



# What Makes Fuel Ox<sup>®</sup> Unique and Why It Won't Void Your Warranty or Harm Your Engine

## Executive Summary

Fuel Ox<sup>®</sup> with Combustion Catalyst is a patented, EPA-registered fuel additive that stands out in the market for its innovative organometallic combustion catalyst technology, combined with a suite of integrated fuel treatment components. Unlike conventional additives, Fuel Ox<sup>®</sup> optimizes combustion at a molecular level, delivering enhanced fuel efficiency, significant emissions reductions, and improved engine reliability without altering fuel specifications or risking equipment damage. Backed by rigorous independent testing—including certification from First Energy in the USA confirming compliance with ASTM D-975 and from Intertek (Paris) in Europe verifying EN-590 standards—Fuel Ox<sup>®</sup> ensures it will never void engine warranties or harm your engines. This document draws on proven scientific data, performance metrics, and legal assurances to demonstrate its unique value and safety.

## What Makes Fuel Ox<sup>®</sup> Unique

Fuel Ox<sup>®</sup> differentiates itself through a proprietary formulation originally developed at Bell Labs in the early 1980s for the U.S. military and AT&T, and now refined for worldwide commercial use. Its core innovation is an organometallic combustion catalyst that addresses inefficiencies in diesel and gasoline combustion at the molecular level, setting it apart from standard additives that focus solely on cleaning or stabilization.

### **Key Unique Features:**

- **Molecular-Level Combustion Optimization:** Fuel Ox<sup>®</sup> neutralizes the polarity of fuel molecules, which naturally clump and limit oxygen exposure during combustion. This promotes better fuel-oxygen mixing, lowers the ignition activation energy by approximately 30%, and generates free radicals for a faster, more complete burn. The result is a hotter, more efficient flame front that minimizes soot production and prevents carbon buildup on critical components like injectors, exhaust valves, EGR systems, and DPFs. This also results in a reduction of NOx emissions by over 10–20% which reduces your DEF consumption.
- **All-in-One Fuel Treatment:** Beyond catalysis, Fuel Ox<sup>®</sup> integrates multiple protective agents in a highly concentrated formula (treated at a 1:10,000 ratio):
  - o **Biocide:** Prevents microbial growth in stored fuel, reducing the risk of contamination.
  - o **Detergents:** Clean and prevent deposits on engine parts and removes carbon throughout the engine.



- o **Lubricity Enhancers:** Restore protection lost in ultra-low sulfur diesel (ULSD).
- o **Fuel Stabilizers:** Extend fuel shelf life up to five years.
- o **Water Management (Emulsifiers and De-emulsifiers):** Handle water contamination to prevent corrosion and microbial issues.
- o **Cold-Flow Protection (via Fuel Ox<sup>®</sup> Cold Charge):** Ensures operability in sub-zero temperatures by preventing gelling.
- **Proven Versatility:** Compatible with all middle distillate fuels (including diesel and gasoline), Fuel Ox<sup>®</sup> has been field-tested across diverse applications, from long-haul trucking and construction equipment to marine vessels, generators, and drilling operations. It delivers measurable results, such as 4–9% fuel efficiency gains (as much as 40% in some trials), emissions reductions of up to 84% in particulate matter, and 50–80% fewer DPF regenerations.

This metallic-based catalyst technology not only enhances performance but also extends equipment life, making Fuel Ox<sup>®</sup> a comprehensive solution for fuel-related challenges in fleet and industrial settings.

### **Independent Certifications Confirming Safety and Compliance**

Fuel Ox<sup>®</sup> has undergone extensive independent testing to verify it maintains fuel integrity and complies with global standards, ensuring no risk to engines or warranties.

- **USA Certification by First Energy:** Laboratory testing by First Energy confirms that Fuel Ox<sup>®</sup>-treated diesel fully passes ASTM D-975 specifications. This standard governs key fuel properties such as sulfur content, viscosity, flash point, lubricity, and overall composition. At the recommended treatment ratio, Fuel Ox<sup>®</sup> leaves these parameters unchanged, making treated fuel chemically indistinguishable from standard diesel—except for its cleaner-burning properties. This certification underscores that Fuel Ox<sup>®</sup> does not push fuel outside OEM-specified limits, eliminating any basis for warranty denial.
- **Europe Certification by Intertek (Paris):** Independent evaluation by Intertek in Paris verifies that Fuel Ox<sup>®</sup>-treated diesel meets EN-590 standards, the European equivalent for diesel fuel quality. This includes parameters like cetane number, density, distillation characteristics, and polycyclic aromatic hydrocarbons. Compliance ensures seamless integration with European engines and emissions systems without any adverse effects.

These certifications, combined with over 40 years of spotless field use by the U.S. military and major OEMs (e.g., Caterpillar, Cummins, Komatsu), provide irrefutable evidence of Fuel Ox<sup>®</sup>'s safety.



## **Why Fuel Ox<sup>®</sup> Will Not Void Your Warranty**

Fuel Ox<sup>®</sup>'s warranty protection rests on three independent pillars: technical compliance with the fuel specifications OEMs require, the legal protections that govern commercial transactions, and a substantial product liability policy that backs the product financially. Together, these provide comprehensive coverage for both consumer and commercial fleet operators.

- **ASTM D-975 Compliance – The Technical Anchor:** Heavy-duty engine warranties from Cummins, Detroit Diesel, PACCAR, Volvo, and other OEMs specify ASTM D-975 ULSD as the fuel they warrant against. Because Fuel Ox<sup>®</sup> is dosed at a 1:10,000 ratio, it is too dilute to push the base fuel out of D-975 spec on sulfur, viscosity, lubricity, or flash point—a finding confirmed by First Energy lab certification. Treated fuel remains ASTM D-975 ULSD, giving the OEM no fuel-quality basis to deny a warranty claim.
- **The Burden of Proof Rests on the OEM:** Regardless of which legal framework applies, an OEM cannot deny a warranty claim simply because an aftermarket additive is present in the fuel system. They must affirmatively demonstrate that the additive caused the specific failure. A transmission, injector, turbo, or unrelated mechanical issue cannot be pinned on a fuel additive without evidence the additive was the cause.
- **Legal Protections by Vehicle Type:**
  - o **Consumer Vehicles (Pickup Trucks, Vans, Personal-Use Equipment):** The Magnuson-Moss Warranty Act and FTC guidelines protect consumers from warranty denial based on aftermarket additive use. OEMs cannot void coverage unless they prove the additive caused specific damage.
  - o **Commercial Fleets (Class 7 and 8 Trucks, Heavy Equipment):** Magnuson-Moss does not apply to commercial-grade vehicles, but the Uniform Commercial Code (UCC) governs B2B transactions and preserves the implied warranty of merchantability. The OEM still bears the burden of proving the additive caused the failure before denying a claim.
- **Multi-Million Dollar Product Liability Policy:** Fuel Ox<sup>®</sup> carries substantial product liability coverage as the practical financial backstop. If our catalyst were ever proven to cause a failure, this policy is what makes the customer whole. In over 12 years of operation, no claim has ever been filed against the policy.

In over 12 years of operation across consumer, commercial, military, and industrial use, no Fuel Ox<sup>®</sup> user has reported additive-related damage or warranty denial.

## **Why Fuel Ox<sup>®</sup> Won't Harm Your Engine**

Fuel Ox<sup>®</sup> is engineered for protection: cleaner combustion speeds soot burn-off and reduces oil contamination; extended DPF life and reduced regenerations minimize downtime (\$100–\$300+/day per unit in typical fleet operations); fuel stabilizers prevent microbial growth, corrosion, and gelling for reliable storage. Trusted by the U.S. military and commercial fleets for decades, with documented 4–9% efficiency gains and up to \$270,000 annual savings per million gallons of fuel.

## **Conclusion**

The combination of ASTM D-975 compliance, the OEM's burden of proof under both Magnuson-Moss and UCC frameworks, and our multi-million dollar product liability policy makes warranty exposure on Fuel Ox<sup>®</sup> about as low as it gets for an aftermarket fuel additive—for consumer and Class 8 fleets alike. Contact Fuel Ox LLC at 1-844-8-FUELOX or [www.fuelox.com](http://www.fuelox.com).