



GAGE PRODUCTS CO.
 821 WANDA AVENUE
 FERNDALE, MI 48220
 (248) 541-3824

Gage Products Company
 Certificate of Analysis / QC Results

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Date: 02/24/16 at 3:14 PM

Customer: S00056 / Sample Account

Sales Order # : 71159 Customer PO # : Shipped Qty : 270

5 drums

Packaged Product:		42001-55R CSC 2016 Endurance Gasoline		
Property	Test Method	UOM	Specification	Value
SPECIFIC GRAVITY @ 60.0 F	ASTM D4052		REPORT	0.7529
DISTILLATION, IBP	ASTM D86	DEG F	REPORT	90.5
DISTILLATION, 10%	ASTM D86	DEG F	REPORT	125.8
DISTILLATION, 50%	ASTM D86	DEG F	REPORT	167.9
DISTILLATION, 90%	ASTM D86	DEG F	REPORT	300.4
DISTILLATION, DP	ASTM D86	DEG F	REPORT	390.8
RECOVERY	ASTM D86	VOL. %	REPORT	97.3
RESIDUE	ASTM D86	VOL. %	REPORT	1.1
LOSS	ASTM D86	VOL. %	REPORT	1.6
ETHANOL CONTENT	GAGE-GC2	VOL. %	38.00 - 42.00	39.47
RVP @ 100 F	ASTM D5191	PSI (KPA)	13.00 - 14.00 (89.57 - 96.46)	13.35 (91.98)
CARBON CONTENT	ASTM D5291	WT. %	REPORT	72.16
HYDROGEN CONTENT	ASTM D5291	WT. %	REPORT	13.49
OXYGEN CONTENT	ASTM D5622	WT. %	REPORT	14.35
H/C RATIO	GAGE-CALCULATED	MOLE/MOLE	REPORT	2.227
C/H RATIO	GAGE-CALCULATED	WT/WT	REPORT	5.350
O/C RATIO	GAGE-CALCULATED	MOLE/MOLE	REPORT	0.149
Lot # 9204100		Made 02/20/16		
In sealed unopened containers this product is good until 02/20/17				
Approved By: <u>Robert Pettitt</u>				



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Customer: S00056 / Sample Account

Sales Order #: 71159 Customer PO #: Shipped Qty : 100

20 5-gal pails

Packaged Product:		42001-5C CSC 2016 Endurance Gasoline		
Property	Test Method	UOM	Specification	Value
SPECIFIC GRAVITY @ 60.0 F	ASTM D4052		REPORT	0.7524
DISTILLATION, IBP	ASTM D86	DEG F	REPORT	90.5
DISTILLATION, 10%	ASTM D86	DEG F	REPORT	125.8
DISTILLATION, 50%	ASTM D86	DEG F	REPORT	167.9
DISTILLATION, 90%	ASTM D86	DEG F	REPORT	300.4
DISTILLATION, DP	ASTM D86	DEG F	REPORT	390.8
RECOVERY	ASTM D86	VOL. %	REPORT	97.3
RESIDUE	ASTM D86	VOL. %	REPORT	1.1
LOSS	ASTM D86	VOL. %	REPORT	1.6
ETHANOL CONTENT	GAGE-GC2	VOL. %	38.00 - 42.00	39.47
RVP @ 100 F	ASTM D5191	PSI (KPA)	13.00 - 14.00 (89.57 - 96.46)	13.49 (92.95)
CARBON CONTENT	ASTM D5291	WT. %	REPORT	72.16
HYDROGEN CONTENT	ASTM D5291	WT. %	REPORT	13.49
OXYGEN CONTENT	ASTM D5622	WT. %	REPORT	14.35
H/C RATIO	GAGE-CALCULATED	MOLE/MOLE	REPORT	2.227
C/H RATIO	GAGE-CALCULATED	WT/WT	REPORT	5.350
O/C RATIO	GAGE-CALCULATED	MOLE/MOLE	REPORT	0.149
Lot # 9204000		Made 02/23/16		
In sealed unopened containers this product is good until 02/23/17				
Approved By: <u>Robert Pettitt</u>				



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Customer: S00056 / Sample Account

Sales Order # : 71159 Customer PO # : Shipped Qty : 54

1 Drum

Packaged Product:		42002-55F CSC 2016 Emissions Gasoline		
Property	Test Method	UOM	Specification	Value
SPECIFIC GRAVITY @ 60.0 F	ASTM D4052		REPORT	0.7468
DISTILLATION, IBP	ASTM D86	DEG F	REPORT	35.7
DISTILLATION, 10%	ASTM D86	DEG F	REPORT	53.3
DISTILLATION, 50%	ASTM D86	DEG F	REPORT	93.7
DISTILLATION, 90%	ASTM D86	DEG F	REPORT	162.1
DISTILLATION, DP	ASTM D86	DEG F	REPORT	206.2
RECOVERY	ASTM D86	VOL. %	REPORT	98.4
RESIDUE	ASTM D86	VOL. %	REPORT	1.0
LOSS	ASTM D86	VOL. %	REPORT	0.6
ETHANOL CONTENT	GAGE-GC2	VOL. %	9.50 - 10.50	9.79
RVP @ 100 F	ASTM D5191	PSI (KPA)	8.50 - 9.50(58.57 - 65.46)	8.91(61.39)
CARBON CONTENT	ASTM D5291	WT. %	REPORT	82.55
HYDROGEN CONTENT	ASTM D5291	WT. %	REPORT	13.84
OXYGEN CONTENT	ASTM D5622	WT. %	REPORT	3.61
H/C RATIO	GAGE-CALCULATED	MOLE/MOLE	REPORT	1.998
C/H RATIO	GAGE-CALCULATED	WT/WT	REPORT	5.965
O/C RATIO	GAGE-CALCULATED	MOLE/MOLE	REPORT	0.033
Lot # 9204400		Made 02/21/16		
In sealed unopened containers this product is good until 02/21/17				
Approved By: <u>Robert Pitzelt</u>				



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Customer: S00056 / Sample Account

Sales Order # : 71159 Customer PO # : Shipped Qty : 25

5 5-gal pails

Packaged Product:		42002-5C CSC 2016 Emissions Gasoline		
Property	Test Method	UOM	Specification	Value
SPECIFIC GRAVITY @ 60.0 F	ASTM D4052		REPORT	0.7468
DISTILLATION, IBP	ASTM D86	DEG F	REPORT	35.7
DISTILLATION, 10%	ASTM D86	DEG F	REPORT	53.3
DISTILLATION, 50%	ASTM D86	DEG F	REPORT	93.7
DISTILLATION, 90%	ASTM D86	DEG F	REPORT	162.1
DISTILLATION, DP	ASTM D86	DEG F	REPORT	206.2
RECOVERY	ASTM D86	VOL. %	REPORT	98.4
RESIDUE	ASTM D86	VOL. %	REPORT	1.0
LOSS	ASTM D86	VOL. %	REPORT	0.6
ETHANOL CONTENT	GAGE-GC2	VOL. %	9.50 - 10.50	9.79
RVP @ 100 F	ASTM D5191	PSI (KPA)	8.50 - 9.50 (58.57 - 65.46)	8.91 (61.39)
CARBON CONTENT	ASTM D5291	WT. %	REPORT	82.55
HYDROGEN CONTENT	ASTM D5291	WT. %	REPORT	13.84
OXYGEN CONTENT	ASTM D5622	WT. %	REPORT	3.61
H/C RATIO	GAGE-CALCULATED	MOLE/MOLE	REPORT	1.998
C/H RATIO	GAGE-CALCULATED	WT/WT	REPORT	5.965
O/C RATIO	GAGE-CALCULATED	MOLE/MOLE	REPORT	0.033
Lot # 9204500		Made 02/21/16		
In sealed unopened containers this product is good until 02/21/17				
Approved By: <u>Robert Petzitt</u>				



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Customer: S00056 / Sample Account

Sales Order # : 71159 Customer PO # : Shipped Qty : 45

1 Drum

Property	Test Method	UOM	Specification	Value
Packaged Product: 42003-55F CSC 2016 Diesel Fuel				
SPECIFIC GRAVITY @ 60.0 F	ASTM D4052		REPORT	0.8578
DISTILLATION, IBP	ASTM D86	DEG F	REPORT	383.2
DISTILLATION, 10%	ASTM D86	DEG F	REPORT	435.1
DISTILLATION, 50%	ASTM D86	DEG F	REPORT	537.7
DISTILLATION, 90%	ASTM D86	DEG F	REPORT	623.5
DISTILLATION, DP	ASTM D86	DEG F	REPORT	640.9
RECOVERY	ASTM D86	VOL. %	REPORT	97.5
RESIDUE	ASTM D86	VOL. %	REPORT	1.4
LOSS	ASTM D86	VOL. %	REPORT	1.1
SME BIODIESEL CONTENT	GAGE-GC2	VOL. %	19.00 - 21.00	19.68
CARBON CONTENT	ASTM D5291	WT. %	REPORT	87.01
HYDROGEN CONTENT	ASTM D5291	WT. %	REPORT	12.99
OXYGEN CONTENT	ASTM D5622	WT. %	REPORT	0
H/C RATIO	GAGE-CALCULATED	MOLE/MOLE	REPORT	1.779
C/H RATIO	GAGE-CALCULATED	WT/WT	REPORT	6.699
O/C RATIO	GAGE-CALCULATED	MOLE/MOLE	REPORT	0

Lot # 9204900

Made 02/17/16

In sealed unopened containers this product is good until 02/17/17

Approved By: Robert Pettitt



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Customer: S00056 / Sample Account

Sales Order # : 71159 Customer PO # : Shipped Qty : 10

2 5-gal pails

Packaged Product:		42003-5C CSC 2016 Diesel Fuel		
Property	Test Method	UOM	Specification	Value
SPECIFIC GRAVITY @ 60.0 F	ASTM D4052		REPORT	0.8578
DISTILLATION, IBP	ASTM D86	DEG F	REPORT	383.2
DISTILLATION, 10%	ASTM D86	DEG F	REPORT	435.1
DISTILLATION, 50%	ASTM D86	DEG F	REPORT	537.7
DISTILLATION, 90%	ASTM D86	DEG F	REPORT	623.5
DISTILLATION, DP	ASTM D86	DEG F	REPORT	640.9
RECOVERY	ASTM D86	VOL. %	REPORT	97.5
RESIDUE	ASTM D86	VOL. %	REPORT	1.4
LOSS	ASTM D86	VOL. %	REPORT	1.1
SME BIODIESEL CONTENT	GAGE-GC2	VOL. %	19.00 - 21.00	19.67
CARBON CONTENT	ASTM D5291	WT. %	REPORT	87.01
HYDROGEN CONTENT	ASTM D5291	WT. %	REPORT	12.99
OXYGEN CONTENT	ASTM D5622	WT. %	REPORT	0
H/C RATIO	GAGE-CALCULATED	MOLE/MOLE	REPORT	1.779
C/H RATIO	GAGE-CALCULATED	WT/WT	REPORT	6.699
O/C RATIO	GAGE-CALCULATED	MOLE/MOLE	REPORT	0
Lot # 9204800		Made 02/17/16		
In sealed unopened containers this product is good until 02/17/17				
Approved By: <u>Robert Pettit</u>				