

State Of California

AIR RESOURCES BOARD

Executive Order G-714-ADF04

Certification of Alternative Diesel Fuel Resulting in Emissions Equivalence with Diesel

Targray Technology International Inc. – CATANOX

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 (CCR), 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 in California. The ADF regulation governs the introduction and use of innovative alternative diesel fuels in California while preserving or enhancing public health, environmental and 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.

Targray Technology International Inc. (Targray), has requested approval and certification of an additive, CATANOX, as an emissions equivalent additive under Appendix 1 of the ADF regulation.

The initial test protocol, prepared by Southwest Research Institute (SwRI®) was submitted on October 16, 2017 and the final test protocol was submitted on November 17, 2017. Staff found the final submission complete and approved it on November 17, 2017. Testing pursuant to the approved test protocol was conducted by SwRI® starting December 4, 2017, and the testing was completed on December 15, 2017. The final report, prepared by SwRI®, was submitted on January 19, 2018.

The 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, Appendix 1, of the ADF regulation.

The information contained in Attachment 1 hereto was designated by Targray to be confidential business information and must not be disclosed except as provided under 17 CCR sec. 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 NOx emissions were equivalent 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 CATANOX is approved and certified pursuant to Appendix 1(a)(2)(H) of the ADF regulation as an emissions equivalent for use with biodiesel blends B20 and below or for use with biodiesel blendstock when applied in accordance with the following conditions:

CATANOX Concentrations for Biodiesel B20 and Below Blends

<b>Biodiesel Saturation Level<sup>1</sup></b>	<b>Biodiesel Blend Level</b>	<b>Volume Percent, Minimum</b>
Low Saturation	>B5 to <B10	0.110
	B10 to <B15	0.165
	B15 to B20	0.220
High Saturation	B10 to <B15	0.055
	B15 to B20	0.110

1 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.

CATANOX Concentrations for Biodiesel Blendstock B100 or B99

If CATANOX is to be added to the biodiesel blendstock, it must be blended to the specified levels in the table below.

<b>Biodiesel Saturation Level</b>	<b>Biodiesel Blendstock</b>	<b>Volume Percent, Minimum</b>
Low Saturation	B100 or B99	1.10
High Saturation	B100 or B99	0.55

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.

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

Executed at Sacramento, California, this 22 day of February, 2018.

  
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Chief, Industrial Strategies Division