

**Duda Diesel LLC**  
**7055A Greenbrier Rd**  
**Madison, AL 35756**  
**256-417-4337**

**CERTIFICATE OF ANALYSIS**

**Propylene Glycol USP/ Kosher**

<b>CUSTOMER:</b>	<b>BMS LOT NUMBER: 151913670112DOW</b>
	<b>DATE ANALYZED: 4-23-10</b>

PARAMETERS	ANALYSIS	SPECIFICATIONS
Identification by IR	PASS	Pass/Fail
Appearance	PASS	Clear, colorless with no suspended matter
Specific gravity @ 25°C (77°F)	1.035	1.035 – 1.037
Water content, % by weight	0.005	0.2 maximum
Acidity, ml of 0.10N NaOH*	0.02	<0.20 ml
Residue on Ignition*	0.40	3.5mg/50g Max
Chlorides, wt%*	<0.006	<0.007%
Sulfates, wt%*	<0.006	<0.006%
Heavy Metals*	<5	5ppm Max
Organic Volatile Impurities*	PASS	Meets requirements
Assay as C <sub>3</sub> H <sub>8</sub> O <sub>2</sub> *	99.9	99.5%

\*Analytical results as reported by vender.

INCOMING PRODUCT INFORMATION (VENDER AND CARRIER)	
VENDER: DOW CHEMICAL COMPANY	CARRIER: RAILCAR
VENDER LOT NUMBER: YC2901N6DA	VEHICLE NUMBER: DOWX072775

Analyst: TAMIA MUHAMMAD	Approved: JASON CLAYTON
-------------------------	-------------------------

cc: With Shipment  
 Laboratory File

Direct questions concerning certification of this product to personnel at the location marked below.

St. Louis, MO 314-832-5010

Kennesaw, GA 770-429-1405

Form Approval: JIM CLEMENTS

Form Approval Date: October 31, 2006

LOT NUMBER:

151913670112 Dow

Certificate #394309

The Dow Chemical Company

Date: 03/31/2010

Certificate of Analysis

QUALITY LAB

BRENTAG MID-SOUTH INC  
139 E SOPER  
SAINT LOUIS

Fax: 3144814733

MO 63111-2931 UNITED STATES

Cust P.O.: 171226

Delv Note: 70483436 10

Material: PROPYLENE GLYCOL USP/EP  
BULK

Spec: 50111814-S

Cust Mtl: 682951

Batch: YC2901N6DA

Mfgd: 03/29/2010

Expires: 03/29/2012

Vehicle: DOWX072775

Ship from: THE DOW CHEMICAL COMPANY

FREEMONT

TX UNITED STATES

It is hereby certified that the material indicated above has been inspected and tested in accordance with the conditions and requirements of the contract or purchase order and, unless agreed otherwise conforms in all respects to the specification relevant thereto and it meets all requirements of the current United States Pharmacopoeia, current Food Chemical Codex, current European Pharmacopoeia and current Pharmacopoeia of Japan.

Feature	Units	Results		Limits		Method	
		YC2901N6DA	Minimum	Maximum			
Assay	%	99.97	99.80	----	Current USP		
Acidity	mL	0.02	----	0.20	Current USP		M
Chlorides	%	< 0.006	----	0.007	Current USP		M
Heavy Metals	ppm	< 5.0	----	5.0	Current USP		M
Identification		Passes			Current USP		M
matches IR scan							
Residual Solvents		Passes			Current USP		M
Residue on Ignition	mg	0.40	----	3.50	Current USP		M
per 50g							
Residue on Ignition	ppm	9	----	70	Current USP		M
Specific Gravity	-	1.036	1.035	1.037	Current USP		M
Sulfate	%	< 0.006	----	0.006	Current USP		M
Water Content	%	0.005	----	0.200	Current USP		
Ethylene Glycol		Passes			Current USP		
Diethylene Glycol		Passes			Current USP		
-----							
Acidity	mL	0.02	----	0.05	Current EP		M
Boiling Point	degC	185	184	189	Current EP		M
Clarity		Passes			Current EP		M
Color		Passes			Current EP		M
Heavy Metals	ppm	< 5.0	----	5.0	Current EP		M
Melting Point	degC	126	121	128	Current EP		M
Oxidizing Substances	mL	0.10	----	0.20	Current EP		M
0.05M sodium thiosulfate							
Reducing Substances		Passes			Current EP		M
Refractive Index	-	1.433	1.431	1.433	Current EP		M
Relative Density	-	1.038	1.035	1.040	Current EP		
Sulfated Ash	%	0.0015	----	0.0100	Current EP		
Water Content	%	0.005	----	0.200	Current EP		M
-----							

For inquiries please contact Customer Service or local sales.

**LOT NUMBER:**  
 151913670112DOW

Certificate #794309      The Dow Chemical Company

Date: 03/31/2010      Certificate of Analysis

Cust P.O.: 171226  
 Material: PROPYLENE GLYCOL USP/EP  
           BULK  
 Cust Mat: 582951

Divy Note: 70483435 10

Spec: 00111814-S

Feature	Units	Results		Limits		Method	
		YC2931N6DA		Minimum	Maximum		
Assay	%	99.97		99.80	----	Current FCC	M
Acidity		Passes				Current FCC	M
Appearance		Passes				Current FCC	M
clear & colorless							
Distillation, IBP	degC	186.8		185.0	----	Current FCC	M
Distillation, DP	degC	188.2		----	189.0	Current FCC	M
Lead (Pb)	ppm	< 1.0		----	2.0	Current FCC	M
Identification		Passes				Current FCC	M
matches IR scan							
Residue on Ignition	%	0.0013		----	0.0070	Current FCC	
Specific Gravity	-	1.036		1.035	1.037	Current FCC	M
Water Content	%	0.005		----	0.200	Current FCC	M
-----							
Acidity		Passes				Current JP	M
Arsenic	ppm	< 2.0		----	2.0	Current JP	M
Chlorides	%	< 0.007		----	0.007	Current JP	M
Distillation, IBP	degC	186.8		184.0	----	Current JP	M
Distillation, DP	degC	188.2		----	189.0	Current JP	M
Glycerine (Odor)		Passes				Current JP	O
Heavy Metals	ppm	< 5.0		----	5.0	Current JP	M
Melting Point	degC	176		174	178	Current JP	M
Odor		Passes				Current JP	M
Residue on Ignition	%	0.0009		----	0.0050	Current JP	M
Specific Gravity	-	1.038		1.035	1.040	Current JP	
@ 20/20degC							
Sulfate	%	< 0.002		----	0.002	Current JP	
Water Content	%	0.005		----	0.500	Current JP	
-----							
Acidity	%	0.0002		----	0.0020	DOWM 101370	
As Acetic Acid							
Appearance		Passes				Visual	
Clear, free of suspended matter							
Chlorides	ppm	0.0		----	1.0	DOWM 101867	
Color, Pt-Co	-	2		----	10	ASTM D5386	
Dimer, Trimer	%	0.024		----	0.100	DOWM 100687	M
& Higher Polymers							
Ethylene Glycol	%	< 0.0080		----	0.0080	DOWM 100687	
Diethylene Glycol	%	< 0.0080		----	0.0080	DOWM 100687	
Iron	ppm	0.07		----	0.30	ASTM E202	
Odor		Passes				Olfactory	
practically odorless							
Spec. Grav. @ 20C	-	1.0383		1.0376	1.0386	ASTM D4052	

SOURCE OF ANALYSIS  
 M Quarterly Sample  
 O Annual Sample

For inquiries please contact Customer Service or local sales.

LOT NUMBER:

151913670112Dow

Certificate 4794309

The Dow Chemical Company

Date: 03/31/2010

Certificate of Analysis

Cust P.C.: 171226

Divy Note: 70483425 10

Material: PROPYLENE GLYCOL USP/EP  
EURL

Spec: 00111914-S

Cust Mtl: 682951

Note 1:

Values reported for Assay, Ethylene Glycol and Diethylene Glycol under  
USP and for Assay under FCC are obtained using the validated Dow  
GC Method DOWM 100687.

Note 2:

Unit in % and ppm means % (wt/wt) and ppm (wt/wt).

Plant Quality Coordinator