

State Of California

AIR RESOURCES BOARD

Executive Order G-714-ADF03

Certification of Alternative Diesel Fuel Resulting in Emissions Equivalence with Diesel

California Fueling – VESTA™5000

Pursuant to Sections 39600, 39601, 43013, 43018, and 43101 of the Health and Safety Code, the California Air Resources Board (CARB) adopted the Alternative Diesel Fuel regulation (ADF regulation) under Title 13, California Code of Regulations, section 2293, et seq. Effective since January 1, 2016, the ADF regulation establishes a comprehensive, multi-stage process administering the commercialization of Alternative Diesel Fuels (ADF) in California. The ADF regulation governs the introduction and use of innovative alternative diesel fuels in California while preserving or enhancing public health, the environment and the emission benefits of the existing motor vehicle diesel fuel regulations. The ADF regulation includes specific provisions designed to control potential increases in Oxides of Nitrogen (NOx) emissions that could otherwise be caused by the use of biodiesel under certain circumstances. Those provisions include a process for certification of additives or alternative diesel fuel formulations that have been shown to mitigate NOx increases from the use of biodiesel.

California Fueling has requested approval and certification of an additive, VESTA™5000, as an emissions equivalent additive under Appendix 1 of the ADF regulation.

California Fueling submitted an initial test protocol on October 25, 2017. Staff notified the applicant that the submission was complete on October 30, 2017. Testing was conducted by Southwest Research Institute (SwRI®) starting Nov 14, 2017, and the four-day test was completed on November 17, 2017. California Fueling submitted a final report, prepared by SwRI®, to CARB on January 2, 2018.

California Fueling's candidate fuel was comprised of 20 percent biodiesel (B100 blendstock) meeting the requirements specified in Table A.8 of the ADF regulation and 80 percent reference diesel meeting requirements specified in Table A.9 of the ADF regulation.

The information contained in Attachment 1 hereto is claimed by California Fueling to be confidential and must not be disclosed except as authorized by Title 17, California Code of Regulations, section 91022.

The candidate fuel was properly tested in accordance with Appendix 1(a)(2)(F) of the ADF regulation. The candidate fuel emissions tests showed a NOx emissions reduction of 0.9 percent and a particulate matter emissions reduction of 21 percent compared to

the reference fuel (CARB diesel). The candidate fuel emissions satisfied all of the requirements under Appendix 1(a)(2)(G) of the ADF regulation.

NOW, THEREFORE, (IT IS ORDERED AND RESOLVED) that the additive VESTA™5000 is approved and certified pursuant to Appendix 1(a)(2)(H) of the ADF regulation as an emissions equivalent additive for use with biodiesel blends B20 and below or for use with biodiesel blendstock when applied in accordance with the following conditions:

VESTA™5000 Concentrations for Biodiesel Blends B20 and Below

<b>Biodiesel Saturation Level<sup>1</sup></b>	<b>Biodiesel Blend Level</b>	<b>Volume Percent, Minimum</b>
Low Saturation	>B5 to <B10	0.075
	B10 to <B15	0.113
	B15 to B20	<b>0.150</b>
High Saturation	B10 to <B15	0.038
	B15 to B20	0.075

<sup>1</sup> Low Saturation refers to biodiesel blendstock Cetane Number of below 56; High Saturation refers to biodiesel blendstock with Cetane Number of 56 and above. Cetane Number is determined using the applicable test methods in the Alternative Diesel Fuels regulation.

VESTA™5000 Concentrations for Biodiesel Blendstock B100 or B99

If VESTA™5000 is to be added to B100 or B99 blendstock, it must be added at a volume percent of at least 0.750 or 0.375 for low saturation and high saturation blendstocks, respectively.

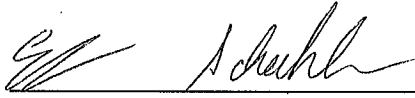
<b>Biodiesel Saturation Level</b>	<b>Biodiesel Blendstock</b>	<b>Volume Percent, Minimum</b>
Low Saturation	B100 or B99	0.750
High Saturation	B100 or B99	0.375

Biodiesel blends B20 and below blended in accordance with the conditions above meet the requirements of the ADF regulation.

CARB reserves the right in the future to review this Executive Order and the certification provided herein to assure that the certified fuel meets the standards and procedures of Title 13, California Code of Regulation, section 2293, et seq.

Violation of any of the above conditions shall be grounds for revocation of this Executive Order.

Executed at Sacramento, California, this 26<sup>th</sup> day of January, 2018.



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Elizabeth Scheehle  
Chief, Oil and Gas and GHG Mitigation Branch