 THE DOW CHEMICAL COMPANY		Ship From: BAY CITY Whse BAY CITY Michigan, United States			
Certificate of Analysis Product Number 00000002946 Product Name METHOCEL™ K4M Premium CR Hydroxypropyl Methylcellulose Delivery No. Order Number Shipping Units 2800.000 KG Date Shipped 2018-02-14 (YYYY-MM-DD) Shipment No.		Customer Information Customer Name Customer PO number Customer Product Code Container ID			
Batch Number Retest Date 2023-01-27 (YYYY-MM-DD) Manufacturing Date 2018-01-28 (YYYY-MM-DD) Quantity 2800.000 KG Net Weight 6172.948 LB Manufacturing Plant MIDLAND Methocel Country of Origin US Country of Origin Name United States It is hereby certified the material indicated above has been manufactured in accordance with the FDA cGMPs, Kosher guidelines, was inspected and tested in accordance with the conditions and the requirements of current USP, EP and JP for Hypromellose as well as the current specific purity criteria for the food additive Hydroxypropyl Methyl Cellulose (E464) and unless agreed otherwise conforms in all respects to the specification relevant thereto.					
Test	Unit	Lower Limit	Upper Limit	Value	Method
Apparent Viscosity BROOKFIELD 2% IN WATER, @ 20DEGC	mPa.s	2663	4970	3459	Current USP/EP/JP
Loss on Drying	%		5.0	1.4	Current USP/EP/JP
Ash, Sulfated	%		1.5	0.7	Current EP
Appearance Opalescence	-	-	-	Pass	Current EP
Appearance Solution Color	-	-	-	Pass	Current EP
Residue on Ignition	%		1.5	0.7	Current USP/JP
Assay, Methoxyl	%	22.0	24.0	22.9	Current USP/EP/JP
pH, 2% in Water		5.0	8.0	7.4	Current USP/EP/JP
Assay, Hydroxypropoxyl	%	7.5	9.5	8.8	Current USP/EP/JP



THE DOW CHEMICAL COMPANY

Ship From: BAY CITY Whse
 BAY CITY
 Michigan, United States

Particle Size	%	99.0	99.9	DOWM 100669
Thru 40 U. S. Std. Sieve				
Particle Size	%	90.0	98.6	DOWM 100669
Thru 100 U. S. Std Sieve				
Particle Size	%	50.0	80.0	64.0
Thru 230 U.S.Std. Sieve				DOWM 100669


This batch, based on audit testing and process control, is certified to be NMT 20 ppm heavy metals (as Pb) and also meets all specification requirements for harmonized identification tests, residual solvents and microbiological limits.

Shari Workentine

Shari Workentine
 Dow Pharma & Food Solutions Quality System Specialist

For inquiries please contact Customer Service or local sales


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 DDP SPECIALTY ELECTRONIC MATERIALS US, INC.	Ship From: BAY CITY Whse BAY CITY Michigan, United States
Certificate of Analysis	Customer Information
Product Number 00000002946	Customer Name
Product Name METHOCEL™ K4M Premium CR Hydroxypropyl Methylcellulose	Customer PO number
Delivery No.	Customer Product Code
Order Number	
Shipping Units 2700.000 KG	Container ID
Date Shipped 2018-11-13 (YYYY-MM-DD)	
Shipment No.	


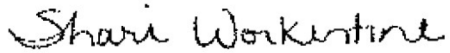
Batch Number	
Retest Date	2023-09-18 (YYYY-MM-DD)
Manufacturing Date	2018-09-19 (YYYY-MM-DD)
Quantity	2700.000 KG
Net Weight	5952.486 LB
Manufacturing Plant	MIDLAND Methocel
Country of Origin	US
Country of Origin Name	United States

It is hereby certified the material indicated above has been manufactured in accordance with the FDA cGMPs, Kosher guidelines, was inspected and tested in accordance with the conditions and the requirements of current USP, EP and JP for Hypromellose as well as the current specific purity criteria for the food additive Hydroxypropyl Methyl Cellulose (E464) and unless agreed otherwise conforms in all respects to the specification relevant thereto.

Test	Unit	Lower Limit	Upper Limit	Value	Method
Apparent Viscosity BROOKFIELD 2% IN WATER, @ 20DEGC	mPa.s	2663	4970	4509	Current USP/EP/JP
Loss on Drying	%		5.0	2.3	Current USP/EP/JP
Ash, Sulfated	%		1.5	0.9	Current EP
Appearance Opalescence	-	-	-	Pass	Current EP
Appearance Solution Color	-	-	-	Pass	Current EP
Residue on Ignition	%		1.5	0.9	Current USP/JP
Assay, Methoxyl	%	22.0	24.0	22.7	Current USP/EP/JP
pH, 2% in Water		5.0	8.0	6.6	Current USP/EP/JP
Assay, Hydroxypropoxyl	.%	7.5	9.5	8.7	Current USP/EP/JP

 <p>DDP SPECIALTY ELECTRONIC MATERIALS US, INC.</p>	<p>Ship From: BAY CITY Whse BAY CITY Michigan, United States</p>
<p>Particle Size % 99.0</p> <p>Thru 40 U. S. Std. Sieve</p>	<p>99.9 DOWM 100669</p>
<p>Particle Size % 90.0</p> <p>Thru 100 U. S. Std Sieve</p>	<p>99.4 DOWM 100669</p>
<p>Particle Size % 50.0</p> <p>Thru 230 U.S.Std. Sieve</p>	<p>80.0 73.6 DOWM 100669</p>
<p>This batch, based on audit testing and process control, is certified to be NMT 20 ppm heavy metals (as Pb) and also meets all specification requirements for harmonized identification tests, residual solvents and microbiological limits.</p>	
<p><i>Shari Workentine</i></p> <p>Shari Workentine Dow Pharma & Food Solutions Quality System Specialist</p> <p>For inquiries please contact Customer Service or local sales © TM Trademark of The Dow Chemical Company ("Dow") or an affiliated company of Dow</p>	

 THE DOW CHEMICAL COMPANY		Ship From: BAY CITY Whse BAY CITY Michigan, United States			
Certificate of Analysis Product Number 00000002946 Product Name METHOCEL™ K4M Premium CR Hydroxypropyl Methylcellulose Delivery No. Order Number Shipping Units 2800.000 KG Date Shipped 2018-01-17 (YYYY-MM-DD) Shipment No.		Customer Information Customer Name Customer PO number Customer Product Code Container ID			
Batch Number Retest Date 2022-11-05 (YYYY-MM-DD) Manufacturing Date 2017-11-06 (YYYY-MM-DD) Quantity 2800.000 KG Net Weight 6172.948 LB Manufacturing Plant MIDLAND Methocel Country of Origin US Country of Origin Name United States		It is hereby certified the material indicated above has been manufactured in accordance with the FDA cGMPs, Kosher guidelines, was inspected and tested in accordance with the conditions and the requirements of current USP, EP and JP for Hypromellose as well as the current specific purity criteria for the food additive Hydroxypropyl Methyl Cellulose (E464) and unless agreed otherwise conforms in all respects to the specification relevant thereto.			
Test	Unit	Lower Limit	Upper Limit	Value	Method
Apparent Viscosity BROOKFIELD 2% IN WATER, @ 20DEGC	mPa.s	2663	4970	4729	Current USP/EP/JP
Loss on Drying	%		5.0	1.7	Current USP/EP/JP
Ash, Sulfated	%		1.5	0.4	Current EP
Appearance Opalescence	-	-	-	Pass	Current EP
Appearance Solution Color	-	-	-	Pass	Current EP
Residue on Ignition	%		1.5	0.4	Current USP/JP
Assay, Methoxyl	%	22.0	24.0	22.9	Current USP/EP/JP
pH, 2% in Water		5.0	8.0	6.8	Current USP/EP/JP
Assay, Hydroxypropoxyl	%	7.5	9.5	9.3	Current USP/EP/JP

				
THE DOW CHEMICAL COMPANY		Ship From: BAY CITY Whse BAY CITY Michigan, United States		
Particle Size	%	99.0	99.9	DOWM 100669
Thru 40 U. S. Std. Sieve				
Particle Size	%	90.0	97.9	DOWM 100669
Thru 100 U. S. Std Sieve				
Particle Size	%	50.0	80.0	56.8
Thru 230 U.S.Std. Sieve				
This batch, based on audit testing and process control, is certified to be NMT 20 ppm heavy metals (as Pb) and also meets all specification requirements for harmonized identification tests, residual solvents and microbiological limits.				
				
Shari Workentine Dow Pharma & Food Solutions Quality System Specialist				
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THE DOW CHEMICAL COMPANY

Ship From: BAY CITY Whse
 BAY CITY
 Michigan, United States

Certificate of Analysis

Customer Information

Product Number 00000002946
 Product Name
 METHOCEL™ K4M Premium CR Hydroxypropyl
 Methylcellulose
 Delivery No.
 Order Number
 Shipping Units 2800.000 KG
 Date Shipped 2017-10-04 (YYYY-MM-DD)
 Shipment No.

Customer Name
 Customer PO number
 Customer Product Code
 Container ID

Batch Number
 Retest Date 2022-05-14 (YYYY-MM-DD)
 Manufacturing Date 2017-05-15 (YYYY-MM-DD)
 Quantity 2800.000 KG
 Net Weight 6172.948 LB
 Manufacturing Plant MIDLAND Methocel
 Country of Origin US
 Country of Origin Name United States

It is hereby certified the material indicated above has been manufactured in accordance with the FDA cGMPs, Kosher guidelines, was inspected and tested in accordance with the conditions and the requirements of current USP, EP and JP for Hypromellose as well as the current specific purity criteria for the food additive Hydroxypropyl Methyl Cellulose (E464) and unless agreed otherwise conforms in all respects to the specification relevant thereto.

Test	Unit	Lower Limit	Upper Limit	Value	Method
Apparent Viscosity BROOKFIELD 2% IN WATER, @ 20DEGC	mPa.s	2663	4970	3113	Current USP/EP/JP
Loss on Drying	%		5.0	1.6	Current USP/EP/JP
Ash, Sulfated	%		1.5	0.6	Current EP
Appearance Opalescence	-	-	-	Pass	Current EP
Appearance Solution Color	-	-	-	Pass	Current EP
Residue on Ignition	%		1.5	0.6	Current USP/JP
Assay, Methoxyl	%	22.0	24.0	22.9	Current USP/EP/JP
pH, 2% in Water		5.0	8.0	7.1	Current USP/EP/JP
Assay, Hydroxypropoxyl	%	7.5	9.5	8.9	Current USP/EP/JP



THE DOW CHEMICAL COMPANY

Ship From: BAY CITY Whse
 BAY CITY
 Michigan, United States

Particle Size Thru 40 U. S. Std. Sieve	%	99.0	100.0	DOWM 100669
Particle Size Thru 100 U. S. Std Sieve	%	90.0	99.9	DOWM 100669
Particle Size Thru 230 U.S.Std. Sieve	%	50.0	80.0 60.2	DOWM 100669

This batch, based on audit testing and process control, is certified to be NMT 20 ppm heavy metals (as Pb) and also meets all specification requirements for harmonized identification tests, residual solvents and microbiological limits.

Shari Workentine

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