

EPA Evaluation of the Fuelon Power  
Gasoline Fuel Additive Under Section 511 of  
the Motor Vehicle Information and Cost Savings Act

September 1993

NOTICE

Technical Reports do not necessarily represent final EPA decisions or positions. They are intended to present technical analysis of issues using data which are currently available. The purpose in the release of such reports is to facilitate the exchange of technical information and to inform the public of technical development which may form the basis for a final EPA decision, position or regulatory action.

Test and Evaluation Branch  
Emission Control Technology Division  
Office of Mobile Sources  
U.S. Environmental Protection Agency

EPA Evaluation of the Fuelon Power Gasoline Fuel Additive Under Section 511 of the Motor Vehicle Information and Cost Savings Act

The Motor Vehicle Information and Cost Savings Act requires that EPA evaluate fuel economy retrofit devices and publish a summary of each evaluation in the Federal Register.

EPA evaluations are originated upon the application of any manufacturer of a retrofit device, upon the request of the Federal Trade Commission, or upon the motion of the EPA Administrator. These studies are designed to determine whether the retrofit device increases fuel economy and to determine whether the representations made with respect to the device are accurate. The results of such studies are set forth in a series of reports, of which this is one.

Fuelon Power is an aftermarket gasoline fuel additive that is added to the vehicle tank by the operator when refueling the vehicle. The product consists of a proprietary blend of hydrocarbons products which are claimed to substantially reduce vehicle exhaust emissions and improve fuel economy.

The evaluation of the Fuelon Power gasoline fuel additive was conducted upon the request of the Federal Trade Commission and was limited to determining the additive's impact on exhaust emissions, fuel economy, safety, and installation effort.

1. Title:

Request for Evaluation of the Fuelon Power gasoline fuel additive Under Section 511 of the Motor Vehicle Information and Cost Savings Act

---

The information contained in sections two through five which follow was extracted from various documents.

---

2. Identification Information:

a. Marketing Identification of the Product:

Fuelon Power (from additive package label, advertising, and manufacturer's literature enclosed with additive)

a. Marketing Identification of the Product: continued

Note: Several related products are also marketed by the manufacturer and are not to be confused with the Fuelon Power gasoline additive that was evaluated for the FTC and is addressed in this report. These other products were not evaluated by EPA and are identified as follows:

"Fuelon Diesel Saver and Conditioner" for conditioning and stabilizing diesel fuel

"Fuelon Gasoline Saver and Conditioner" for conditioning and stabilizing gasoline fuel for marine engines

"Fuelon Heating Oil Extender" for heating oil

b. Manufacturer of the Product:

(1) Fuelon International Division (adv., label,  
Fuel Plus Technology, Inc. mfg. lit.)  
147 Union Avenue  
Middlesex, New Jersey 08846

(2) George D. Zervopoulos, President

3. Description of Product:

a. Purpose:

The gasoline fuel additive is claimed to substantially reduce or almost eliminate vehicle exhaust emissions, increase fuel economy at least 15%, and improve engine operation. (adv., label, & mfg. lit.)

b. Applicability:

The gasoline additive is applicable to all gasoline engines -- small or large, new or old. (adv.)

c. Theory of Operation:

"FUELON coats each gasoline molecule with a patented heat-seeking formulation that creates complete combustion and the world's cleanest burning, most efficient fuel." (label)

"Fossil fuels are made up of irregularly sized molecules. Since combustion in a gasoline engine occurs at the same rate, only the smallest molecules

c. Theory of Operation: continued

are ever completely consumed (turned into energy). The unburned molecules end up as wasted fuel. This causes loss of power, pinging, knocking, pre-ignition, and other fuel-related problems.

"FUELON reduces all molecules to a small, uniform size, and coats them with a special formulation that makes them much more sensitive to heat. After treatment, FUELON-conditioned molecules are almost 100% energy efficient.

"FUELON transforms ordinary gasoline (any grade, any octane, any brand) into the most efficient, hardest working, cleanest, least polluting gasoline ever...a true 'Super Fuel'." (mfg. lit. sent with additive)

"FUELON is a liquid you add directly to your car's gas tank. It reduces the size of the gasoline molecules and coats them with a patented, heat-seeking formulation. Wasted fuel is eliminated and you get complete fuel combustion." (mfg. adv.)

d. Formulation and Packaging:

The product consists of a proprietary blend of hydrocarbon products.

The additive is sold in a self-measuring plastic container. A small funnel with an attached six inch piece of tubing is also provided to aid in pouring the measured amount of additive into the fuel tank. The tubing also permits the additive to be poured into the tank past the fuel nozzle restrictor plate.

e. Specific Claims for the Product:

- (1) From additive label
  - Drive many more miles on much less gasoline
  - With more pep & power
  - Pass any emissions test without a tune-up or adjustment
  - Switch from HI-Test to regular gasoline & still get better engine performance
  - FUELON's complete combustion lets you skip many expensive tune-ups
  - 48 hours after adding FUELON you'll pass any emissions test (without a tune-up or mechanical adjustment)

(1) From additive label continued

FUELON takes the place of lead substitutes and most other additives  
FUELON improves the performance and longevity of catalytic converters  
Continuous use of FUELON will add years of life to your car

(2) From manufacturer's literature

Fuel savings of 15% to 40%.  
Increased engine power & performance  
Clean carburetors & injectors.  
Polluting exhaust emissions will be almost totally eliminated.  
Elimination of carbon deposits. Spark plugs will work at peak efficiency for a much longer period of time.  
Faster and easier starting.  
No pinging or pre-ignition.  
Elimination of problems caused by "bad" or "unstable" gasoline.  
Gasoline will burn so clean, drivers will be able to skip many tune-ups.  
Drivers who fail emissions testing will pass them just by adding FUELON to their gas tanks.  
Continuous use of Fuelon in gasoline adds years to the life of any car.

(3) From manufacturer's advertising

Cut your gasoline bills 15% to 40% or more  
Have your car running smoother, with much more power  
Eliminate your cars exhaust emissions and pollution  
48 hours after you add FUELON to your tank your car will pass any emissions test, without a tune-up or mechanical adjustment, even if your car has already failed  
Your car, truck or van will start faster and easier in any weather, run smoother, and have much more power  
FUELON treated gasoline keeps your engine so clean and in such perfect running order, you'll skip many expensive tune-ups and your car will never miss them  
No more knocking, or preignition, ever  
You'll have the cleanest carburetor or fuel injector in town

f. Cost And Marketing Information:

1/2 pint \$14.95 treats 120 gallons (mfg. lit.)  
pint \$24.95 treats 240 gallons  
quart \$39.95 treats 480 gallons  
for two or more ordered from the manufacturer the price is reduced \$5.00 for each bottle.

The product is marketed through auto parts stores and can be purchased directly from the manufacturer by ordering

"We guarantee to do the following: (mfg. lit.)

1. Increase Mileage (MPG) By 15%to 40%
2. Your Car will Run With More Pep and Power
- 3 Polluting Exhaust Emissions Are Greatly Reduced

If Fuelon Fails To Achieve All Three Features, Return Unused Portion For A Complete Refund."

"Use FUELON for 5 or 6 fill-ups. If you are not completely satisfied - If after using FUELON you can go back to driving your car the way it used to run - just send it back for a full refund." (mfr. adv.)

4. Product Installation, Operation, Safety and Maintenance:

a. Installation - Instructions, Equipment, and Skills Required:

The additive label instructions -- "Tilt bottle until FUELON enters the measuring chamber and lines up with the right gallon mark. If you add 10 gallons of gasoline, line FUELON up at the 10. For 20 gallons, line FUELON up at the 20, etc. Remove gas cap, insert funnel. Pour FUELON into tank. Replace bottle cap tightly." -- are simple and clear but cannot be properly followed due to problems with the design of the measurement chamber of the bottle. When attempting to pour out the measured amount, additional additive spills over into the measuring chamber. If the user stops pouring before spillover, the chamber still holds additive near the 5 gallon mark. This problem occurs until the bottle is approximately half full.

b. Operation:

Once added to the fuel, operation is automatic with driving the vehicle.

c. Effects on Safety:

(1) Operator safety:

The bottle label cautions against swallowing or getting the product in the eyes plus gives medical instructions. The label also states that the product is combustible. However, although the Material Safety Data Sheet warns against inhalation, there is no such statement on the label. No problems were observed in testing by EPA.

(2) Vehicle safety:

No problems were observed in testing by EPA.

d. Maintenance:

Fuelon Power must be added to the vehicle by the operator with each refueling.

5. Effects on Emissions and Fuel Economy:

a. Unregulated Emissions:

There was no information available regarding unregulated emissions.

b. Regulated Emissions and Fuel Economy:

The emission and fuel economy results promised or given on the label, manufacturer's literature, advertisements, and in testimonials from purchasers of the additive represent relatively uncontrolled test programs and thus cannot be relied upon to demonstrate that the additive has an emission or fuel economy effect.

The Inspection/Maintenance (I/M) hot running emission tests that are mandatory in many areas of the country cannot be used to evaluate the emission or fuel economy effects of a product. These are usually tailpipe emission tests of a vehicle in neutral. These test procedures, equipment, and pass/fail points were designed to identify "gross

emitting" vehicles and are thus not capable of accurately detecting changes in vehicle emissions and fuel economy levels.

Therefore, I/M tests cannot be used to show that a product has a general effect on the emissions and/or fuel economy of a vehicle when driven under realistic road loads and operating modes. A complete test program to verify the emission and fuel economy benefits of a device would use the Federal Test Procedure (FTP) and Highway Fuel economy Test (HFET) plus follow established test protocols such as was done in the attached test report for the additive.

Also, the claimed benefit for the additive to aid in passing emission tests is misleading. As discussed in the immediately preceding paragraphs, the I/M emission test does not prove that a product has had a beneficial emission reduction on an individual's vehicle. Furthermore, due to the variability of this quick test, there is a reasonable chance that a failed vehicle will pass a subsequent retest without any maintenance. Typical EPA studies have shown that approximately 30 percent of failed vehicles will pass an immediate retest because many of the failed vehicles only marginally exceeded the FTP emission standards.

---

The following Sections are EPA's analysis and conclusions for the additive.

---

6. Testing by EPA:

A detailed report of the testing performed by the EPA is given in the EPA test report, EPA-AA-TEB-92-01, "Emissions and Fuel Economy Effects of the Fuelon Power Gasoline Fuel Additive" provided as an attachment to this MVICSA Section 511 evaluation report. A brief description of this testing effort is given below:

Two typical vehicles were tested at EPA's Motor Vehicle Emission Laboratory. The basic test sequence included 1,000 miles of mileage accumulation, duplicate Federal Test Procedures (FTP), and duplicate Highway Fuel Economy Tests (HFET). This test sequence was conducted both without and with the Fuelon Power additive in the test vehicle's fuel.



## 7. Conclusions:

EPA fully considered all of the information readily available for the additive. The evaluation of the Fuelon Power gasoline fuel additive was based on the information provided by the manufacturer with the additive, related literature, and the results of the EPA confirmatory testing of the additive.

The overall conclusion from the testing and evaluation is that the Fuelon Power gasoline fuel additive did not significantly reduce vehicle emissions or improve fuel economy for either the FTP or HFET.

The additive clearly did not reduce vehicle exhaust emissions nor produce the large -- greater than 15 percent -- fuel economy benefits claimed by the manufacturer. Therefore, users of the Fuelon Power gasoline additive are unlikely to realize either an emissions or fuel economy benefit in actual driving. Vehicle operation and performance were unchanged by the additive.

---

\*The requirement for test data following these procedures is stated in the policy documents that EPA sends to each potential applicant. EPA requires duplicate test sequences before and after installation of the device on a minimum of two vehicles. A test sequence consists of a cold start FTP plus a HFET or, as a simplified alternative, a hot start LA-4 plus a HFET. Other data which have been collected in accordance with other standardized procedures are acceptable as supplemental data in EPA's preliminary review of a device. EPA uses this preliminary information to design for applicants the screening test program which the applicants conduct at a private laboratory at their own expense. Only if this screening test data indicates that the product may have a statistically significant effect will EPA offer an applicant the opportunity for confirmatory testing by EPA. However, EPA is required by regulations to charge the applicant expense for the direct cost of any EPA testing.