

### VKC Grade Sub-Octane Unleaded Gasoline Specifications

(Conventional Gasoline - This Product does not meet the requirements for reformulated gasoline and may not be used in any reformulated gasoline covered area)

Product Property	Test Method	Origin Test Results		Deliveries <sup>1/</sup>
		Minimum	Maximum	
Gravity, ° API	D287	Report		
Color		Undyed		
Volatility <sup>2/</sup>				
Benzene, wt %	D3606		4.9	
Mercaptan Sulfur, wt % <sup>3/</sup>	D3227		0.002	
Copper Corrosion	D130		1	
Silver Corrosion	D4814		1	
Gum, Existent, mg/100 ml	D381		4	5
Oxidation Stability, minutes	D525	240		180
Phosphorus, g/gal	D3231		0.003	0.005
Lead, g/gal	D3237		0.010	0.05
Octane				
RON	D2699	4/		
MON	D2700	4/		
(R+M)/2		4/		
Sulfur, ppm <sup>5/</sup>	D2622		80	
Oxygenates, wt %	D4815		0.05	
Haze Rating <sup>6/</sup>	D4176		2	3
NACE Corrosion	TM0172	B+		
Odor <sup>7/</sup>			Nonoffensive	

1/ Delivered products meets all applicable requirements at time and place of delivery.

2/ Refer to Seasonal Gasoline Volatility Schedule.

3/ Mercaptan Sulfur determination is waived if the result of the Doctor Test ASTM D4952 is negative.

**VKC Grade Sub-Octane Unleaded Gasoline Specifications (continued)**

4/ Shipments must meet one of the following requirements:

(1) Test the base gasoline after the addition of 10% ethanol

	Minimum
RON, min.	89.0
MON, min.	82.0
(R+M)/2,	87.0

OR (2) Test the base gasoline

	Minimum
RON, min.	85.0
MON, min.	79.0
(R+M)/2	84.0

5/ Gasoline exceeding the origin specification will be accepted from small refineries as defined in 40 CFR part 80 of the EPA regulations, subject to the special handling fee specified in Magellan Pipelines rules and regulations tariff.

6/ Compliance with ASTM D4176 will be determined using Procedure 2 at the following temperatures, adjusted seasonally:

February 16 – September 30	55 °F max
October 1– February 15	45 °F max

7/ Any gasoline exhibiting an offensive odor and/or containing more than 0.30 wt % dicyclopentadiene will not be accepted for shipment.