



Certificate of Analysis

1.00803.0000 L(+)-Tartaric acid powder EMPROVE® ESSENTIAL Ph Eur,BP,ChP,JP,NF,
E 334

Batch K56586003

	Spec. Values		Batch Values	
Assay (acidimetric; calculated on dried substance)	99.7 - 100.5	%	99.8	%
Identity (wet chemistry)	passes test		passes test	
Identity (IR)	passes test		passes test	
Appearance of solution (10 %; water)	passes test		passes test	
Spec. rotation $[\alpha]_{20/D}$ (20 %; water calculated on dried substance)	+12.0 - +12.8	°	+12.2	°
Spec. rotation $[\alpha]_{25/D}$ (20 %; water calculated on dried substance)	+12.0 - +13.0	°	+12.7	°
Chloride (Cl)	≤ 0.0100	%	≤ 0.0100	%
Sulfate (SO ₄)	≤ 0.0150	%	≤ 0.0150	%
Sulfate (NF)	passes test		passes test	
Heavy metals (as Pb)	≤ 0.0010	%	≤ 0.0010	%
As (Arsenic)	≤ 0.0001	%	≤ 0.0001	%
Ca (Calcium)	≤ 0.0200	%	≤ 0.0200	%
Calcium (JP)	passes test		passes test	
Hg (Mercury)	≤ 0.0001	%	≤ 0.0001	%
Pb (Lead)	≤ 0.0002	%	≤ 0.0002	%
Oxalates (as C ₂ H ₂ O ₄)	≤ 0.01	%	≤ 0.01	%
Oxalate (JP)	passes test		passes test	
Oxalate (NF)	passes test		passes test	
Residual solvents (ICH Q3C)	excluded by manufacturing process		excluded by manufacturing process	
Sulfated ash (600 °C)	≤ 0.05	%	< 0.01	%
Loss on Drying (105 °C)	≤ 0.2	%	< 0.1	%

Elemental impurity specifications have been set considering ICH Q3D (Guideline for Elemental Impurities). Class 1-3 elements are not likely to be present above the ICH Q3D option 1 limit, unless specified and indicated (*).

Corresponds to Ph Eur, BP, ChP, JP, NF, E 334

Conforms to the purity criteria on food additives according to the current European Commission Regulation.

Date of manufacture (DD.MM.YYYY) 21.02.2025

Date of examination (DD.MM.YYYY) 09.04.2025

Minimum shelf life (DD.MM.YYYY) 29.02.2028

Julian Hofmann

Responsible laboratory manager quality control

This document has been produced electronically and is valid without a signature.