



## TECHNICAL DATA SHEET

### **Product Description:**

VESTA™ 5100 IS A CALIFORNIA AIR RESOURCES BOARD (CARB) APPROVED EMISSIONS EQUIVALENT ADDITIVE PER APPENDIX 1 OF SUBARTICLE 2. "IN-USE REQUIREMENTS FOR POLLUTANT EMISSIONS CONTROL" SECTION (A)(1)(A), OF THE REGULATION ON COMMERCIALIZATION OF ALTERNATIVE DIESEL FUELS. AS SUCH, VESTA™ 5100 REDUCES ALL CRITERIA POLLUTANTS. SEE PAGE TWO FOR MORE INFORMATION ON CARB APPROVED TREAT RATES.

### **Product Benefits:**

- ENABLED BIODIESEL USE AT LEVELS UP TO B20
- EXPANDS BIODIESEL GROWTH OPPORTUNITIES IN CALIFORNIA AND AIDS IN COMPLIANCE WITH THE LOW CARBON FUEL STANDARD (LCFS)
- SIGNIFICANTLY REDUCES ALL CRITERIA POLLUTANTS INCLUDING NOX AND PARTICULATE MATTER

### **Safety & Handling**

- DO NOT STORE ABOVE 135°F
- VESTA™ 5100 HAS A SIGNIFICANT SHELF LIFE - >12 MONTHS

California Fueling, LLC – PO Box 28071 - Northridge, CA. 91328 - Phone - 747-224-0274





**CARB APPROVED TREAT RATES<sup>1</sup>**

VESTA™ 5100 Concentrations for Biodiesel Blends B20 and Below

<b>Biodiesel Saturation Level<sup>2</sup></b>	<b>Biodiesel Blend Level</b>	<b>Volume percent, minimum</b>
Low Saturation	>B5 to <B10	0.050
	B10 to <B15	0.075
	B15 to B20	0.100
High Saturation	B10 to <B15	0.025
	B15 to B20	0.050

VESTA™ 5100 Concentrations for Biodiesel Blendstock B100 or B99

<b>Biodiesel Saturation Level<sup>2</sup></b>	<b>Biodiesel Blendstock</b>	<b>Volume percent, minimum</b>
Low Saturation	B100 or B99	0.500
High Saturation	B100 or B99	0.250

<sup>1</sup>Per Executive Order G-714-ADF07, 7<sup>th</sup> of June 2018

<sup>2</sup> Low saturation refers to biodiesel Cetane Number of below 56; High saturation refers to biodiesel with Cetane Number of 56 and above by the test methods specified in the Alternative Diesel Fuels Regulation.



**Table 1 – Typical Physical Properties of VESTA™**

Assay, Weight %	99
Appearance	Clear, pale yellow
Odor	Fruity, pungent, ester, characteristic
Color, ASTM D-1500	1.0
Water, Weight %	0.05
Maximum Acid as HNO <sub>3</sub>	0.003
Molecular Weight, g/mol	175.2
Vapor Pressure, mm Hg	
@ -10°C	0.05
@ 20°C	0.4
@ 80°C	9.0
Flash Point (TCC), °C	72
Freezing Point, °C	<-45
Density @ 20°C, g/ml	0.96
Density-Temperature Correction Factor g/ml °C	0.000093
Viscosity, cSt	
@ -29°C	7.7
@ 0°C	2.7
@ 20°C	1.8
Solubility in Diesel Fuel @ 20°C	Miscible
Solubility of Water in VESTA™	12.6 mg/L @ 20°C
Heat of Vaporization	158 BTU/lb (368 kJ/kg)
Heat of Decomposition	2100 J/g
Thermal Stability	May Decompose Above 100°C
Dielectric Constant	9.04 @ 21-23°C

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