

CERTIFICATE OF ANALYSIS

Product : MALIC ACID

 Product number
 : M1315

 Batch number
 : 011034

 Date of analysis
 : 15-08-2014

 Date of expiry
 : 31-08-2019

Packaging and storage : store in a well-closed container at room temperature

Appearance	SPECIFICATION white or almost white crystalline powder	RESULT complies	UNITS	REMARKS
Identification	conform	complies		
Appearance of solution	clear and colourless	complies		20% in H ₂ O
In water insoluble matter	≤ 0.1	complies	%	
Melting point	128 - 132	132	°C	
Specific rotation	-0.10 - +0.10	0.00	0	
Heavy metals	≤ 0.001	complies	%	as Pb
Arsenic	≤ 0.0003	complies	%	
Lead	≤ 0.0005	complies	%	
Copper	≤ 0.001	complies	%	
Mercury	≤ 0.00001	complies	%	
Zinc	≤ 0.001	complies	%	
Fumaric acid	≤ 1.0	complies	%	HPLC
Maleic acid	≤ 0.05	complies	%	HPLC
Sulphated ash	≤ 0.1	< 0.1	%	
Water	≤ 2.0	0.1	%	Karl Fischer
Assay	99.0 - 101.0	100.2	%	anhydrous substance

This certificate of analysis is conform the results of the manufacturer.

Conclusion: approved

Released by: drs. M. van Wissen, pharmacist

Department of Quality Control Duchefa B.V.

Date: 12-02-2015

The buyer is responsible to test each batch to ensure the product is suitable for their specific purpose.

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