

Typical Certificate of Analysis

Product: Vitamin C Capsules – USP Grade (Quali-C by DSM)
Country of Origin: United States

Test	Test method	Typical Result	Limits / specification
Appearance	Visual	powder	powder
Colour	Visual	white	white, slightly yellow
Clarity of 5% solution in water	Spectroscopy	clear	clear
Solution in water (5%)	Visual	complies	not more coloured than Ph. Eur. BY7
pH of 5% solution in water	Potentiometry	2.4	2.2 - 2.5
Specific rotation, 589nm, 20°C (68°F), 10%	Polarimetry	20.9°	20.5 - 21.5°
Loss on drying, 105°C (221°F), 4 hours	Gravimetric	0.03 %	≤ 0.1 %
Identity	IR spectroscopy	corresponds*	corresponds
Reduction of cupric tartrate	Visual	corresponds*	corresponds
Sulfated ash	Gravimetric	corresponds*	≤ 0.1 %
Heavy metals as Pb, colourimetric	Visual	corresponds*	≤ 10 ppm
Arsenic, colourimetric	Visual	corresponds*	≤ 3 ppm
Iron	AAS	corresponds*	≤ 2 ppm
Copper	AAS	corresponds*	≤ 5 ppm
Lead	AAS	corresponds*	≤ 2 ppm
Zinc	AAS	corresponds*	≤ 25 ppm
Mercury	ICP-MS	corresponds*	≤ 1 ppm
Oxalic acid	Visual	corresponds*	≤ 0.2 %
Assay	Titration	100.2 %	99.0 - 100.5 %
Through USP 100 (150 micron) sieve	Sieve analysis	100 %	Equal to 100 %
Through USP 200 (75 micron) sieve	Sieve analysis	100 %	≥ 95 %
Residual solvents: Ethanol	Gas chromatography	corresponds*	≤ 120 ppm
Residual solvents: Methanol	Gas chromatography	corresponds*	≤ 60 ppm
Related impurities: Impurity C	HPLC	0.05 %	≤ 0.15 %
Related impurities: Impurity D	HPLC	0.00 %	≤ 0.15 %
Total other than C and D	HPLC	0.0 %	≤ 0.2 %
Unspecified impurities >0.10%	HPLC	not present	not present

*) checked at regular intervals

TYPICAL / representative analysis from a prior production lot. Not the lot in your bag.