

ISO 22241-1 Quality Characteristics of DEF fluid

LAB CODE: 3M0818UR1

CLIENT CODE: UREA LIQUOR 32.5%

RECEIVED DATE: 03/14/2013

ALT. CODE: N/A

REPORT DATE: 3/20/2013

AR CODE: MR30667A

GRADE: N/A

REQUESTOR: PEDERSEN, R

REF NO.: N/A

CONDUCTED FOR: DEF Products
422 East Barioni Blvd.
Imperial, CA 92251

Test Completion Date	Characteristics	Unit	Limits		Results	Test methods
			min.	max.		
3/15/2013	Urea content	% (m/m)	31,8	33,2	32.4	ISO 22241-2 Annex B 32.6 ISO 22241-2 Annex C 32.3
3/16/2013	Density at 20 °C	kg/m ³	1 087,0	1 093,0	1088.6	ISO 12185
3/15/2013	Refractive index at 20 °C	—	1,381 4	1,384 3	1.3821	ISO 22241-2 Annex C
3/15/2013	Alkalinity as NH ₃	% (m/m)	—	0,2	0.04	ISO 22241-2 Annex D
3/15/2013	Biuret	% (m/m)	—	0,3	0.06	ISO 22241-2 Annex E
3/15/2013	Aldehydes	mg/kg	—	5	0.9	ISO 22241-2 Annex F
3/19/2013	Insoluble matter	mg/kg	—	20	3.0	ISO 22241-2 Annex G
3/15/2013	Phosphate (PO ₄)	mg/kg	—	0,5	0.27	ISO 22241-2 Annex H
3/19/2013	Calcium	mg/kg	—	0,5	0.3	ISO 22241-2 Annex I
3/19/2013	Iron	mg/kg	—	0,5	<0.1	
3/19/2013	Copper	mg/kg	—	0,2	<0.1	
3/19/2013	Zinc	mg/kg	—	0,2	<0.1	
3/19/2013	Chromium	mg/kg	—	0,2	<0.1	
3/19/2013	Nickel	mg/kg	—	0,2	<0.1	
3/19/2013	Aluminum	mg/kg	—	0,5	<0.1	
3/19/2013	Magnesium	mg/kg	—	0,5	<0.1	
3/19/2013	Sodium	mg/kg	—	0,5	<0.1	
3/19/2013	Potassium	mg/kg	—	0,5	<0.1	
3/14/2013	Identity	—	identical to reference		YES	ISO 22241-2 Annex J

In my opinion, the testing on this report was conducted in a valid manner according to the test method listed.

Test results only apply to sample(s) provided. Samples are tested as received from the customer.

Test Deviations: Annex H - H.3.2, Incineration dish used is porcelain.

Remarks:

Joe Franklin
Manager, Analytical Testing

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