

Certificate of Analysis

Creation date 09.08.2017	Your order no. / Date 011694 / 26.07.2017	Delivery note / Date of dispatch 80647142 000020 / 09.08.2017		
Our reference / Date 604884 000020 / 26.07.2017	Client number 217030	Date of arrival 15.08.2017		
Material / Product / Description 136940 / / Sodium-L(+)-lactate 60% Personal Care grade in 270 kg drums		Country of origin: FR		
Shipping point Jungbunzlauer S.A. Z.I. Et Portuaire - B.P. 32 67390 Marckolsheim				
Batch 5116280	Quantity 1,080 KG	Date of production 31.07.2017	Date of expiry 07.2019	Production plant Marckolsheim, France

We herewith confirm that this product meets the requirements of Commission Regulation (EU) No 231/2012, the latest edition of the Food Chemical Codex (FCC), the European Pharmacopoeia (Ph. Eur.) and the United States Pharmacopoeia (USP). All analytical methods are in accordance with the latest requirements of the FCC, the Ph.Eur. and the USP or equivalent methods. Test methods are available on request.

Parameter	Unit	Specification	Value
Assay	%	59.0 - 61.0	60.8
Stereochemical purity (L-isomer)	%	>= 97	conforms*
Colour (fresh)	APHA	<= 20.0	7.0
Identification			conforms
Acidity (as lactic acid)	%	<= 0.3	conforms*
pH value (20% solution)		6.5 - 7.5	7.2
Chloride	mg/kg	<= 50.00	conforms*
Sulphate	mg/kg	<= 20	conforms*
Cyanide	mg/kg	<= 0.3	conforms*
Iron	mg/kg	<= 5.0	conforms*
Arsenic	mg/kg	<= 1	conforms*
Lead (Pb)	mg/kg	<= 2.00	conforms*
Barium			conforms*
Mercury	mg/kg	<= 1	conforms*
Heavy Metals (as Pb)	mg/kg	<= 5	conforms*
Calcium	mg/kg	<= 20.0	conforms*
Methanol and methyl esters	mg/kg	<= 50	conforms*
Citrate, oxalate, phosphate, tartrate			conforms*
Reducing sugars			conforms*

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