

State Of California

AIR RESOURCES BOARD

Executive Order G-714-ADF08

Certification of Alternative Diesel Fuel Resulting in Emissions Equivalence with Diesel

California Fueling -- VESTA™5115

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 of an additive, VESTA™5115, as an emissions equivalent additive under Appendix 1 of the ADF regulation.

VESTA™5115 is comprised of VESTA™5100 with a diluent to improve handling properties. No additional emissions testing was performed for VESTA™5115, as the active ingredient is identical to the previously tested additive VESTA™5100 at the same concentration in the finished fuel. The diluent of the VESTA™5115 is biodiesel, and would therefore not affect the emission results.

VESTA™5100 was properly tested in accordance with Appendix 1(a)(2)(F) of the ADF regulation. VESTA™5100 candidate fuel emissions tests showed a NOx emissions reduction of 0.3 percent and a particulate matter emissions reduction of 18 percent compared to the CARB reference diesel. The candidate fuel emissions satisfied all of the requirements under Appendix 1(a)(2)(G) of the ADF regulation. VESTA™5100 is certified under Executive Order G-714-ADF07.

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.

NOW, THEREFORE, (IT IS ORDERED AND RESOLVED) that the additive VESTA™5115 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™5115 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                  | 0.33                           |
|                                               | B10 to <B15                  | 0.50                           |
|                                               | B15 to B20                   | 0.67                           |
| High Saturation                               | B10 to <B15                  | 0.17                           |
|                                               | B15 to B20                   | 0.33                           |

<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™5115 Concentrations for Biodiesel Blendstock B100 or B99

If VESTA™5115 is to be added to B100 or B99 blendstock, it must be added at a volume percent of at least 3.33 or 1.67 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                 | 3.33                           |
| High Saturation                   | B100 or B99                 | 1.67                           |

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 19 day of Dec, 2018.

  
Floyd Vergara  
Chief, Industrial Strategies Division