITIONS AND NOT SUBJECT TO PRESSURE

MATERIAL

DL MALIC ACID - FOOD GRADE (Hydroxysuccinic Acid) – 850um

Molecular mass : 134.1 g/mole CAS : 617-48-1

BATCH NO

7151128

QUANTITY

17500 kg

ANALYSIS	METHOD OF ANALYSIS	SPECIFICATION	RESULTS
Appearance	FCC 8	White or nearly white granules	Complies
Identification	FCC 8	To comply with std. scan	Complies
Assay as Malic Acid	FCC 8	NLT 99.0% and NMT 100.5% of C ₄ H ₆ O ₅	99.68
Water	Karl Fischer	NMT 0.3% m/m	0.22
Melting Point	Isegen Proc. 1.22.5.2.2	127 → 132 °C	128.8
Fumaric Acid	FCC 8	NMT 1.0% m/m	0.91
Maleic Acid	FCC 8	NMT 0.05% m/m	0.007
Heavy Metals as Pb	FCC 8	NMT 5 mg/kg	<5
Lead	FCC 8	NMT 2 mg/kg	<2
Arsenic	ICP	NMT 1 mg/kg	<1
Mercury	ICP	NMT 0.1 mg/kg	<0.1
Residue on Ignition (Sulphated Ash)	FCC 8	NMT 0.1% m/m	0.035
Water Insoluble Matter	FCC 8	NMT 0.1% m/m	0.034
Readily Oxidisable Substances	Isegen Proc. 1.22.5.2.16	Passes Test – 3 minutes (min)	Complies
Chlorides	Isegen Proc. 1.22.5.2.17	NMT 40 mg/kg	Complies
Specific Rotation [α] _D ^{25°}	FCC 8	-0.10° and + 0.10°	Complies
Particle Size Distribution	Isegen Proc. 1.22.5.2.14	NLT 98% thru 850 um	98.32
		NMT 5% thru 150 um	0.06

We confirm that this batch complies with FCC 8, E296 and is GMO and Allergen free



QA REPRESENTATIVE