

# Kalchem International

## Chemicals & Compounding Supplies

Date: 01/17/2014      Certificate of Analysis      Shipped: 00/00/0000

TRUCK COPY  
 UNIVAR USA INC      Fax:  
 200 DEAN SIEVERS PL  
 MORRISVILLE      PA 19067-3700      UNITED STATES

Cust P.O.: MV-617421      Dlv Note: 72382744 30  
 Cust Ref:      Order No.: 19113162

Material: CARBOWAX(TM) SENTRY(TM) POLYETHYLENE  
 GLYCOL 300 NF, FCC GRADE; MACROGOL 300  
 Ph. Eur.      Spec: 00126419-S

Cust Mtl:

Batch: 2L1901AAEB  
 Retest Date: 12/18/2016

Vehicle: NH/ALEEN  
 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
		2L1901AAEB	Minimum	Maximum		
Molecular Weight	-	303	285	315		1B-ZMETH-1.3
Hydroxyl Number	mg/g	371	340	394		1B-ZMETH-1.2
pH at 25degC 5% aqueous solution	-	5.6	4.5	7.5		1B-ZMETH-16.2
Visc @ 210degF, cSt (NF)	cSt	5.8	5.4	6.4		1B-ZMETH-23
Visc @ 20degC 50% AQ (EP)	mPa.s	92	80	105		1B-ZMETH-23d
Color, Pt-Co	-	10	----	18		1B-ZMETH-3.8
Water	% wt	0.1	----	0.5		1B-ZMETH-24
1,4-Dioxane	ppm	0	----	10		1B-ZMETH-5.1
EO, Residual	ppm	0	----	1		1B-ZMETH-5.1
Suspended Matter		Passes				1B-ZMETH-20.5
Freezing Point	degC	-13	-15	-6		ASTM D1177
Compl&Color of sol. transparent, colorless		Passes				DOWM 101924-E01A
Acidity, as Acetic	% wt	0.00	----	0.02		1B-ZMETH-1
Acidity (EP) less than 0.1mL of 0.1M NaOH		Passes				1B-ZMETH-1.16
EG & DEG	% wt	0.1	----	0.2		1B-ZMETH-5

**Kalchem International, Inc**  
 224 South Main Street - Lindsay, OK 73052  
 Toll Free 888-298-9905 | FAX: 405-756-2373

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The following parameters are tested quarterly:

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; Dioxan,  
P, 10 PPM, max; Appearance of sol., EP, Pass; Formaldehyde, EP, 30  
PPM, max; Reducing substances, EP, Pass.

The appearance of this material is a clear, viscous, colourless  
hygroscopic liquid.

3C Impurities: Residual Solvents. Only Class 2 solvents ethylene  
glycol and 1,4-dioxan are likely to be present. Residual class 2  
solvents are below the option 1 limit.

Original Manufacture/Location of Manufacture:

1/AA=The Dow Chemical Company, 21255 Highway 1, Building 5501,  
Plaquemine, LA 70764, Phone: 800-331-6451

1/1k SENTRY- PEGS: The Dow Chemical Company, Plaquemine, LA

1/1k SENTRY- PEGS: Manufacturing: The Dow Chemical Company,  
Plaquemine LA; Packaging: Delta Companies Group

Delta Companies Group, LA 70776, 225-642-2577.

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