



Terry Tamminen  
Agency Secretary

# Air Resources Board

---

Alan C. Lloyd, Ph.D.  
Chairman

1001 I Street • P.O. Box 2815  
Sacramento, California 95812 • [www.arb.ca.gov](http://www.arb.ca.gov)



Arnold Schwarzenegger  
Governor

## SUMMARY OF ARB'S EVALUATION OF OMSTAR D-1280X FUEL ADDITIVE (November, 2004)

This document provides a short summary of ARB's testing of Omstar's fuel additive D-1280X, and presents ARB's statistical analysis of the test results. The information contained in this document is taken from a June 1990, ARB report titled [Evaluation of Omstar Diesel Fuel Additive](#), and a March 1, 1990, ARB memorandum titled "[Omstar Statistical Analysis](#)" authored by Thu Vo. These two documents, and a [Fact Sheet](#) and cover memo dated April 23, 1991, are also available on this website.

Summary of Testing: In 1989, the Air Resources Board (ARB) conducted a test program to evaluate the effect on emissions and fuel economy of D-1280X, a fuel additive marketed by Omstar Products. The program involved eight 1984 diesel-powered trucks provided by the Los Angeles Department of Water and Power. Four trucks used commercial, low sulfur diesel fuel then being sold in southern California. Two of those trucks had the Omstar additive added to the fuel. The other two trucks used no additive, and served as the baseline. The other four trucks were fueled with a higher sulfur test fuel used in certifying emission compliance of new diesel engines. Two of these trucks had the Omstar additive added to the fuel; the other two served as the baseline. Emission tests were performed before, during and after 1500 miles of operation. At each test point the mass emissions (HC, CO, NOx, PM) and fuel economy of the trucks were measured for two types of driving – city and highway.

Summary of Analysis: Statistical analysis was used to determine whether the effect of the additive on exhaust emissions and fuel economy was statistically significant. The results of this analysis were published in an ARB test report (1990) and accompanying Fact Sheet (1991). These are the official ARB documents regarding testing of the Omstar additive D-1280X.

For this type of testing and analysis, ARB uses a 95 percent confidence level to interpret results. Omstar requested that ARB also make public the statistical results at a lower, 90 percent confidence level. In 1991 ARB released a 1990 memorandum providing these results. These results are summarized below.

*The energy challenge facing California is real. Every Californian needs to take immediate action to reduce energy consumption. For a list of simple ways you can reduce demand and cut your energy costs, see our Website: <http://www.arb.ca.gov>.*

California Environmental Protection Agency

---

**Effect of D-1280X Additive on Emissions & Fuel Economy\***  
 (units in grams/mile for emissions, miles/gallon for fuel economy)

Type of Driving	Certification Fuel			Commercial Fuel		
	w/o D1280X	w/ D1280X	% Change	w/o D1280X	w/ D1280X	% Change
City						
HC	<b>0.20</b>	<b>0.10</b>	<b>- 50.0</b>	<i>0.20</i>	<i>0.16</i>	<i>- 20.0</i>
CO	--	--	--	--	--	--
NOx	--	--	--	--	--	--
Fuel Econ	<i>14.5</i>	<i>15.1</i>	<i>+ 4.1</i>	--	--	--
PM	--	--	--	--	--	--
HC	<b>0.21</b>	<b>0.15</b>	<b>- 28.6</b>	<b>0.16</b>	<b>0.11</b>	<b>- 31.2</b>
CO	<i>0.99</i>	<i>0.89</i>	<i>- 10.1</i>	--	--	--
NOx	--	--	--	--	--	--
Fuel Econ	--	--	--	--	--	--
PM	--	--	--	--	--	--

\* The effects of the additive were estimated using the ANOVA method. Negative percent changes mean reduction in emissions or fuel economy. Effects that are significant at the **95 percent confidence level are in bold print**; *90 percent confidence levels are in italicized print*. Dashed lines (--) indicate the effect of the additive has a confidence level below 90 percent; and is considered statistically non-significant.