

Page: 1

Date: 03/01/19 at 2:09 PM

Customer PO #:

Packaged Product:	43064					
. achagoa i i caacii	CSC 2019 Endurance Gasoline					
Property	Test Method	UOM	Specification	Value		
SPECIFIC GRAVITY @ 60.0 F	ASTM D4052		REPORT	0.7481		
DISTILLATION, IBP	ASTM D86	DEG F	REPORT	76.8		
DISTILLATION, 10%	ASTM D86	DEG F	REPORT	110.4		
DISTILLATION, 50%	ASTM D86	DEG F	REPORT	168.2		
DISTILLATION, 90%	ASTM D86	DEG F	REPORT	178.9		
DISTILLATION, DP	ASTM D86	DEG F	REPORT	374.5		
RECOVERY	ASTM D86	VOL.%	REPORT	97.0		
RESIDUE	ASTM D86	VOL.%	REPORT	1.2		
LOSS	ASTM D86	VOL.%	REPORT	1.8		
ETHANOL CONTENT	GAGE-GC2	VOL.%	44.00 - 46.00	44.70		
RVP @ 100 F	ASTM D5191	PSI (KPA)	13.50 - 15.00(93.02 - 103.35)	14.97(103.14)		
CARBON CONTENT	ASTM D5291	WT.%	REPORT	69.30		
HYDROGEN CONTENT	ASTM D5291	WT.%	REPORT	14.23		
OXYGEN CONTENT	GAGE-CALCULATED	WT.%	REPORT	16.46		
H/C RATIO	GAGE-CALCULATED	MOLE/MOLE	REPORT	2.447		
C/H RATIO	GAGE-CALCULATED	WT/WT	REPORT	4.869		

Lot # 13188900

O/C RATIO

Made 02/11/19

MOLE/MOLE

REPORT

0.178

In sealed unopened containers this product is good until 02/11/21

Approved By: Robert Vitzett

GAGE-CALCULATED



Page: 1

Date: 03/01/19 at 2:30 PM

Customer PO #:

Packaged Product:	43065			
	CSC 2019 Endurance	Gasoline		
Property	Test Method	UOM	Specification	Value
SPECIFIC GRAVITY @ 60.0 F	ASTM D4052		REPORT	0.7403
API GRAVITY @ 60 F	ASTM D4052		REPORT	59.65
STILLATION, IBP	ASTM D86	DEG F (DEG C)	75.0 - 95.0(23.9 - 35.0)	83.0(28.3)
DISTILLATION, 5%	ASTM D86	DEG F (DEG C)	REPORT	110.9(43.8)
DISTILLATION, 10%	ASTM D86	DEG F (DEG C)	120.0 - 135.0(48.9 - 57.2)	124.4(51.3)
DISTILLATION, 20%	ASTM D86	DEG F (DEG C)	REPORT	144.4(62.4)
DISTILLATION, 30%	ASTM D86	DEG F (DEG C)	REPORT	167.7(75.4)
DISTILLATION, 40%	ASTM D86	DEG F (DEG C)	REPORT	196.8(91.6)
ISTILLATION, 50%	ASTM D86	DEG F (DEG C)	200.0 - 230.0(93.3 - 110.0)	217.6(103.1)
DISTILLATION, 60%	ASTM D86	DEG F (DEG C)	REPORT	227.5(108.6)
ISTILLATION, 70%	ASTM D86	DEG F (DEG C)	REPORT	236.3(113.5)
ISTILLATION, 80%	ASTM D86	DEG F (DEG C)	REPORT	254.8(123.8)
ISTILLATION, 90%	ASTM D86	DEG F (DEG C)	300.0 - 325.0(148.9 - 162.8)	314.8(157.1)
ISTILLATION, 95%	ASTM D86	DEG F (DEG C)	REPORT	338.6(170.3)
ISTILLATION, DRY POINT	ASTM D86	DEG F (DEG C)	415.0(212.8), MAX	363.1(183.9)
ECOVERY	ASTM D86	VOL.%	REPORT	97.9
ESIDUE	ASTM D86	VOL.%	2.0, MAX	1.1
oss	ASTM D86	VOL.%	REPORT	1.0
VP @ 100 F	ASTM D5191	PSI (KPA)	8.90 - 9.20(61.32 - 63.39)	9.20(63.39)
ESEARCH OCTANE NUMBER	ASTM D2699	RON	96.0 - 98.5	98.0
OTOR OCTANE NUMBER	ASTM D2700	MON	REPORT	89.2
CTANE RATING	GAGE-CALCULATED	R+M/2	92.0, MIN	93.6
CTANE SENSITIVITY	GAGE-CALCULATED	R-M	7.5, MIN	8.8
ROMATIC CONTENT	ASTM D5580	VOL%	25.0 - 33.0	32.0
ROMATIC CONTENT	ASTM D1319	VOL.%	35.0, MAX	27.4
LEFIN CONTENT	ASTM D1319	VOL.%	10.0, MAX	0.3
ATURATE CONTENT	ASTM D1319	VOL.%	REPORT	72.3
JLFUR CONTENT	ASTM D5453	PPM	25.0 - 35.0	29.7
EAD CONTENT	ASTM D3237	G/GAL	0.05, MAX.	0.00
HOSPHOROUS CONTENT	ASTM D3231	G/GAL	0.005, MAX.	0.000
LICON CONTENT	ASTM D5185mod	MG/KG	4.00, MAX	0.00
ANGANESE CONTENT	ASTM D3831	MG/L	2.00, MAX	0.00
OPPER CORROSION	ASTM D130	COPPER CORR.	1A, MAX.	1A
(ISTENT GUM (WASHED)	ASTM D381	MG/100ML	5.00, MAX	0.00
IWASHED GUM	ASTM D381	MG/100ML	70.00, MAX	0.00
(IDATION STABILITY	ASTM D525	MIN.	960, MIN.	
ARBON CONTENT	ASTM D5291	WT.%	REPORT	>960
DROGEN CONTENT	ASTM D5291	WT.%	REPORT	
H RATIO	GAGE-CALCULATED	WT/WT	REPORT	14.06
C RATIO	GAGE-CALCULATED	MOLE/MOLE	REPORT	6.114



Page: 2

Date: 03/01/19 at 2:29 PM

Customer PO #:

NET HEAT OF COMBUSTION	ASTM D240	BTU/LB (MJ/KG)	REPORT	18597.9(43.3)
CARBON DENSITY	CALCULATED		2401 - 2441	2404
OXYGENATES	ASTM D4815	VOL.%	NONE	NONE
WATER CONTENT	ASTM E1064	WT.%	0.01, MAX	0.00
PIONA ANALYSIS ATTACHED	ASTM D6730 mod	VOL%	Y/N	N
FUEL FINGERPRINT	GC - TDI METHOD. Attach chromatogram to batch ticket	*	Y/N	Y

Lot # 13189000

Made 02/02/19

In sealed unopened containers this product is good until 02/02/21

Approved By: Robert Patritt



Page: 1

Date: 03/01/19 at 2:26 PM

Customer PO #:

Dooksand Droducts A	3066						
ackagea i roduct.							
Ci	SC 2019 Diesel Endurance						
Property	Test Method	UOM	Specification	Value			
SPECIFIC GRAVITY @ 60.0 F	ASTM D4052		REPORT	0.8534			
DISTILLATION, IBP	ASTM D86	DEG F	REPORT	382.3			
DISTILLATION, 10%	ASTM D86	DEG F	REPORT	431.3			
DISTILLATION, 50%	ASTM D86	DEG F	REPORT	520.6			
DISTILLATION, 90%	ASTM D86	DEG F	REPORT	607.1			
DISTILLATION, DP	ASTM D86	DEG F	REPORT	634.8			
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.%	4.00 - 5.00	4.19			
CARBON CONTENT	ASTM D5291	WT.%	REPORT	86.69			
HYDROGEN CONTENT	ASTM D5291	WT.%	REPORT	12.83			
H/C RATIO	GAGE-CALCULATED	MOLE/MOLE	REPORT	1.763			
C/H RATIO	GAGE-CALCULATED	WT/WT	REPORT	6.758			
O/C RATIO	GAGE-CALCULATED	MOLE/MOLE	REPORT	0.004			
OXYGEN CONTENT	GAGE-CALCULATED	WT.%	REPORT	0.48			
SPECIFIC GRAVITY DIFFERENCE	Intermediate specific gravity - Packaged goods specific grav	ity	0.0000 - 0.0004	0.0000			
Lot # 13189500 Made 02/04/19							

In sealed unopened containers this product is good until 02/04/21

Approved By: Robert Publit



Page: 1

Date: 03/01/19 at 2:27 PM

Customer PO #:

Packaged Product:	43067				
_	CSC	2019	Diesel	Emissions	
	_				

Test Method	UOM	Specification	Value
ASTM D4052		REPORT	0.8520
ASTM D86	DEG F	REPORT	376.1
ASTM D86	DEG F	REPORT	427.8
ASTM D86	DEG F	REPORT	514.1
ASTM D86	DEG F	REPORT	596.4
ASTM D86	DEG F	REPORT	630.7
ASTM D86	VOL.%	REPORT	97.7
ASTM D86	VOL.%	REPORT	1.4
ASTM D86	VOL.%	REPORT	0.9
ASTM D5291	WT.%	REPORT	86.83
ASTM D5291	WT.%	REPORT	13.17
GAGE-CALCULATED	MOLE/MOLE	REPORT	1.808
GAGE-CALCULATED	WT/WT	REPORT	6.592
GAGE-CALCULATED	MOLE/MOLE	REPORT	0.000
ASTM D5453	PPM	450.0 - 500.0	485.3
_	ASTM D4052 ASTM D86 ASTM D5291 GAGE-CALCULATED GAGE-CALCULATED	ASTM D4052 ASTM D86 DEG F ASTM D86 VOL.% ASTM D86 VOL.% ASTM D86 VOL.% ASTM D86 VOL.% ASTM D86 WT.% ASTM D5291 WT.% GAGE-CALCULATED MOLE/MOLE GAGE-CALCULATED MOLE/MOLE	ASTM D4052 REPORT ASTM D86 DEG F REPORT ASTM D86 VOL.% REPORT ASTM D86 VOL.% REPORT ASTM D86 VOL.% REPORT ASTM D86 VOL.% REPORT ASTM D5291 WT.% REPORT GAGE-CALCULATED MOLE/MOLE REPORT GAGE-CALCULATED MOLE/MOLE REPORT GAGE-CALCULATED MOLE/MOLE REPORT

Lot # 13189700

Made 02/06/19

In sealed unopened containers this product is good until 02/06/21

Approved By: Robot Putsutt