



CERTIFICATE OF ANALYSIS

Product : **Citric Acid Monohydrate Fine Granular**

E 330

Lot number : **UJ923** Manufacturing date : 06/2019
Date issued : 11/06/2019 Best use before : 06/2022
Date printed : 14/06/2019 Customer Order : 3712082
CB Delivery Number : 3722178259
CB Material Number : 0432776722
Destination : WIDNES

The Quality Assurance Department certifies that this lot is conform our specifications.

The product meets all requirements of the following compendia, when tested accordingly: USP, FCC, Ph. Eur., JP, JECFA and Commission Regulation (EC) N° 231/2012.

Test	Method	Results	Units	CB specifications
<u>Tested methods</u> **				
Appearance	visual test	meets specification		colourless crystals or white, granular to fine powder
Odour	odour test *	meets specification		odourless
Water	Karl-Fisher titration	8.14 / 8.58	% H ₂ O	8.10 - 8.70
Identification	EP *	meets specification		meets requirements
Sieving on (50 g, 5 minutes)	sieve test N°20 (850 µm)	1.1	%	max 5.0
Sieving through	sieve test N°100 (150 µm)	3.9	%	max 5.0
Colour	UV/VIS (50% w/v; 405 nm 1 cm cell)	99.21	% T	98.00 - 100.00
Clarity of solution	Colour *	meets specification		meets requirements
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Heavy metals (sum: Cd, Cr, Cu, Pb, Hg, Zn, Ni)	ICP *	< 1	ppm	< 1
Aluminium	ICP *	< 0.2	ppm	< 0.2
Arsenic	ICP *	< 1	ppm	< 1
Barium	ICP *	< 1	ppm	< 1
Calcium	ICP *	< 10	ppm	< 10
Chlorides	nephelometry *	< 5	ppm	< 5
Copper	ICP *	< 1	ppm	< 1
Iron	ICP *	< 1	ppm	< 1
Lead	ICP *	< 0.5	ppm	< 0.5
Magnesium	ICP *	< 1	ppm	< 1
Mercury	ICP *	< 1	ppm	< 1
Oxalates / oxalic acid	HPLC *	< 10	ppm	< 10
Sulphates	ICP *	< 30	ppm	< 30
Zinc	ICP *	< 1	ppm	< 1
Readily carbonizable substances	EP	meets specification		meets requirements
Extraneous matter	CB test	meets specification		passes CB test
Assay	calculated by water content	99.99 / 100.43	%	99.80 - 100.50
Sulphated ash/residue on ignition	FCC	meets specification		meets requirements
<u>Not tested methods:</u>				
Tridodecylamine				Not applicable for CB, only for solvent extracted citric acid.

** Test methods are available on request.

* Results are confirmed by representative testing on finished products.