

## Certificate of Analysis

**Date**  
 17/Jan/2019  
**Purchase order number**  
 VTSC20181120  
**Sales order Item**  
 297957 10  
**Customer number**  
 20956  
**Delivery Item**  
 80353801 10

**This material was manufactured at:**

Vertellus LLC  
 2110 W. Gate City Boulevard  
 Greensboro NC 27403 USA  
 Phone 336-292-1781  
 Fax 336-854-4058

Company  
 ShenZhen Sliken Trade CO.,LTD  
 RM1610, SiChuan BLDG Hong RD  
 FuTian District  
 512028 Shenzhen



**Material** 101648 **Product Name** TRIETHYL CITRATE PG/NF 47.5 LB PAIL **Batch** 0000179132

**Date of Manufacture** 29/Oct/2018 **Best Used By** 29/Oct/2020 **Quantity** 21.550 KG

We certify that the Elemental Impurities - Limits <232> meet the requirements of the US Pharmacopeia / National Formulary (USP-NF)

Characteristic	Unit	Value	Lower Limit	Upper Limit	Method
Assay (GC)	%	99.94	99.50		99M04
Refractive Index (25°C/D)	Ea	1.441	1.439	1.441	89M03
Refractive Index(EP) (20°C/D)	Ea	1.442	1.440	1.446	89M03
Specific Gravity (25°/25°C)	Ea	1.138	1.135	1.139	88M15
Color (APHA)	Ea	11		25	89M13
Arsenic	ppm	< 1		2	87M13
Identification (FTIR)	-	MEETS TEST			87M12
Identification (GC)	-	MEETS TEST			99M04
Related Substances, total	%	0.0		0.5	00M01
Related Substance, single	%	0.0		0.2	00M01
Residual Solvent (EtOH,GC,USP)	%	0.0		0.5	99M04
Residual Solvent (EtOH,LOD,EP)	%	0.0		0.5	06M02
Appearance	-	MEETS TEST			89M20
Appearance(EP 2.2.1)	-	MEETS TEST			04M.03
Appearance(EP 2.2.2)	-	MEETS TEST			04M.03
Acidity, as citric	%	0.003		0.020	89M12
Acidity(USP)	mL	0.2		1.0	89M12
Acidity(EP)	mL	0.1		0.3	89M12
USP Yeast & Mold (CFU/mL)		< 10		10	OUTSIDE
USP Aerobic Count (CFU/mL)		< 10		10	OUTSIDE
USP Escherichia coli	-	MEETS TEST			OUTSIDE
USP Salmonella species	-	MEETS TEST			OUTSIDE
USP Staphylococcus aureus	-	MEETS TEST			OUTSIDE
USP Pseudomonas aeruginosa	-	MEETS TEST			OUTSIDE
Water (KF)	%	0.070		0.250	88M22
Sulphated Ash	%	0.05		0.10	89M25

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