

Date: 30.10.2012  
00.00.0000

Certificate of Analysis

Shipped:

Quality Assurance  
DOW CHEMICAL PACIFIC LIMITED  
PORT OF KEELUNG  
CHUNGCHENG

Fax:  
KE 202  
TAIWAN

Cust P.O.: 040/85/40217617  
71741449 50  
Cust Ref:  
18575069

Delvy Note:

Order No.:

Material: CARBOWAX(TM) SENTRY(TM) POLYETHYLENE  
GLYCOL 8000 POWDER NF, FCC GRADE;  
MACROGOL 8000 Ph. Eur.

Spec: 00126436-

S

Cust Mtl:

Batch: 1A2855S7B1  
Retest Date: 28.01.2015

Vehicle: OOLU-197555-4  
Ship from: THE DOW CHEMICAL COMPANY HOUSTON TX UNITED STATES

This material meets the requirements of the current U.S.P. / National Formulary, current European Pharmacopoeia, and this Dow specification.

Feature	Units	Results	Limits		Method
		1A2855S7B1	Minimum	Maximum	
Molecular Weight	-	8,592	7,000	9,000	1B-ZMETH-1.3
Hydroxyl Number	-	13	12	16	1B-ZMETH-1.2
pH at 25degC	-	6.7	4.5	7.5	1B-ZMETH-16.2
5% aqueous solution					
Visc @ 210degF, cSt	cSt	777	500	900	1B-ZMETH-23
(NF)					
Visc @ 20degC	mPa.s	396	260	510	1B-ZMETH-23d
50% AQ (EP)					
Color, Pt-Cc	-	8	----	18	1B-ZMETH-3.8
25% aqueous solution					
Water	% wt	0.1	----	1.0	1B-ZMETH-24
1,4-Dioxane	ppm	0	----	10	1B-ZMETH-5.1
RO, Residual	ppm	0	----	1	1B-ZMETH-5.1
Suspended Matter		Passes			1B-ZMETH-20.5
Acidity (EP)		Passes			1B-ZMETH-1.16
less than 0.1mL of 0.1M NaOH					

Certificate 5911954  
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The Dow Chemical Company

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00.00.0000

Quality Assurance  
DOW CHEMICAL PACIFIC LIMITED Fax:  
PORT OF KEELUNG  
CHUNGCHENG KE 202 TAIWAN

Cust P.O.: 040/85/40217617 Dlvv Note:  
71741449 50  
Cust Ref: Order No.:  
18575069

Material: CARBOWAX(TM) SENTRY(TM) POLYETHYLENE  
GLYCOL 8000 POWDER NF, FCC GRADE;  
MACROGOL 8000 Ph. Eur. Spec: 00126436-

S  
Cust Mtl:

Batch: 1A2855S7B1  
Retest Date: 28.01.2015

The following parameters are tested quarterly:  
Total ethylene and diethylene glycols (FCC), 0.2 wt%, max.;  
Ethylene glycol (EP), 620 ppm, max.; Heavy metals (NF), 5 ppm, max.;  
Heavy metals (EP), 20 ppm, max.; ID test (EP) a,b,c, Pass; Residue on  
ignition (NF), 0.1 wt%, max.; Sulphated ash (EP), 0.2 wt%, max.;  
Completeness and color of solution (NF), Pass; Ethylene Oxide (EP),  
1 ppm, max.; Dioxan (EP), 10 ppm, max. Freezing Point, meets  
value range in the EP monograph; Appearance of sol.(EP), Pass;  
Formaldehyde (EP), 15 ppm, max.; Reducing Substances (EP), Pass;  
Appearance, white or almost white solid with a waxy or paraffin-like  
appearance

Ph. Eur. 2.4.24. Identification and Control of Residual Solvents.  
Only Class 2 solvents ethylene glycol and 1,4-dioxane and the Class 3  
solvent acetic acid are likely to be present. Residual Class 2 solvents  
are below the Option 1 limit and the residual Class 3 solvent is below  
0.5%.

This product contains BHT, nominal concentration 100 ppm

Original Manufacture/Location of Manufacture:  
55/S7=The Dow Chemical Company, St. Charles Operations, E-Park Plant,  
Highway 3142, Hahnville, LA 70057 (previously known as Taft), 800-331-  
6451.

Bulk SENTRY- PEGs: The Dow Chemical Company, St. Charles Operations,  
E-Park Plant  
Packaged SENTRY- PEGs: Manufacturing: The Dow Chemical Company,  
St. Charles Operations, E-Park Plant; Packaging: The Dow Chemical  
Company,  
St. Charles Operations, E-Park Plant



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Quality Coordinator  
Specialty Chemicals

Certificate 5911954      The Dow Chemical Company      Page  
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Date: 30.10.2012      Certificate of Analysis      Shipped:  
00.00.0000

Quality Assurance  
DOW CHEMICAL PACIFIC LIMITED      Fax:  
PORT OF KEELUNG  
CHUNGCHENG      KE 202      TAIWAN

Cust P.O.: 040/85/4021/617      Dlv Note:

71741449 50

Cust Ref:      Order No.:

18575069

Material: CARBOWAX(TM) SENTRY(TM) POLYETHYLENE  
GLYCOL 8000 POWDER NF, FCC GRADE;  
MACROGOL 8000 Ph. Eur.      Spec: 00126436-

S

Cust Mtl:

Batch: 1A2855S7B1

Retest Date: 28.01.2015

For inquiries please contact Customer Service or local sales.

\* Trademark of The Dow Chemical Company



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Date: 15.03.2012 Certificate of Analysis Shipped: 00.00.0000

Quality Assurance  
DOW CHEMICAL PACIFIC LIMITED Fax:  
PORT OF KEELUNG  
KEELUNG KE 202 TAIWAN

Cust P.O.: 040/85/40208883 Divy Note: 71455510 20  
Cust Ref: Order No.: 18324217

Material: CARBOWAX(TM) SENTRY(TM) POLYETHYLENE  
GLYCOL 3350 POWDER NF, FCC GRADE;  
MACROGOL 3350 Ph. Eur. Spec: 00126475-S

Cust Mtl:  
Batch: 1B2555S7B1  
Retest Date: 25.02.2015

Vehicle: FSCU-341714-7  
Ship from: THE DOW CHEMICAL COMPANY HOUSTON TX UNITED STATES

This material meets the requirements of the current U.S.P. / National  
Formulary, current European Pharmacopoeia, and this Dow specification.

Feature	Units	Results	Limits		Method
		1B2555S7B1	Minimum	Maximum	
Molecular Weight	-	3,283	3,015	3,685	1B-ZMETH-1.3
Hydroxyl Number	-	34	30	38	1B-ZMETH-1.2
pH at 25degC	-	6.9	4.5	7.5	1B-ZMETH-16.2
5% aqueous solution Visc @ 210degF, cSt cSt (NF)		93	76	110	1B-ZMETH-23
Visc @ 20degC 50% AQ (EP)	mPa.s	94	83	120	1B-ZMETH-23d
Color, Pt-Co	-	3	----	18	1B-ZMETH-3.8
25% aqueous solution Water	% wt	0.2	----	1.0	1B-ZMETH-24
1,4-Dioxane	ppm wt	0	----	10	1B-ZMETH-5.1
EO, Residual	ppm	0	----	1	1B-ZMETH-5.1
Suspended Matter		Passes			1B-ZMETH-20.5
Acidity (EP)		Passes			1B-ZMETH-1.16
less than 0.1mL of 0.1M NaOH					

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Date: 15.03.2012 Certificate of Analysis Shipped: 00.00.0000

Quality Assurance  
DOW CHEMICAL PACIFIC LIMITED Fax:  
PORT OF KEELUNG  
KEELUNG KE 202 TAIWAN

Cust P.O.: 040/85/40208883 Divy Note: 71455510 20  
Cust Ref: Order No.: 18324217

Material: CARBOWAX(TM) SENTRY(TM) POLYETHYLENE



1078

GLYCOL 3350 POWDER NF, FCC GRADE;  
MACROGOL 3350 Ph. Eur.

Spec: 00126475-S

Cust Mtl:

Batch: 1B2555S7B1  
Retest Date: 25.02.2015

Although every batch may not be tested, the material meets the following: Total ethylene and diethylene glycols (FCC), 0.2 wt%, max.; Ethylene glycol (EP), 620 ppm, max.; Heavy metals (NF), 5 ppm, max.; Heavy metals (EP), 20 ppm, max.; ID test (EP) a,b,c, Pass; OVI (NF), Pass; Residue on ignition (NF), 0.1 wt%, max.; Sulphated ash (EP), 0.2 wt%, max.; Completeness and color of solution (NF), Pass; Ethylene Oxide (EP), 1 ppm, max.; Dioxan (EP), 10 ppm, max. Freezing Point, meets value range in the EP monograph; Appearance of sol. (EP), Pass; Formaldehyde (EP), 15 ppm, max.; Reducing Substances (EP), Pass; Appearance, white or almost white solid with a waxy or paraffin-like appearance.

Ph. Eur. 2.4.24. Identification and Control of Residual Solvents. Only Class 2 solvents ethylene glycol and 1,4-dioxane and the Class 3 solvent acetic acid are likely to be present. Residual Class 2 solvents are below the Option 1 limit and the residual Class 3 solvent is below 0.5%.

This product contains BHT, nominal concentration 100 ppm

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E-Park Plant  
Packaged SENTRY- PEGs: Manufacturing: The Dow Chemical Company,  
St. Charles Operations, E-Park Plant; Packaging: The Dow Chemical Company,  
St. Charles Operations, E-Park Plant

Quality Coordinator  
Specialty Chemicals

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Quality Assurance  
DOW CHEMICAL PACIFIC LIMITED      Fax:  
PORT OF KEELUNG      KE 202      TAIWAN  
KEELUNG

Cust P.C.: 040/85/40208883      Dlvv Note: 71455510 20  
Cust Ref:      Order No.: 18324217

Material: CARBOWAX(TM) SENTRY(TM) POLYETHYLENE  
GLYCOL 3350 POWDER NF, FCC GRADE;  
MACROGOL 3350 Ph. Eur.      Spec: 00126475-S

Cust Mtl:



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