

#### Zeon Chemicals L.P. 4100 Bells Lane Louisville, Kentucky 40211

# **CERTIFICATE OF ANALYSIS**

То:			s	Shipped To:					
			}						
Custo	omer Order No.	Zeon Order No. Issue Date Co		Count	ry of Orig	in Date Man	Date Manufactured		
		09/28/2015		00411017 01 0113111		I	06/18/2007		
		Zeon Product Description Lo			Lot N	Īo.	Amount ()	Amount()	
		NIPOL 1411C		LOC NO		0	· ·		
NO	PARAMETERS TEST PROCEDURES					SPECIFIC MIN	ATION MAX	ACTUAL VALUE	
								***************************************	
1	Raw Polymer:	ASTM D1646	on doe d						
	Mooney Viscosity	ML 1' + 4' @ 10	ou deg C						
2	Cure Profile	Micro Dies 1600	- !	ML					
	ODR ASTM D-2084 Using Compound	Arc, 100 CPM, 30 min. MH and no preheat. Used   Ts1							
	per ASTM D3187	Industry Ref Bl	:	r'90					
3	Total Volatiles	ASTM D1416 Mill-Oven N/A - See Ne				leat Loss	Below		
4	Total Ash %	ASTM D1416 As Specified							
5	ASTM D1416 Total	Except: Use absolute							
	Extractables	Methanol as solvent in a soxhlet continous							
		extractor for 16 hrs.							
	David ROV 0	5707 5			26.70	40.30	20.20		
6	Bound ACN %	ZEON Procedure 325			36.70	40.30	38.30		
7	HEAT LOSS (%)	ZEON Procedure 1339				0.00	0.70	0.14	
8   9	T-100 (%) Total Ash (MW) %	ZEON Procedure 1372 ZEON Procedure 1502				80.00 2.50	100.00 13.00	91.54 5.75	
	TOTAL ASII (MM) 6	ZEON Procedure	1502			2.50	13.00	3.73	
Recommended Storage: Store under 75 degree F					critical ı	oarameters		l	
and 50% R.H. with no exposure to direct light.					3/17/200				
Remarks: Certificate of Analysis to be MAILED.									
	If the above address, product code, or specification are in error, please call 1-800-735-3388. THANK YOU FOR YOUR BUSINESS!								
	picaco can i ot								
Certified	l by: Gina Warner	Glaillanes	Title	e: QC I	_ab Sup	<u>ervisor</u>	Date: <u>09/28</u>	3/2015	

The test results herein are believed to be accurate but are laboratory tests based on limited sampling which do not necessarily simulate actual use conditions. NO REPRESENTATIONS, GUARANTEES OR WARRANTIES OF ANY KIND ARE MADE AND ZEON SPECIFICALLY DISCLAIMS THE IMPLIED WARRANTY OF MERCHANTABILITY AND THE IMPLIED WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE. ZEON shall not be liable for and the customer assumes all risk and liability for any use or handling of any material beyond ZEON's direct control.



### Zeon Chemicals L.P. 4100 Bells Lane Louisville, Kentucky 40211

## **CERTIFICATE OF ANALYSIS**

Customer Order No. Zeon Order No. Issue Date 05/28/2015   Country of Origin Date Retested 05/16/2008    Zeon Product Description NIPOL 1411C   SPECIFICATION NOTED NIPOL 1411C   Amount()  NO PARAMETERS TEST PROCEDURES   SPECIFICATION MIN MAX VALUE    1 Raw Polymer: Money Viscosity ML 1' + 4' @ 100 deg C   ML 1' + 4' @ 100 deg C    2 Cure Profile ODR ASTM D-2084 Widron Dies 160C 1 deg   ML Arc, 100 CPM, 30 min.   MH and no preheat. Used   Tel Industry Ref Black 6   T'90    3 Total Volatiles ASTM D1416 Mill-Oven N/A - See Peat Loss Below    4 Total Ash & ASTM D1416 Mill-Oven N/A - See Peat Loss Below    5 ASTM D1416 Total Except: Use absolute Methanol as solvent in a soxhlet continous extractor for 16 hrs.    10 Agglomerat'n Chk ZEON Procedure Visual No Agglomn    Recommended Storage: Store under 75 degree F and 50% R.H. with no exposure to direct light.    Remarks: Certificate of Analysis to be MAILED.    If the above address, product code, or specification are in error, please call 1-800-735-3388. THANKY VOU FOR YOUR BUSINESSI										
D9/28/2015   D5/16/2008	To:				Shipped To:					
D9/28/2015   D5/16/2008										
D9/28/2015   D5/16/2008										
D9/28/2015   D5/16/2008								,		
NIPOL 1411C    NO   PARAMETERS   TEST PROCEDURES   SPECIFICATION   MAX   VALUE	Customer Order No.		• • •			Count	ry of Orig			
NO PARAMETERS TEST PROCEDURES MIN MAX VALUE  1 Raw Polymer: Money Viscosity ML 1' + 4' @ 100 deg C  2 Cure Profile ODR ASTM D-2084 Using Compound per ASTM D3187 Industry Ref Black 6 T 90  3 Total Volatiles ASTM D1416 Mill-Oven N/A - See Reat Loss Below  4 Total Ash % ASTM D1416 As Specified  5 ASTM D1416 Total Extractables Methanol as solvent in a soxhlet continous extractor for 16 hrs.  10 Agglomerat'n Chk ZEON Procedure Visual No Agglomn  Recommended Storage: Store under 75 degree F and 50% R.H. with no exposure to direct light.  Remarks: Certificate of Analysis to be MAILED. If the above address, product code, or specification are in error,			- 1							
Mooney Viscosity   ML 1' + 4' @ 100 deg C	NO	PARAMETERS	TEST PROCEDURES					Ĭ		
ODR ASTM D-2084 Using Compound per ASTM D3187  Total Volatiles  ASTM D1416 Mill-Oven  N/A - See Feat Loss  Below  Total Ash % ASTM D1416 As Specified  SASTM D1416 Total Extractables  Methanol as solvent in a soxhlet continous extractor for 16 hrs.  Agglomerat'n Chk  ZEON Procedure Visual  Recommended Storage: Store under 75 degree F and 50% R.H. with no exposure to direct light.  Remarks: Certificate of Analysis to be MAILED.  If the above address, product code, or specification are in error,	1									
4 Total Ash % ASTM D1416 As Specified  5 ASTM D1416 Total Except: Use absolute Methanol as solvent in a soxhlet continous extractor for 16 hrs.  10 Agglomerat'n Chk ZEON Procedure Visual No Agglomn  Recommended Storage: Store under 75 degree F and 50% R.H. with no exposure to direct light.  Remarks: Certificate of Analysis to be MAILED. If the above address, product code, or specification are in error,	2	ODR ASTM D-2084 Using Compound	Arc, 100 CPM, 30 min. MH and no preheat. Used   Ts1							
5 ASTM D1416 Total Except: Use absolute Methanol as solvent in a soxhlet continous extractor for 16 hrs.  10 Agglomerat'n Chk ZEON Procedure Visual No Agglomn  Recommended Storage: Store under 75 degree F and 50% R.H. with no exposure to direct light.  Remarks: Certificate of Analysis to be MAILED. If the above address, product code, or specification are in error,	3	Total Volatiles	ASTM D1416 Mill-Oven				N/A - See Feat Loss Be		elow	
Extractables Methanol as solvent in a soxhlet continous extractor for 16 hrs.  10 Agglomerat'n Chk ZEON Procedure Visual No Agglomn  Recommended Storage: Store under 75 degree F and 50% R.H. with no exposure to direct light.  Remarks: Certificate of Analysis to be MAILED. If the above address, product code, or specification are in error,	4	Total Ash %	ASTM D1416 As Specified							
Recommended Storage: Store under 75 degree F and 50% R.H. with no exposure to direct light.  Remarks: Certificate of Analysis to be MAILED.  If the above address, product code, or specification are in error,	5		Methanol as solvent in a soxhlet continous							
and 50% R.H. with no exposure to direct light.  Remarks: Certificate of Analysis to be MAILED.  If the above address, product code, or specification are in error,	10	Agglomerat'n Chk	ZEON Procedure Visual					1	Agg:	lomn
If the above address, product code, or specification are in error,										
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Title: QC Lab Supervisor

Date: 09/28/2015

Sha Warren

Certified by: Gina Warner



#### Zeon Chemicals L.P. 4100 Bells Lane Louisville, Kentucky 40211

## **CERTIFICATE OF ANALYSIS**

To:			Sh:	pped To	:				
Customer Order No.		Zeon Order No. Issue Date 09/28/2015			try of Orig	I	Date Retested 05/05/2009		
		Zeon Product Description NIPOL 1411C				Amount()	,,,		
ио	PARAMETERS	TEST PROCEDURES			SPECIFI MIN	CATION MAX	ACTUAL VALUE		
1	Raw Polymer: Mooney Viscosity	ASTM D1646 ML 1' + 4' @ 100 deg C							
2	Cure Profile ODR ASTM D-2084	Micro Dies 160C 1 deg   ML Arc, 100 CPM, 30 min.   MH							
	Using Compound per ASTM D3187	and no preheat. Used   Tsl Industry Ref Black 6   T'90							
	-				N/2 G 1	//	D-1		
3	Total Volatiles	ASTM D1416 Mill-Oven			N/A - See	eat Loss	Below		
4	Total Ash %	ASTM D1416 As Specified							
5	ASTM D1416 Total Extractables	Except: Use abs							
	Exclactables	Methanol as solvent in a soxhlet continous							
		extractor for 16 hrs.							
11	Agglomerat'n Chk	ZEON Procedure Visual				No	Agglomn		
Recommended Storage: Store under 75 degree F and 50% R.H. with no exposure to direct light.				Retest critical parameters after 05/05/2010					
Remarks: Certificate of Analysis to be MAILED.									
If the above address, product code, or specification are in error, please call 1-800-735-3388. THANK YOU FOR YOUR BUSINESS!									
	,								
Certified by: Gina Warner Title: QC Lab Supervisor Date: 09/28/2015									

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