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Jungbunzlauer

Certificate of Analysis

Creation date 14.01.2016	Your order no. / Date 55-04741 / 08.12.2015	Delivery note / Date of dispatch 80552465 000010 / 14.01.2016		
Our reference / Date 513869 000050 / 08.12.2015	Client number 200136	Date of arrival 15.01.2016		
Material / Product / Description 137683 / / LIQUINAT® 50 +/- 1 % Food grade Citric Acid Solution in 1250 kg IBC		Country of origin: AT		
Shipping point Jungbunzlauer Ladenburg GmbH Industriegebiet 1 / Altwasser Nord 68526 Ladenburg				
Batch 3039799	Quantity 6.250 KGL	Date of production 19.12.2015	Date of expiry 12.2016	Production plant Ladenburg, Germany

Parameter	Unit	Specification	Value
Characteristics			conforms
Food solution of citric acid anhydrous in water			
Appearance of solution			conforms
Clear, practically colourless solution			
Density (20°C)	g/cm3	1,234 - 1,248	1,243
Absorbance 405 nm; 1 cm		<= 0,015	0,002
Transmittance 450 nm; 1 cm	%	>= 98	100
Heavy metals	mg/kg	<= 5	conforms
Arsenic	mg/kg	<= 1	conforms*
Mercury	mg/kg	<= 1	conforms*
Chloride	mg/kg	<= 50	conforms*
Sulphate	mg/kg	<= 100	conforms*
Calcium	mg/kg	<= 100	conforms*
Magnesium	mg/kg	<= 50	conforms*
Sulphated ash	%	<= 0,05	conforms*
Lead	mg/kg	<= 0,5	conforms*
Oxalic acid /oxalates	mg/kg	<= 100	conforms*
Assay	%	49,0 - 51,0	50,1

We herewith confirm that citric acid in solution meets the requirements of the latest edition of the US and European Pharmacopoeia (USP, Ph. Eur.), the Food Chemicals Codex (FCC) and Commission Regulation (EU) No 231/2012. Test methods are available on request.

*) analysis is confirmed based on In-Process-Control or by random testing.

Expiry date:

Jungbunzlauer guarantees the expiry date only as long as the product stays in the originally sealed, cleaned and sterilized transport tank. We leave it to our customer to define a shelf life of the product after it has been filled into the customer's tank. Tests have shown that Liquinat is stable for at least 6 months from the production date when stored under optimum conditions.

This computer generated certificate is valid without signature.

Dr. Jochen Jung
 Quality Control Manager

ISO 9001:2008 certified by DNV Zertifizierung und Umweltgutachter GmbH.

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HRB 1592 Amtsgericht Mannheim
 UST-ID NR. DE144460377
 Geschäftsführer:
 Dr. Michael Alexandrow
 Werner Probst