



DOW CHEMICAL CANADA ULC

Ship From: PLAQUEMINE LAD  
 PLAQUEMINE  
 United States

**Certificate of Analysis**

Product Number 00000178966  
 Product Name  
 CARBOWAX™ SENTRY™ Polyethylene Glycol 400 NF;  
 Macrogol 400 Ph. Eur.

Date Shipped 2016-12-14 (YYYY-MM-DD)

Batch Number  
 Retest Date 2019-12-14 (YYYY-MM-DD)  
 Manufacturing Date 2016-12-14 (YYYY-MM-DD)

It is hereby certified that the material indicated above has been manufactured in accordance with the current Joint International Pharmaceutical Excipients Council (IPEC) Pharmaceutical Quality (PQG) Good Manufacturing Practices Guide for Pharmaceutical Excipients was inspected and tested in accordance with the conditions and the requirements of current monographs for National Formulary Polyethylene Glycols; European Pharmacopoeia - MACROGOLS. The manufacturing facility and the product have been Kosher certified.

Test	Unit	Lower Limit	Upper Limit	Value	Method
Mole Weight, Average		380	420	398	Current NF
Ethylene Oxide	ppm	-	10	0	Current NF
1,4-Dioxane	ppm	-	10	0	Current NF
EG + DEG	WT%	-	0.25	0.03	Current NF
pH 25degC 5% aqueous solution		4.5	7.5	5.6	Current NF
Viscosity 210degF	cSt	6.8	8.0	7.2	Current NF
Q Comp & Color of Soln 5g/50mL-less than slight haze	-	-	-	Pass	Current NF
Q Residue on Ignition less than 0.1%	-	-	-	Pass	Current USI
Q Heavy Metals less than 5 ppm	-	-	-	Pass	Current USI
Appearance clear, viscous, almost colorless liquid	-	-	-	Pass	Current EP
Identification: a	-	-	-	Pass	Current EP
Acidity less than 0.1mL of 0.1M NaOH	-	-	-	Pass	Current EP



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Hydroxyl Value		264	300	282	Current EP
EG + DEG	WT%	-	0.4	0.0	Current EP
Ethylene Oxide	ppm	-	1	0	Current EP
1,4-Dioxane	ppm	-	10	0	Current EP
Water	WT%	-	0.5	0.0	Current EP
Q Identification: b, c	-	-	-	Pass	Current EP
Q Appearance of Soln	-	-	-	Pass	Current EP
Q Reducing Substances	-	-	-	Pass	Current EP
Q Formaldehyde	-	-	-	Pass	Current EP
less than 30 ppm					
Q Heavy Metals	-	-	-	Pass	Current USI
less than 20 ppm					
Q Sulphated Ash	-	-	-	Pass	Current USI
less than 0.2%					
Appearance	-	-	-	Pass	1B-ZMETH-20
neat					
Color, Pt-Co	-	-	18	5	ASTM D5386
Freezing Point	-	-	-	Pass	ASTM D1177
between 4 - 8 deg C					
1 1,4-Dioxane	-	-	-	Pass	Current NF,
less than 380 ppm					
1 Ethylene glycol	-	-	-	Pass	Current NF,
less than 620 ppm					

In addition to the requirements noted, the following parameters comply with the 2015 Chinese Pharmacopeia: Identification Test (1) (2): Pass; Ethylene Glycol: 0.1 wt% max.; Diethylene Glycol: 0.1 wt% max.; Acidity/pH (5% solution): 4.0 - 7.0; Kinematic Viscosity @ 40°C: 37 - 45 mm<sup>2</sup>/s; Relative Density: 1.110 - 1.140; Congealing Point: 4 - 8°C; Heavy Metals: 5 ppm max; Residue on Ignition: 0.1% max; Arsenic: 3 ppm max.

1:Residual Solvents - Class 2 Solvent

Q:Analyzed Quarterly



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*Sara M. Mausolf*

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Quality Coordinator

Original Manufacture/Location of Manufacture: D210=The Dow Chemical Company, 21255 Highway 1, Building 5501, Plaquemine, LA 70764, Phone: 800-331-6451

Bulk SENTRY- PEGS: The Dow Chemical Company, Plaquemine, LA  
Packaged SENTRY- PEGS: Manufacturing: The Dow Chemical Company, Plaquemine LA; Packaging: Delta Companies Group St. Gabriel, LA 70776, 225-642-2577.

For inquiries please contact Customer Service or local sales

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